



RESEARCH
PROGRAM ON
Livestock and Fish

More meat, milk and fish by and for the poor

**More pork by and for the poor: Catalysing emerging
smallholder pig value chains in Uganda for Food Security and
Poverty Reduction**

**MONITORING EVALUATION AND LEARNING
FRAMEWORK**

First Draft

Ochago Robert




May, 2015



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Editing, design and layout—ILRI/Ochago Robert

ISBN:

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Acronyms

| | |
|---------|--|
| COOP | Cooperative Society |
| ILRI | International Livestock Research Institute |
| M&E | Monitoring and Evaluation |
| MAAIF | Ministry of Agriculture, Animal Industry and Fisheries |
| MEL | Monitoring Evaluation and Learning |
| NAADS | National Agricultural Advisory Services |
| NaLIRRI | National Livestock Resources Research Institute |
| NGO | Non-Governmental Organization |
| PI | Principal Investigator |
| SPVCD | Smallholder Pig Value Chain Development in Uganda |

Acknowledgement

The MEL team and ILRI Uganda staff for their positive contribution to the preparation of the MEL framework

I Introduction

The Monitoring and Evaluation (M&E) strategy and plan for the smallholder pig value chain Uganda is based on the original proposal for funding to the Smallholder pig value chain by Irish Aid. Objectives, activities and expected outputs and outcomes as well as targets/benchmarks have been defined in the Irish Aid proposal. The framework serves as a basis within which the activities and results of SPVCD can be tracked for accountability and learning. This is made possible through documentation of successes, best practices and lessons learned and plan new strategies. SPVCD will adopt the Results framework approach to facilitate its Monitoring and Evaluation. Through this approach, a logical flow of land marks of the results obtained from planned activities. The targets for the indicators of results, how they will be measured and the parties responsible are clearly highlighted by this method.

2 Purpose, guiding principles, audience and key components of the plan

2.1 Purpose

This Framework aims to monitor the resources invested, the activities implemented, and services delivered as well as evaluate outcomes achieved. It was designed to measure progress towards the achievement of the Project Development Objective (Purpose) as well as associated Results. This will facilitate good planning, close monitoring, deeper reflections and appropriate attitudes for learning and adjustments. It focuses on how to improve reporting, data collection and analysis, conducting surveys, specialized field monitoring, feedback and necessary conditions for M&E.

The Framework specifically, aims to collect and provide information that will be used to:

- ✦ Identify gaps and weaknesses in implementation and flag potential risks or challenges emerging from monitoring of project activities and progress to the project coordinators and other relevant stakeholders in order to better plan, prioritize, allocate and manage resources appropriately;
- ✦ To enable project management establish mechanisms for regular reviews and come up/improve best bet interventions and decision making processes geared towards achievement of project objectives.
- ✦ To generate a system to compile, process, analyze and store information as concerns project implementation progress;
- ✦ To lay the foundations for midterm and final evaluations of the project in order to systematize the experience of the execution and extract lessons that will help to improve the formulation of future development projects.

There are two fundamental questions that have been considered to provide the inherent purpose of the SPVCD monitoring strategy.

Is SPVCD's hypothesis right?

It focuses on ensuring that the changes that were envisaged when the program was formulated are forth coming and being achieved. This question is based answered by the project's logical model. The M&E strategy is to put in place indicators that will be tracked. An impact evaluation framework that will be followed to test the hypothesis outlined is not in the logical model because this is not achievable during the life of the project. Section three will discuss the indicators.

Is SPVCD doing the right thing in a worthwhile way?

Mid-term and End of project evaluations have been put in place to assess how the project will have been implemented mid-way through the implementation and finally after all activities have been implemented. These issues are discussed in more detail in section five.

2.2 Guiding principles

SPVCD project M&E will be implemented through the following activities:

- ✦ Ensuring that monitoring and evaluation functions are established and operating effectively
- ✦ Providing M&E data and information to assist the SPVCD project meet its informational needs and reporting for proper decision making
- ✦ Undertaking specialized field monitoring and evaluation studies
- ✦ Developing mechanisms for the feedback and dissemination of experiences
- ✦ Documentation of best practices and promoting learning

2.3 Audience

Each stakeholder/actor has different information needs. By determining the most common information needs we can select the best component to address those information needs through reporting. The following table presents an analysis of information needs for various actors/ stakeholders in SPVCD project.

