



**USAID**  
FROM THE AMERICAN PEOPLE



# PARTICIPANT FINANCIAL ANALYSIS FOR RESILIENCE FOOD SECURITY ACTIVITIES

**April 2021**

This publication is made possible by the support of the American People through the United States Agency for International Development (USAID) and was prepared by Integra Government Services International LLC for the Learning, Evaluation, and Analysis Project (LEAP III) Activity.

# PARTICIPANT FINANCIAL ANALYSIS FOR RESILIENCE FOOD SECURITY ACTIVITIES

## Technical Guidance and User-Document

**Contract Title:** LEAP III: Learning, Evaluation, and Analysis Project

**Contract Number:** GS-10F-083CA / 7200AA18M0004

**Activity Number:** LEAP III 2021 - 1009.1051

**Submitted:** April 19, 2021

**Contractor:** Integra Government Services International LLC  
1156 15th Street NW, Suite 800  
Washington, DC 20005  
Limestone Analytics LLC (Subcontractor)

**USAID Office:** Bureau for Humanitarian Assistance

**COR:** Katie Qutub, [kqutub@usaid.gov](mailto:kqutub@usaid.gov)

**Authored by:** Kristen Schubert (Limestone Analytics) and Bahman Kashi (Limestone Analytics)

### DISCLAIMER

This document is made possible by the support of the American People through the United States Agency for International Development (USAID). The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

# TABLE OF CONTENTS

ACRONYMS	1
1.0 BACKGROUND	2
2.0 PARTICIPANT FINANCIAL ANALYSIS FOR THE RFSA APPLICATION PHASE	4
3.0 HOW TO INTERPRET THE RESULTS OF THE PARTICIPANT FINANCIAL ANALYSIS	10
4.0 RESPONDING TO THE PARTICIPANT FINANCIAL ANALYSIS KEY QUESTIONS	12
5.0 WHAT TO REPORT IN THE APPLICATION PARTICIPANT FINANCIAL ANALYSIS	15
6.0 COMMON MISTAKES	16
7.0 USEFUL SOURCES OF DATA	16
GLOSSARY OF KEY TERMS AND CONCEPTS	19

## ACRONYMS

<b>BHA</b>	Bureau for Humanitarian Assistance
<b>IGA</b>	Income Generating Activity
<b>IP</b>	Implementing Partner
<b>RFSA</b>	Resilience Food Security Activities
<b>USD</b>	U.S. Dollar

## I.0 BACKGROUND

This is a technical guidance to help implementing partners (IPs) conduct Participant Financial Analysis of on-farm and off-farm livelihood interventions as part of Resilience Food Security Activities (RFSAs). The purpose of this guidance is to be a reference manual for activity designers in understanding the Participant Financial Analysis requirements as part of their application submissions, as well as suggestions for additional considerations, best practices, and tips to ensure consistency and quality. This technical guidance also includes sample calculations, which can be used as a template.

As part of the RFSA application requirement, the Participant Financial Analysis is meant to be a simple, yet useful, exercise to confirm that proposed livelihood interventions will lead to financial benefits for the activity participants. This may also help prioritize those interventions based on profitability for the farmer/worker/entrepreneur. There is no expectation to complete a more sophisticated analysis than what is outlined in this technical guidance, but IPs are welcome to do so if they find it useful.

This guidance acknowledges that Participant Financial Analysis at the RFSA application phase is very early in the design process and IPs may not have access to enough data for a complete and accurate analysis of the farmers' or worker/entrepreneurs' budget (there are some useful sources of data in Section 7.0). Therefore, this guidance focuses on the bare minimum needed to complete the Participant Financial Analysis as part of the RFSA application phase. This Participant Financial Analysis will provide ideas for further analysis where it makes sense and is feasible. An economist or people with specialized skills are not needed to carry out this basic analysis.

### OBJECTIVES OF THIS PARTICIPANT FINANCIAL ANALYSIS

**Participant Financial Analysis during the RFSA application phase:** The objective of this Participant Financial Analysis during the RFSA application phase is to ensure that each on- and off-farm livelihood intervention will make the direct participants (i.e., farmer/worker/entrepreneur) better off financially than they would be without the intervention. This is to justify the selection of each intervention from a financial attractiveness perspective, which might not address other considerations such as risk, climate, undernutrition, and poverty.

**Participant Financial Analysis during the refinement phase:** During the refinement phase, IPs can build upon their RFSA application phase Participant Financial Analysis to dig deeper into the assumptions behind each intervention and answer specific questions from the formative and implementation research plans. IPs could choose to spend this period validating the data from the RFSA application phase Participant Financial Analysis, which can be used to update the Participant Financial Analysis. IPs may want to additionally explore specific questions such as targeting, scaling, assessing sustainability and affordability, etc. Specific How-To notes have been developed, located here, to understand how to use this Participant Financial Analysis to examine certain design questions more closely.