Table 1: Audience and associated information needs

| Audience | Level | Importance of the Framework to them |
|---|---------------------|--|
| Smallholder pig producers | Local | Collect data that will help in improving productivity and income levels |
| Live pig traders, butchers, feed traders, and their organizations. Service providers/ Business development Service Providers The pig business hub/cooperative union | Local | Understand the profitability of the hub and how to entice other actors to stick with them Understand the viability of the hub, farmers needs so that they design products that suit their clients |
| Public (MAAIF, Ministry of Health and Local Government – Animal Production department, NAADS, Uganda Bureau of Standards) | District | Build capacity in pork slaughter and handling, Improved linkages with value chain actors, Effectively advocate for pork safety and quality assurance systems for inputs. |
| National policy makers in the livestock sub-sector, UBOS, NALLIRI, private sector associations, and NGOs | National | To provide evidence on the scope and potential of smallholder pig value chains on development. Provide strong advocacy for pro-poor smallholder pig value chain development |
| SPVCD project staff | National and Global | Understand whether the project is viable so as to build a case of enticing other players to participate |
| Funders | National and Global | <ul style="list-style-type: none"> • See value-for-money of the intervention • Potential funding opportunities |
| Private sector | National | Guiding investment decision and value for money |
| Research and learning institutions | National and Global | Build evidence-base on pro-poor pig value chains thus facilitating research and learning |

2.4 Key components of the plan

The SPVCD plan will include among many, four key components: logical framework, indicator framework, evaluation and the accompanying toolkit

3 Logical framework

3.1 Mission and Vision

Vision

Livestock and Fish CGIAR research program's vision for the Uganda Pig Value Chain is an efficient, all-inclusive and sustainable pig value chain for safe and affordable products contributing equitably to improved livelihoods in Uganda by 2023. This vision is based on indicative statements of what success would look like for key value chain actors as summarized below:

- a) Poor pig value chain actors would want to:
 - i. earn sustainable and reliable income,
 - ii. be heard and be able to influence,
 - iii. be capable of producing, organizing, and marketing their pig products,
 - iv. access technical, marketing, and financial support, and
 - v. be connected to wider value chains.
- b) Wider pig value chain system actors would want to have:
 - i. access to safe and high quality pork products,
 - ii. consistent and reliable supply and demand for pork products,
 - iii. legal policy arrangements that support contracts,
 - iv. reduced negative environmental impacts of pig production, and
 - v. lower transaction costs and increased coherence between chain segments.
- c) Wider stakeholders including (development agents and researchers) would want to see:
 - i. high potential to consume pork products,
 - ii. high return on investment/ value for money in pig production, evidence of potential for the pig industry

The program will therefore meet the following goals:

- a) Improved livelihoods, incomes, and assets of smallholder pig producers, especially the vulnerable, in a sustainable manner through increased productivity, reduced exposure to risk, improved market access, and lower associated negative environmental impacts.
- b) Poor consumers have sustainable access to affordable, high quality, and safe pork and pork products.

3.2 Objectives

These aims are to be achieved through the proposed 2-year research-for-development project working with research and development partners to:

1. Develop, test and evaluate best-bet options on improved pig husbandry and manure management practices, swine health, breeding management and improved diets to strengthen the pig value chain through improved productivity and environmentally sustainable practices at the farm level.
2. Develop, test and evaluate best-bet options on sustainable organizational marketing mechanisms and waste management practices to strengthen the pig value chain through improved pork safety and better access to inputs, services and output markets.
3. Develop, test and evaluate best-bet options to increase utilization of edible pig parts and increase consumer awareness about benefits of consumption of animal source foods.