## **WHEN TO USE THIS GUIDANCE**

This guidance is to help understand how to satisfy the Participant Financial Analysis requirement in RFSA applications. It may also be useful for expanding upon the Participant Financial Analysis during the refinement phase, although this is not a requirement by the Bureau for Humanitarian Assistance (BHA).

## 2.0 HOW TO PERFORM PARTICIPANT FINANCIAL ANALYSIS FOR RFSA DESIGN DURING THE RFSA APPLICATION PHASE

This Participant Financial Analysis is done from the perspective of the typical RFSA farmer, for on-farm interventions, and the worker or entrepreneur, for off-farm interventions. Please try to use reasonable cost and revenue estimates that are representative of the type of participant you intend to work with. The IPs may consider disaggregating this analysis by the type of farmer/worker/entrepreneur or the geographic region, if there are sufficient differences. Disaggregation may be useful when these differences can result in significant variations in the expected revenue or costs. IPs do not need to examine scaling this intervention to all potential direct participants.

The Participant Financial Analysis is looking for two specific calculations per intervention: (1) the upfront investment costs, and (2) the incremental analysis of the budget. Both should be calculated in U.S. Dollars. These are explained in depth below. If interventions are expected to be delivered together (e.g., agriculture extension packages that promote weeding and drought resistant seeds), please estimate the investment costs and incremental analysis for the entire combined intervention.

Note that this analysis proposes several short-cuts to more sophisticated analyses. Among these, we recommend ignoring the value of all non-cash items except for unpaid labor (e.g., there is no need to put a value on recycled seed or commodities collected from the forests). We also conduct the analysis using current prices; this analysis does not account for inflation nor does it rely on discounting future values. However, if the RFSA is in a context with hyper-inflation, be careful that all prices and exchange rates in the analysis are from the same year/time period.

### INVESTMENT COSTS

What are the initial investment costs required of the farmer or worker/entrepreneur to engage in this intervention? The investment costs in this guidance refer to initial investments farmers and workers/entrepreneurs make with their own money and time required for long-term changes. These are likely to be at the onset of their participation in the intervention and a one-time expense. These costs could include:

#### ON-FARM EXAMPLES

Time spent in training, time spent installing equipment, equipment for irrigation, improved housing for animals, new machinery such as a thresher, fish pond establishment, and wheelbarrows

#### OFF-FARM EXAMPLES

Time spent in training, time spent installing equipment, capital investments in equipment to start a business such as sewing machines, tools, and trading licenses

All costs should be valued based on what the farmer or worker/entrepreneur pays. If there are any inputs that are directly provided to the participant or subsidized, please only include the costs that the farmer or worker/entrepreneur pays, not the full cost of the item.

IPs will need to account for the cost of any labor for the initial investments, whether hired or unpaid. New interventions often require extra time from the direct participants. Although often this time is not paid for in a cash transaction, IPs need to consider the value, or **opportunity cost of labor**, of this time. For unpaid labor, considering IPs are mostly working with very poor households, this is best valued by the daily wage rate in the area for unskilled labor and multiplied by the number of hours or days required for each person to participate in the investment. For paid labor, simply use the wages for this intervention. Please note that being unemployed does not translate to no opportunity cost.

Throughout this document, two example interventions are explained in more depth – one for on-farm and one for off-farm (see below), the calculations for which are found here.



**On-farm example:** An IP is considering a climate-smart agriculture activity for maize that promotes substituting local variety seeds with drought-tolerant seeds and introducing improved planting and tilling practices. As part of this intervention, the average farmer is expected to participate in 5 days of training. The local unskilled daily wage rate is 1.1 USD. So the value of the average farmer’s time is 5.5 USD. Additionally, farmers will be encouraged to buy ripper tines with attachments for 25 USD and 2 hoes for weeding for 20 USD in the first year. These are one-time expenses. The total investment costs will be 50.5 USD per farmer.



**Off-farm example:** An IP is considering supporting petty traders to transition to beekeeping enterprises. As part of this intervention, traders are expected to participate in 3 days of training. Using the local unskilled daily wage rate of 1.1 USD, the opportunity cost of this time is 3.3 USD. The farmers will also purchase five beehives (60 USD), a smoker (10 USD), and buckets for honey collection (9 USD). These one-time expenses in the first year total 82.3 USD.