4. Inform policy to recognize and appropriately promote the role of pro-poor pig value chains in Uganda.

3.3 SPVCD Impact path ways-Adapted from ILRI Uganda achieves



Uganda Pig Value
Chain Impact Pathway

4 Indicator framework

4.1 Indicators

In session one, the facilitator used power point slides to point out the fact that pigs are like humans who require a certain nutrient intake for

- (i) Increased income levels of smallholder pig producers generated through innovations that improve productivity and enhance access to inputs, services and output markets.
- (ii) Improved swine health for smallholder pig enterprises as a result of more resilient and face fewer risks associated with pig diseases, through innovations that enhance swine health.
- (iii) Better nutrition of smallholder pig-producing households through greater consumption of a more diverse and nutritious diet.
- (iv) Improved safety and nutritious pork products for a better quality diet for consumers through innovations that increase quantity and quality of pork supplied locally.

4.2 Indicator tracking sheet

| Objective/Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|--|-----------------|--|------------------|-----------------------------|---|---------------------------------------|---|---------------------------|--|--|---|--|
| Goal: Improved livelihoods for value chain actors and better performance of smallholder pig value chain systems in selected areas in Uganda. | Percent change in HH pig income from participation in pig value chain, | Impact | Mean pig production income from all participating households | Uganda shillings | HH wealth ranking and sex | Small holder pig value chain households | Survey of the small holder households | Start of the project and after five and ten years | M&E specialist and the PI | Cash income from sale of pigs=average price per pig multiplied by the number sold | SPVD: Gauge project impact on the livelihood of the target beneficiaries | 10% income increase in the pig rearing households | M&EL framework and tools, baseline reports and impact assessment reports |
| | Participating farmers living below the poverty line | Impact | The percentage of SHFs HHs supported by SPVCD whose pig income(or expenditure) is less than USD 1.25 | Percent | Sex, Type of major activity | Small holder pig value chain households | Survey of the small holder households | Start of the project and after five and ten years | M&E specialist and the PI | Cash income from sale of pigs=average price per pig multiplied by the number sold and all multiplied by 100% | SPVD: Gauge project impact on the livelihood of the target beneficiaries | At least 2400 pig producers and 1000 other value chain actors reached | Impact assessment reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|--|----------------------------|-----------------------------|---|---------------------------------------|-----------------------------------|---|---|--|---|-------------------------------------|
| Outcome I: Smallholder pig producers generate more income through innovations that improve productivity and enhance access to inputs and services. | Percentage increase in HH pig income | outcome | Mean pig production income from all participating households | Uganda shillings | HH wealth ranking and sex | Small holder pig value chain households | Survey of the small holder households | Start of the project and annually | M&E specialist and the PI | Cash income from sale of pigs=average price per pig multiplied by the number sold | SPVCD : Management and annual reporting. | 5% | Routine monitoring data and reports |
| | Percentage change in farm productivity- Change in the Annual pork yield/carcass weight per house | outcome | Annual pork yield/carcass weight per house Annual pork yield/carcass weight per household | Kilogram / household/ year | Sex, Type of major activity | Small holder pig value chain households-Farmer records (Animal live | Survey of the small holder households | Start of the project and Annually | Pig hub/cooperative union leaders and M&E specialist and the PI | | Farmer: improve on farm practices Coop: know whether there are pigs | Increase in pig productivity by at least 5% in the project areas due to improve | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|-------------|-----------------|---|-----------------|-------------------------|---|------------------------|-----------|----------------|---------------|---|--|----------------------------|
| | hold | | closely correlated with the effective amount of meat produced by each animal and achieved by specific feeding regime and quality of husbandry practices, many of which will include those recommended by the program. | | | weight before slaughter, age of animal at slaughter (days), number of slaughtered animals) through surveys and disaggregated by management system (feeding and husbandry | | | | | sold to other traders; know farmers still need support in terms of marketing and other services Service providers: Know how much to invest SPVCD : Management and | d diets, swine health, good management and breeding practices. | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|--------------------|-------------------------|--------------------|----------------------------|----------------------------|------------------------------|-----------|----------------|------------------|---|---|----------------------------------|