Implementing partner activity costs for this intervention do not need to be included. Only consider the investment costs that the farmer or worker/entrepreneur will pay.

## INCREMENTAL ANALYSIS

This calculation compares the projected costs and revenues (or benefits) after an intervention with the costs and revenues of the current practices, or a status-quo scenario where USAID does not invest in that intervention. This is called an **incremental analysis** and allows us to understand how much more income the farmer/worker will have, compared to current practices, as a result of the intervention while also taking into account the costs necessary to achieve that income.

This calculation is only required for a **typical year** of operation or typical growing season (if there are multiple growing seasons in a year) using the best data or assumptions that are available. A “typical” year would be one in which the changes from the intervention are fully realized (all expected behaviors have been adopted and access to resources and markets fully realized). This may be years after the intervention; for example, for interventions that promote new trees or vines that may take years before the first harvest, use a year in which the full benefits of those investments are expected. If this is the case, please

be sure to mention in the application how many years it will take for this investment to produce the full benefits for the participants.

Approach the incremental analysis as a partial budget analysis: only include sources of revenues and costs that will be impacted by the intervention. This analysis does not consider the revenues or costs in the business that are left unchanged.



**On-farm example:** With the implementation of climate smart agriculture, yields are expected to increase 25 percent by the third year of the program, in line with experience in this area with other donor programs. This change occurs because the farmers are switching from local variety seeds to drought-tolerant seeds that are expected to improve yields in both normal rainfall years as well as years with limited water. Additionally, labor is expected to increase for improved planting and tilling as well as to harvest the increased yields. The design team believes only the cost of seeds and labor will change in this case as a result of the intervention. Other inputs, such as fertilizer or transportation, are not expected to change in this case and therefore, do not need to be quantified and estimated in the incremental analysis.



**Off-farm example:** Participants will be trained to begin a beekeeping business. These participants may have many backgrounds in their current practices, but the most common one is petty trading. Since these individuals are switching entirely from one business to another, all their inputs will change. Therefore, a full budget estimate is needed for this intervention.

**How to calculate the incremental analysis?** What will be the impact to the farmer/worker's revenues and ongoing costs moving forward? This is done by calculating the net revenue (or net income) for the **intervention scenario** by subtracting costs (or cash outflows) from revenues (or cash inflows). Do the same for the current practices for the farmer/worker (this is referred to as the **current practices scenario** in this document). Finally, subtract the net revenues in current practices from the net revenues in the intervention scenario; this is called the net incremental revenue and can be calculated as follows:

**Net incremental revenue =**

***(revenues with intervention - costs with intervention) - (revenues with current practices - costs with current practices)***

This equation results in a **net incremental revenue**, which is a key decision criterion for the intervention. This figure should be a positive number, which means farmers are financially better off with the intervention than they are in current practices, or in other words, they will benefit financially from this intervention in a typical year. If the figure is negative, this indicates that farmers would be financially worse off with the intervention than they would have been with current practices. If an intervention is proposed with negative net incremental revenue, it needs to have a strong justification in the narrative. An example could be the case where a farmer might participate in an intervention that is financially inferior but provides better health or nutrition for the household members.

The net incremental revenue is different than the gross margin analysis that is commonly used in on-farm activities. There is no need to calculate all marginal/variable costs to production as in a gross margin analysis, but only estimate those costs that are expected to change as a result of the intervention. And unlike a gross margin analysis, there is no need to calculate the value of unpaid labor, if labor is not expected to be impacted as part of the intervention. A deeper discussion is included below on what costs need to be included in this Participant Financial Analysis.

## WHAT COSTS SHOULD BE INCLUDED IN THE INCREMENTAL ANALYSIS?

Economic livelihood activities are all a production process, where inputs are used in a process that creates products or services for sale or consumption. Interventions impact these production processes by changing their costs and revenues. All production costs that are expected to change as a result of the intervention need to be considered in the Participant Financial Analysis. This could include variable costs that increase or decrease depending on how many commodities or products a farmer or worker/entrepreneur produces (e.g., a farmer's storage costs will increase as her yields increase). Relevant production costs could also include some fixed costs that do not change, regardless of how much the farmer or worker produces. For example, if an intervention introduces small-scale irrigation systems that requires users to pay a regular water fee, this is a recurring cost that is new to the farmer as a result of the intervention and needs to be included in the incremental analysis. Examples of production costs are:

ON-FARM EXAMPLES	OFF-FARM EXAMPLES
Seeds, fertilizers, manure, pest and disease control, water, water fees, feed, veterinary care, transportation, storage, and labor*	Raw materials, items for resale, heating, lighting, water, transportation, and labor*

\* see details on how to price labor above in the section on Investment Costs

Please note that for off-farm interventions that promote wage labor (e.g., babysitters, cleaners, migration for employment), IPs do not need to value their labor as an input/cost.

Costs that will be unaffected by the intervention do not need to be considered. For example, an intervention that proposes promoting improved seeds to the farmer will need to consider the cost of seeds with current practices and the costs for the improved seeds. If this intervention is unlikely to affect how much fertilizer they apply, costs for fertilizer do not need to be considered. However, be careful to think through all direct and indirect costs of the intervention: improved seeds will likely increase yields, but this may also mean that labor will increase in order to harvest, transport, and sell this surplus yield.

Costs that are part of the initial investment and are not expected to recur in each year/season, should not be included in this analysis (but should be part of the investment cost analysis above).

For all relevant costs, IPs will need to understand the quantity used by the farmer or worker/entrepreneur and the market price. These are multiplied together to estimate the value of the total cost for each item.



**On-farm example:** The average farmer plants maize on a 0.4 hectare plot. In order to increase her yields, her labor costs will increase for improved planting and tilling and her costs for seeds will increase. These are the only two costs that need to be considered since no other farm inputs are expected to change. She works 30 days a year on her maize plot but will likely need to work 10 more days a year with the intervention. The unskilled daily wage rate is 1.1 USD. Her incremental costs for labor will increase by 11 USD each year. Additionally, she previously recycled local 10 kg of seed varieties for planting, which does not cost her anything with current practices. She will now purchase 10 kg of drought-tolerant seeds at 4 USD per kg with the intervention. Her incremental costs for seeds will increase by 40 USD per year. In total, her incremental costs are expected to increase by 51 USD per year.



**Off-farm example:** Beekeepers will have to purchase supplemental feeding for the bees, which will cost 30 USD each year. Transitioning to beekeeping will require an extra 70 days of labor each year, these days are valued at the unskilled daily wage rate of 1.1 USD for a total increase in labor costs of 77 USD. Other input costs for beekeeping include smoker fuel (10 USD) and empty containers (30 USD). This is compared to the average cost of purchasing products for petty trading in the current practices, which is 80 USD. The total incremental costs are 67 USD.

## WHAT REVENUES SHOULD BE INCLUDED IN THE INCREMENTAL ANALYSIS?

For on-farm interventions, the revenues will likely come from their crop or animal production. Revenues include anything consumed by the household or sold on the market. Own consumption must be valued at the market price of the commodity or service. Off-farm revenue will come from the products they sell (e.g., petty trading, small enterprise sales) or the services they provide (e.g., self-employment or wage labor activities). Income for the current practices and income with the proposed intervention need to be estimated separately. These quantities are multiplied by their market prices to calculate their income from this intervention.



**Practical Tip:** It is hard to identify one common current practice for off-farm interventions training people in new businesses. One way around this could be to use the prevailing market wage rate for unskilled labor and estimate the number of hours individuals work in current practices.

Any increase in yields/animal production/products or income overall needs to be clearly identified in the analysis (e.g., mention that yields are assumed to increase by 25 percent). There is no need to consider post-harvest losses or animal mortality unless the intervention proposes to reduce either of these losses, in which case the incremental difference in yield or production will change and needs to be reflected in the revenue assumptions.

There are other ways revenue may increase other than an increase in yields, animal production, or products, depending on the intervention. For example:

- Interventions may not target increased yields at harvest, but try to reduce post-harvest losses. In this case, the difference in revenues between the intervention scenario and the current practices is equal to the reduction expected in post-harvest losses.
- Interventions may aim for value addition by introducing early varieties or grading and sorting to get better prices on the market. In this case, the incremental revenue is the difference between the price with the intervention scenario and the price with current practices, multiplied by the quantity.
- Interventions may aim to improve the quality of the animal to achieve a higher market price, rather than an increase in animal production. In this case, the difference in revenues between the intervention scenario and the current practices will be the higher market rate multiplied by the amount of meat produced at a higher quality.
- Interventions may try to improve grasslands so that animals gain more weight. The value of this intervention is in the amount of weight the animals gain, and the price for that incremental increase in weight (or the difference between the weight with the intervention and with the current practices).
- Off-farm interventions may help a small entrepreneur access a machine that saves her time in the production of that product; it may be that she does not produce any more products and therefore her revenue will not change with the intervention (although her costs for labor are expected to decrease).

Add up all sources of income that are relevant to this intervention. For example, an intervention to increase the size of sheep herds will mean more meat and wool from new sheep, both of which have financial value to the farmer.