| | | | | | | practices) | | | | | annual reporting. Farmer: assess how much technology can improve productivity Coop: know the kind of help to be provided to farmers | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|--|-----------------|---|---|---|---|-----------------------------------|-----------------------------------|---------------------------|---|---|-------------------------------------|-------------------------------------|
| | Farmers adopting productivity enhancing technologies and pig management practices- % of farmers who used specific set of technologies as per the agreed threshold per year | Outcome | Proportion of target producers applying new or improved technologies and management practices, and the extent of use by target producers. Key livestock technologies relate to: 1)Feed and feeding, 2) Animal health, 3) breeding, 4) Output quality management | Number of technologies Number of farmers accessing each of the technologies. Or Proportion: Expressed in percentage of total target producers (e.g.percentage of farmers using improve | Sex of household head and type of technology and management practices | Count Respondent, HH Survey(Farm and household Knowledge Attitude and Practice (KAP) surveys and possibly service provider surveys) Reports from cooperatives and service | Survey and Qualitative interviews | Start of the project and annually | M&E specialist and the PI | Increase compared to baseline Proportion: Number of target producers applying new or improved technology and management practices. | Farmer: assess how much technology can improve productivity Coop: know the kind of help to be provided to farmers SPVCD : Management and annual reporting | 20% | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|---|-------------------------------------|---|--------------------------------|-------------|---------------------------|-------------------------------|--|-------------------------------------|-------------------------------------|
| | | | nt. | d boar breeding services) related to new or improved technology or management practice. | | providers | | | | | | | |
| | Farmers are organized and strengthened to access cost effective BDS services through the pig business hub-% of farmers who access | out come | Productivity enhancing services: 1.Access to, and use of, technology and inputs related to livestock health, breeding, feeding, and | Number of farmers accessing the BDS services by gender Number of services available at the hub | Sex, Type of BDS services available | Count Respondent, Reports from cooperatives and service providers (i) have a service or technol | Survey and qualitative studies | Semi-Annual | M&E specialist and the PI | Increase compared to baseline | Coop: know the kind of help to be provided to farmers SPVCD : Management and annual | 50% | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|-----------------------------------|-----------------|---|--|-------------------------|--|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|----------------------------|
| | BDS services on check off or cash | | management by gender disaggregation 2. Access to, and use of, services such as extension, training, information and finance, and public services and membership in groups by gender disaggregation 3. Membership of groups by gender disaggregation | Number of MOUs signed between the service provide and the Coop | | ogy available and (ii) are using a given technology or service. Information on community group membership may also provide valuable data for this indicator. | | | | | reporting | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|---------------------|-------------------------|--|--------------------------------|---|--|---|--|-------------------------------------|-------------------------------------|
| | | | tion | | | | | | | | | | |
| | Increased number women participation in the pig value chain-household and Hub | outcome | Women engaging in various value chain activities (transportation, production, trade, input and service provision and control of productive assets | Numbers and percent | Sex, household type | Count, HH Survey Cooperative union data | Survey and qualitative studies | Start of the project, after six months and end of project | M&E specialist, Gender focal person and the PI | Trends, incentives for women participation (differentiated by value chain activity and by tradeoff between types of leadership) | Coop: Inform future trainings Coop leadership: Review Gender related institutions: policy formulation | 5% Increase | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|-----------------|--|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---|-------------------------------------|----------------------------|
| | | | and benefits)- % of women actively participating in the pig value chain with respect to the total number of persons. Women's decision making on use of technology inputs Increased women shareholders at Coop level | | | | | | | | and advocacy SPVCD : Management and annual reporting. Inform programming on future use of these practices. | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|--|-----------------|---|-----------------|--------------------------------------|--|--------------------------------|-------------|--|---------------|--|-------------------------------------|-------------------------------------|