**On-farm example:** With the introduction of improved seeds, maize yields are expected to increase 25 percent by the third year. Farmers in the target region have an average land holding of 0.4 hectares and currently produce 320 kg of maize, which is expected to increase to 400 kg with the intervention. This is an incremental increase of 80 kg per farmer. This increase is valued by the local market price for maize of 2.69 USD per kg. The total incremental increase in revenue is 215.20 USD.



**Off-farm example:** It is likely that many people interested in beekeeping will no longer engage in petty trading. Their gross revenue (without costs) for petty trading is 315 USD on average. With the beekeeping intervention, the participants could likely earn income from selling honey equal to 563 USD. The total incremental increase in revenue from the beekeeping intervention is 248 USD.

## 3.0 HOW TO INTERPRET THE RESULTS OF THE PARTICIPANT FINANCIAL ANALYSIS

At a minimum, the Participant Financial Analysis as part of the RFSA application phase is meant to ensure that each on- and off-farm income generating intervention will make the direct participants better off financially than they would be without the intervention. This is to justify the selection of the intervention from a financial perspective. What IPs should look for in the results of their analysis:

- **Net incremental revenues** should be above 0 USD (i.e., a positive number). This means that the farmer is better off than they are currently in a typical year, even if their ongoing costs increase. The higher their net incremental revenues, the larger the impact the intervention will have on their income. Although financial benefits are just one of several other considerations in designing an intervention (e.g., climate sensitivity, nutritional value, helping disadvantaged women or youth populations), carefully consider interventions where the farmers would be worse off financially than before the intervention. Interventions with a negative net incremental revenue should be rejected at the design stage or very closely examined during the refinement phase.
- Consider the **investment costs** that were also calculated. Investment costs need to be manageable for the participants. How do these compare to the net incremental revenues that farmers/workers/entrepreneurs will experience over time? It may depend on the participants' savings level but as a quick way to think about this, the investment costs should not be much more than the net incremental revenue of a typical year; that would mean it would take the participant more than one year (or one growing season, if that is how the IP calculated the net incremental revenues) to pay off their investments. If the investment costs are considerably higher than the incremental incomes, it may take a while for the participant to pay off their investment costs. As one can imagine, this is a heavy burden for the extreme poor and chronically vulnerable. This is useful information for thinking about who the participants ought to be: High investment costs, especially those that are high compared to the net incremental revenue, may be better for participants who are relatively better off financially, rather than the very poor.



**On-farm example:** With the implementation of climate-smart agriculture, farmers' net incremental revenue increases by 164 USD by the third year. The investment costs required in the first year are 50.5 USD. This means that farmers will likely be able to cover these investment costs with the additional revenue; however, think carefully about what the revenues will be in year 1 or 2 after the intervention to make sure farmers may be able to recoup these costs earlier than in Year 3.



**Off-farm example:** The intervention will increase beekeepers' incomes by 181 USD compared to their incomes as a petty trader (i.e., with current practices) by the second year. The investment costs required for this intervention are estimated to be 82 USD; which is about a quarter of their gross revenue with current practices. While it does appear that the additional revenue from the intervention should be able to cover these costs; given that the investment costs are a sizable percentage of their current gross revenues, care should be taken to see how feasible it may be to invest so much initially. Alternative intervention designs may start with a smaller investment. For example, this intervention proposes starting people with 5 beehives; it may be worthwhile to explore a smaller intervention with just 1 or 2 beehives that will also lower the initial investment burden on the worker.

Net incremental revenues can also be used to prioritize interventions if the IP would like to propose a shorter list in their application submission. The highest net incremental revenues indicate that farmers have the most financial gain compared to their current circumstances. This is an indication that the intervention will have the greatest increase in the participants' ability to produce or purchase quality food, an important measure of food security. This consideration, however, also needs to be balanced against which interventions are low-risk and affordable while also promoting other objectives under the RFSA.

## 4.0 SUGGESTIONS FOR RESPONDING TO THE PARTICIPANT FINANCIAL ANALYSIS KEY QUESTIONS IN THE RFSA APPLICATION

The Participant Financial Analysis requirement in the RFSA application asks that IPs consider three key questions with each intervention, in addition to the calculations of investment and net incremental revenue. Each is listed below with some context and examples for thinking through them.

IPs do not need to do any additional calculations to answer these questions; thoughtful responses in the narrative are sufficient.

### 1. ARE THE INCREMENTAL COSTS OR REVENUES EXPECTED TO CHANGE OVER TIME? IS THERE A RAMP-UP PERIOD ONCE THE FARMER OR WORKER PARTICIPATES IN THE INTERVENTION?

This question is specifically asking about changes to the revenues and costs that were estimated in the calculations. The net incremental revenue calculation, explained above, ought to be calculated for a “typical year” following the intervention. However, it is entirely possible that there may be a **ramp-up period** between the initial investment and when participants experience this typical year. There may also be irregular payments in certain years that are important to consider. For example:

- There could be a slow start, with low incremental revenues, because of a gradual learning process, establishing relationships for buyers in markets, growing bargaining power for farmers within supply chains, slow-growing trees/vines or other crops that take time to reach their harvest potential, building clientele for income generating activities (IGAs), etc.
- Certain investments promoted by the intervention may need irregular maintenance on equipment, infrastructure, etc. This may not happen every year but is certain to happen in the future.
- Certain costs may be expected to change over time; for example, cassava farmers will need to replace their stems every 3-4 years.

IPs do not need to quantify or put a value on these changes. Just describe what changes may occur over time in the narrative.

### 2. IF THERE IS AN INVESTMENT REQUIRED BY THE FARMER OR WORKER (IN TIME OR IN CASH), HOW MIGHT THEY AFFORD IT?

Not all of the interventions will require large upfront investments by the farmer or worker/entrepreneur. However, for those that do, it would be valuable to know how the IP

anticipates this will be financed. IPs may be considering direct provision of inputs or targeted subsidies. IPs may encourage linking farmers or workers/entrepreneurs to formal banking institutions or helping them buy equipment on credit. Or IPs may plan to explore value chain financing. Perhaps some of the targeted farmers/workers have their own savings.

It is also possible that IPs do not yet know how this will be financed, but that it will be part of the activity design at a later stage. If that is the case, please mention it in the narrative.

### 3. WHAT RISKS ARE THERE TO THE INTERVENTION'S SUCCESS (E.G., SHOCKS, PESTS, WEATHER OR ENVIRONMENTAL TRENDS, AVAILABILITY OF INPUTS, MARKET DEMAND, MARKET PRICES)?

There are many plausible risks to all interventions and some risks will jeopardize any intervention. For example, inflation in a country will affect all interventions and unpredictable weather is a risk to most on-farm interventions. In this question, however, it is best to focus on the risks that are specific to each proposed intervention. Some examples include:

- The intervention aims to promote high-quality inputs to farmers, which are currently subsidized by the government. Their commitment to these subsidies in the future is uncertain and will certainly hurt farm margins if they are removed.
- A crop of interest is very nutritious, but vulnerable to drought on rainfed farms. Droughts are infrequent in this region but not uncommon. This crop will certainly have years where it is not profitable for the farmer.
- The intervention will encourage increased crop productivity but it is not yet clear if a large crop surplus in this region can be absorbed by the market.
- A cash crop seems promising but market prices have been unstable, which could lead to diminished long-term adoption if farmers cannot manage the volatility.
- The intervention is encouraging brick making or building skills because demand for infrastructure has recently increased, but demand for new infrastructure could diminish if the economy slows.
- Making structural improvements on rented/borrowed land may result in the land being reclaimed by the owner.
- The intervention might promote improved housing for animals, or structures for small traders. This region is known to experience heavy rainfall, and poorly constructed buildings would be damaged during these events.
- The IP would like to support vocational education training institutions, but external constraints remain to female participation in the workforce.

At this stage, IPs do not need to explain how they plan to mitigate these risks. IPs only need to characterize what risks may exist in this intervention

**SUMMARY: KEY STEPS IN FOR A BHA ECONOMIC ANALYSIS FOR RFSA SOLICITATIONS**

1. Identify what initial or start-up investments will be needed by the farmer for these changes to happen for each intervention
2. Identify the expected changes in the farmer's or worker/entrepreneur's budget from the intervention - both the revenue and their production costs
3. Collect data in order to understand by how much revenue and costs will change, and what the initial investments may cost
4. Calculate revenue for the current practices and estimate what they will be with the intervention scenario. Make clear what assumptions are driving this change (e.g., change in yields, change in quality of the product, etc.)
5. Calculate costs for a farmer or worker/entrepreneur with their current practices, and what will they be with the intervention scenario?
6. Calculate all investment costs that the farmer or worker/entrepreneur might be expected to pay (which could be in time and in cash)
7. Calculate the net incremental revenues for each intervention
8. Answer the key questions in the RFSA Request for Submissions or other solicitation documents
9. Time permitting, consider how these results may be useful for other decisions in the application