| | increase production and expanding pig markets and increasing market and employment- <i>Increased quantity and improved quality of pork supplied from the target small-scale production and marketing systems;</i> | outcome | Pigs supply to the market-ownership indirectly implied and sales Supply contracts with pig traders MOUs signed with service providers No of farmers using such transport services Number of farmers accessing market information Pig | Number | Pig types, type of supply contracts, | Respondent, Reports from cooperatives and service providers Number of pigs supplied to the market-ownership indirectly implied Number of pigs sold Number of supply | Survey and qualitative studies | Semi-Annual | M&E specialist, Gender focal person and the PI | | Coop: know the kind of help to be provided to farmers Coop: know the profitability of the hub and percentage contribution to household income SPVCD: | 5% Increase | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|-----------------|--|-----------------|-------------------------|--|------------------------|-----------|----------------|---------------|----------------------------------|-------------------------------------|----------------------------|
| | | | collection centers at the hub Number of slaughter slab Number pig weighing scales at collection centers Number of new pig/pork transport practices Proportion of women who make decisions on sale of pigs/pork Proportion of women who make | | | contracts with pig traders No of MOUs signed with traders No of transporters with MOUs. No of farmers using such transport services Number of farmers accessing market information | | | | | Management and annual reporting. | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|-----------------|---|-----------------|-------------------------|--|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|----------------------------|
| | | | decisions on use of income from pig sales | | | Number of collection centers Number of slaughter slabs Number pig weighing scales at collection centers Number of new pig/pork transport practices Proportion of women | | | | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|-----------------|----------------------|-----------------|-------------------------|---|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|----------------------------|
| | | | | | | who make decisions on sale of pigs/pork Proportion of women who make decisions on use of income from pig sales | | | | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|--|-----------------|--|-----------------|-------------------------|---|---------------------------------|-----------|--|---|---|-------------------------------------|----------------------------|
| | Increased net pig income for producers/farmers | | Net pig income is any revenue generated from the following items: pork; Live pigs. | Index | sex, household type | Farmer records The cooperative reports | Surveys and qualitative studies | Annually | M&E specialist, Gender focal person and the PI | Increase compared to baseline Trend compared to the preceding year (this will be disaggregated according to source and gender) | Coop: know the kind of help to be provided to farmers Coop: know the profitability of the hub and percentage contribution to household income SPVCD : | 5% increase | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|-----------------|-------------------------|---|------------------------|--|--|--|--|-------------------------------------|----------------------------|
| | | | | | | | | | | | Management and annual reporting. | | |
| | Increase in number of pigs reared at household level- Change in the average number of pigs reared per household , Number of pig sold to the hub, Number | outcome | This is the total number of pigs reared in a given time period. | Numbers | Sex, household type | Farmer records The cooperative reports | Qualitative studies | Start of the project, after six month and end of project | Pig hub/cooperative union leaders Hub manager | Increase compared to baseline Compare numbers at household level(production)to the what is delivered to the hub Trend compared to the preceding year | Coop: know the kind of help to be provided to farmers Coop: know the profitability of the hub and percent | 5% increase | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|--|---|---|--|--------------------------------|--|---|--|--|-------------------------------------|----------------------------|
| | of pigs sold to other traders | | | | | | | | | | age contribution to household income SPVCD : Management and annual reporting. | | |
| | Pig farmers are active members of the Cooperative Union/Hub | out come | Active: Farmers supplying pigs to hub at least three times/year or access inputs/services or accessing | Number of active farmers by gender who are members of the Coop Number of farmers | Individual (Note: a single household can have multiple members) | Count, Coop Records. Coop records and Service Provide | Survey and qualitative studies | Start of the project, after six month and end of project | Business Advisors/Contracted partner will collect from Coop records Are you going to hire Business Advisors?? | Annual Quarter target achievement % of active, non-active members Disaggregated gender | Coop: management decisions Coop leadership: Review SPVCD | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|------------|-----------------|---|--|-------------------------|----------------------|------------------------|-----------|-----------------------------|----------------|--|-------------------------------------|----------------------------|