## 5.0 WHAT TO REPORT IN THE APPLICATION PARTICIPANT FINANCIAL ANALYSIS

IPs only need to report the mandatory requirements for Participant Financial Analysis, which are specified in the RFSa solicitation language. This section provides suggestions on how to report the Participant Financial Analysis in the application. To present the results of the analysis, IPs will need to include for each intervention:

- Investment Costs:** What are the initial investment costs likely to be for the farmer or worker/entrepreneur (such as time spent in training, investing in new equipment, and other start-up costs)? This should be a figure in USD. This includes investments of participants' own money and their time. It may be interesting to list what the main cost items are.
- Net incremental revenues:** What is the incremental impact of the interventions on their income, or how much more will they earn beyond their income using current practices in a typical year? Please outline the net incremental revenues in USD for a "typical year". The typical year is likely to be when the farmer or worker/entrepreneur maximizes their revenues after adopting all changes from the intervention; it would be good to know when that is expected to happen (e.g., how many months/years or growing seasons after the investment). Net incremental revenue should be positive; if it is negative, please provide a justification for why it is being proposed.

For clarity, IPs might consider reporting the information from the net incremental revenue calculations in the format below, so that it is clear that all the necessary data has been analyzed.

	Scenario with Current Practices	Scenario with the Intervention
<b>Revenue</b>	<b>A</b> - The value of yields or animal production (for on-farm interventions) or the current income per potential participant (for off-farm interventions).	<b>C</b> - The value of yields or animal production (for on-farm interventions) or the income per participant (for off-farm interventions).
<b>Cost</b>	<b>B</b> - Costs for all inputs that are relevant to the intervention (e.g., if the crop intervention will not affect the amount of fertilizer used, then these costs are not needed in this analysis)	<b>D</b> - Costs for all inputs that are expected to change as a result of the intervention. Please also include labor costs, where relevant.
<b>Net Incremental Revenue = (C-A) - (D-B)</b>		

- All major assumptions** that went into the analysis should be mentioned in the narrative. At a minimum, please specify how much revenues or yields are expected to increase by.
- Three key questions:** Responses to these questions should be in the narrative for each intervention, and do not require additional analysis or calculations.

## 6.0 COMMON MISTAKES

- **Be careful about units:** Multiplying market prices by the quantity requires the same units and it is very easy to mistake these - for example, the daily wage rate cannot be multiplied against the number of hours worked until the daily wage is converted into an hourly wage.
- **Clearly label all tables:** Any data or analysis presented in the RFSA application submission needs to have clear labels. Tables must clearly indicate if the data are associated with the current practices scenario, the intervention scenario, or the incremental analysis.

## 7.0 USEFUL SOURCES OF DATA

Participant Financial Analysis is only as good as the information used in the analysis. Conducting Participant Financial Analysis during the design phase is challenging and there are limited data available in the literature for many RFSA regions. With that said, it may be possible to use realistic and accurate figures in the analyses by first relying on secondary sources and then fact checking this with any primary sources, if possible. Sources of this information are listed below.

### SECONDARY SOURCES

Secondary sources are an easy place to start looking for data, although it is unlikely to find everything from these sources. Most of these suggested sources will be relevant for on-farm interventions.

To begin, there are many value chain specific reports available and likely in the country of interest (albeit perhaps not at the sub-national level). A couple places to start may include:

- **USAID reports/data:** USAID has often been active in these countries and activity reports are available on the [Development Experience Clearinghouse](#) and data is available in the [Development Data Library](#).
- **External reports/data:** Other donors and nongovernmental organizations may also have relevant reports, as well as academic or research institutions active in certain commodities. The [Global Agricultural Research Data Innovation & Acceleration Network](#) (GARDIAN) is the CGIAR flagship data harvester of thousands of these publications and datasets, which can search products by geography.

The following data sources may be useful in finding key data parameters for the Participant Financial Analysis.

## CURRENT AND HISTORICAL MARKET PRICES FOR KEY COMMODITIES IN THE COUNTRY OR REGION

- **[FAO Producer Price Database](#)**: This contains data on agriculture producer prices by country. These are farm-gate prices received by farmers for primary crops, live animals, and livestock primary products.
- **[World Food Programme's Global Food Prices Database](#)**: contains current and historical sub-national and market-level retail prices of select, basic commodities (e.g., cereals, oil, sugar, pulses, nuts, livestock, cheese, milk, fruits and vegetables). The database contains monthly data for 76 countries.
- **[Famine Early Warning Systems Network \(FEWSNET\)](#)**: Price Bulletins and Price Watch reports provide quarterly market price information for staple crops specific to each country (e.g., rice, maize, wheat, soybeans, crude oil). This information is also available for a select number of countries in their major markets. Prices are primarily retail prices, although some wholesale prices are available.
- **National databases**: Some countries produce regular (weekly or monthly) reports on market prices, which may even be available at a sub-national level. Sometimes these are produced by the ministries of agriculture, ministries of economy, or statistical agencies.