| | | | <p>inputs once in every quarter</p> <p>Pig farmers accessing Business development Services at the hub on credit or Cash</p> <p>Services accessed on check off system.</p> <p>Contracts signed between service providers and the</p> | <p>by gender who access BDS at the hub.</p> <p>The numbers of services</p> | | <p>r reports.</p> | | | <p>Hub management Staff</p> | <p>and age</p> | <p>: Management and annual reporting</p> | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|--|--------------------------|-------------------------|----------------------|------------------------|--|-----------------------------------|---|--|-------------------------------------|----------------------------|
| | | | cooperative. | | | | | | | | | | |
| | Increased social capital at farmer level-% of farmers who are full shareholders | outcome | Social capital: shareholdings in the hub | Number of persons by sex | Sex | Coop records | Qualitative studies | Start of the project, after six month and end of project | Pig hub/cooperative union leaders | Increase compared to baseline Trend compared to the preceding year | Coop: assessing how much the hub is owned by the community SPVCD : assessing how much the hub | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|--|-----------------|---|-----------------|-----------------------------|---|---|--|---------------------------|---------------|---|---|----------------------------|
| | | | | | | | | | | | is owned by the community; writing of annual report | | |
| Outcome 2: Smallholder pig producers face fewer risks associated with pig diseases, through innovations that enhance pig health. | .Reduction in exposure to zoonotic diseases within the value chain | outcome | Percentage reduction pig mortality rate | Percent | Sex, Type of major activity | Small holder pig value chain households | Survey and qualitative studies of the small holder households | Start of the project, after six month and end of project | M&E specialist and the PI | | | Reduce pig mortality rate by at least 6%. | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|--|-----------------|---|-----------------|-------------------------|--|--|--|---------------------------|---------------|---------------------------|--|-------------------------------------|
| | · Exposure to zoonotic diseases at consumption node. | outcome | ·Percentage decrease in exposure to zoonotic diseases | Percent | Sex | Small holder pig value chain households | Survey of the small holder households | Start of the project, after six month and end of project | M&E specialist and the PI | | | ·Decrease in exposure to zoonotic diseases by at least 5%. | Routine monitoring data and reports |
| | .Increased knowledge on Bio-security control of ASF and other pig diseases | outcome | .Percentage individual farmer knowledge level increase | Percent | sex | Smallholder farming households and other value chains actors | Survey of the small holder households and other actors | | M&E specialist and the PI | | | ·Decrease in exposure to zoonotic diseases by at least 5%. | Routine monitoring data and reports |
| Outcome 3: Smallholder pig producers have better | ·Percentage change in HH dietary diversity. | outcome | ·Increase in household dietary diversity by at least one food | Percent | Household type | Small holder pig value chain households | Survey of the small holder households | Start of the project, after six month | M&E specialist and the PI | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|--|--------------------|---------------------------------|--|--|---|---------------------------|---|---|---|-------------------------------------|
| nutrition through greater consumption of safe pork products and nutritious foods. | | | group in at least 50% of the target farmers. | | | | | h and end of project | | | | | |
| | Percentage degree of safety and level of nutrition of pork products | outcome | Percentage increase in the consumption of safe pork; Number of new pork safety innovations | Number and Percent | Household type | Small holder pig value chain households | Survey of the small holder households | Start of the project, after six month and end of project | M&E specialist and the PI | | | increase in the consumption of safe pork by at least 5% | |
| Outcome 4: Pig value chain actors generate more income through higher capacity and better | Percentage increased in income for all value chain actors; | outcome | Percentage change in HH pig income from participation in pig value chain, | Uganda shillings | Actor HH wealth ranking and sex | Small holder pig value chain households and other actors along the | Survey of the small holder households and other actors | Start of the project , after six month and end of project | M&E specialist and the PI | Cash income from sale of pigs=average price per pig multiplied by the number sold | SPVCD: Management and annual reporting. | 5% | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|---|-----------------|----------------------------|-------------------------|--------------------------------|---|-----------------------------------|---------------|---------------------------|-------------------------------------|----------------------------|
| market linkages | | | | | | chain | | | | | | | |