## DATA ON YIELDS AND QUANTITIES USED IN PRODUCTION PRACTICES

- Farm management handbooks or production practices handbooks
- International Food Policy Research Institute (IFPRI) and International Institute of Tropical Agriculture (IITA) may have very detailed reports on specific commodities
- Ministries of agriculture will often publish average crop yields for major crops

## INPUT COSTS

Academic papers may have data on specific input costs in a country or region. This may especially be the case for heavily traded commodities. Additionally, the following resources may be helpful:

- **Wages**: Some statistics agencies will report on wage rates from their household surveys. Wage rate data may also be found in the World Food Programme's [Global Food Prices Database](#) for a subset of the countries as part of its market price database. Daily wages are differentiated by qualified labor and non-qualified, non-agriculture labor. This data is available at the sub-national level on a monthly basis.
- **Fertilizer costs**: [AfricaFertilizer.org \(AFO\)](#) has provided local retail prices (subsidized or commercial). This price is an average or modal price for the main fertilizer markets in sub-Saharan Africa. Average fertilizer application rates can also be found for several types of fertilizer.

## PRIMARY SOURCES

IPs may find some useful qualitative information on off-farm interventions, but it is likely they will need to rely more heavily on primary sources for quantitative data for the Participant Financial Analysis. Even for on-farm data in the literature, it may be useful to get more specific information from individuals in the targeted region. Interviews with the following individuals/organizations will be very useful for identifying information relevant to the Participant Financial Analysis:

- Local agricultural colleges will have information on how local variants and improved commodities perform in the environment of the region of interest. Keep in mind that their yields are produced under ideal conditions and these results may be too optimistic for the target participants.
- Local extension agents will likely be able to speak to current practices on the farm, market prices, and input prices.
- Local input suppliers can identify prices for key inputs.
- Smallholder farmers can speak to their current production practices, and especially information on the quantity of inputs they use such as labor, seeds, fertilizers, etc.
- Local vocational schools or training institutions on average incomes for individuals who complete their programs. It may even be possible to get a sense for what professions many of these people have prior to entering these schools, in order to understand what the current practices scenario revenue might be for certain off-farm IGAs.
- Individuals practicing the trades that are proposed as an off-farm IGA may be able to share revenues and cost information.

The [Feed the Future Agricultural Indicators Guide](#)<sup>1</sup> provides detailed information on how to collect data on parameters that are useful in a Participant Financial Analysis, specifically:

- Cash Input Costs - see Appendix 6 of the Feed the Future Agriculture Indicators Guide
- Labor Costs - see Appendix 7 of the Feed the Future Agriculture Indicators Guide

---

<sup>1</sup> Nelson, S. and A. Swindale, September 2013 (Rev. 2015), Feed the Future Agricultural Indicators Guide. Rockville, MD: Westat.

# GLOSSARY OF KEY TERMS AND CONCEPTS

**Current practices scenario:** The scenario that is assumed to occur if an investment is not undertaken. In the context of this Participant Financial Analysis, this should be measured based on current practices. Other common terms for this are the counterfactual or the without-intervention scenario.

**Incremental analysis:** The net financial difference between the farmer/worker's budget with USAID's intervention compared to the farmer/worker's budget in current practices (without USAID's intervention). Participant Financial Analysis compares the projected costs and revenues (or benefits) of an intervention with the costs and revenues of the current practices, or a status-quo scenario where USAID does not invest in that intervention. The incremental analysis allows analysts to determine if the intervention makes key stakeholders better off compared to their expected situation without USAID involvement.

**Intervention scenario:** The scenario that is assumed to occur if an investment is undertaken as proposed.

**Investment cost:** The initial investment costs required of the farmer or worker/entrepreneur to engage in this intervention, including both their own and time.

**Net incremental revenue:** This is the key metric of the incremental analysis. This is measured as the incremental difference between the revenues and costs in the intervention scenario and the revenues and costs in the current practices scenario. This should ideally be a positive number.

**Opportunity cost of labor:** In this context, this is the value of people's time in unpaid tasks that directly contribute to the intervention such as time in training or time spent harvesting increased yields. This can be valued using the market price of labor.

**Ramp-up period:** The time period between the start of the intervention and the typical year, or when the operation is at maturity.

**Typical year:** When an operation is at maturity; such as when the farmer or worker has fully adopted all changes from the intervention and their investments as productive as expected.