| Outcome 4.1 Improved capacity of the pig business hub to respond to the needs of the smallholder farmers | Number of Services provided by the hub | outcome | Number of Services provided by the hub of FOs scoring more than the median of its comparable type | Number | Hub, Business type and sex | Hubs | Hub capacity assessment survey | Start of the project and end of project | Hub and M&E specialist and PI | | | | |
| | Targeted SHFs reporting improvement in services offered by hubs | Outcome | Percentage rating of services offered by the Hub | Percent | Sex, type of services | Small holder Households | Member profile | Start of the project , after six month and end of project | M&E specialist and PI | | | | |
| | Cooperative union/hub with increased membership | outcome | Number of FOs targeted by SPVCD whose membership has increased between 25 and 50% within 2 years | Number | Type of hub, Age, Sex | Cooperative union level | Cooperative union profiles | Start of the project , after six month and end of project | Pig hub/cooperative union leaders | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|---|---|--|---|--|--|---|------------------|--|-------------------------------------|------------------------------------|
| | Increased number of farmers and hub executive whose capacities are built on business management | Outcome | Proportion by gender | Percent | Sex and capacity building for specific subject areas | Cooperative union actors: Profile, agribusiness skills and employment | Survey | Start of the project, after six month and end of project | Enterprise Uganda and ILRI tea, | | | | Data and reports |
| | Improved coop/hub profitability | Outcome | Breakeven is the point at which sales exactly cover expenses (sales = costs) Cash flow positive is when the movement of money into the business is greater than the outflow of money (cash in > cash out) | Number of Coops breaking even for at least 6 months Number of Coops with positive cash flows for at least 6 months | Cooperative union | Expenditures and revenues | Count Income statement and Cash flow statement Balance sheets Records review | Start of the project and Annually | Business Advisors/Contracted partners/ILRI agric. Economist | Financial ratios | To assess hub profitability To guide investment decisions | | Routine monitoring data and report |
| Outcome 4.2 Enhanced linkage to structured markets by the cooperative | New market linkages established | Outcome | The number of new markets procuring from coop | Number | Area, coop, market | Cooperative union level; profile of customers | Cooperative union records | Start of the project, after six month and | Pig hub/cooperative union leaders | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|-------------------------|-------------------------|--|---------------------------|--|---|---------------|---------------------------|-------------------------------------|-------------------------------------|
| union | | | | | | | | end of project | | | | | |
| | Number of farmers sourcing pigs to the Cooperative union | outcome | Number of farmers sourcing to the cooperative union | Number | sex, household type | Smallholder farmers | Cooperative union records | Start of the project, after six month and end of project | Pig hub/cooperative union leaders | | | | |
| | Quantity of pork sold to or through the cooperative union | outcome | Quantity of pork or pigs sold to or through the cooperative union | Kilogram/household/year | sex, household type | Cooperative union records (Animal live weight before slaughter, age of animal at slaughter (days), number of slaughtered animals) through surveys and | Cooperative union records | Start of the project, after six month and end of project | Pig hub/cooperative union leaders and M&E specialist and the PI | | | | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|--|-----------------------|--|--|--|--|---------------------------------|---------------|---------------------------|-------------------------------------|-------------------------------------|
| | pigs sold to or through the cooperative union | outcome | Number pigs sold to or through the cooperative union | Number/household/year | Sex, household type | Cooperative union records No. of live pigs sold to or through the cooperative society | Cooperative society records | Start of the project, after six month and end of project | PI and M&E Specialist | | | | |
| | Level of capacity development for market actors | Outcome | Proportion by gender | Percent | Sex and capacity building for specific subject areas per actor | Cooperative union actors: Profile, agribusiness skills and employment | Survey | Start of the project, after six month and end of project | Enterprise Uganda and ILRI tea, | | | | Data and reports |
| Outcome 5: Consumers benefit from safe and nutritious pork products through innovations that increase quantity and quality of pork consumed. | Number of consumers benefit from safe and nutritious pork products through innovations that increase quantity and quality of pork consumed. | outcome | Number of consumers by sex who benefit from safe and nutritious pork products through innovations that increase quantity and quality of pork | Number | Sex. Area/location | Pork consumers, Traders operating pork joints | Port trader/joint records/slaughter abattoir | Start of the project, after six month and end of project | PI and M&E Specialist | | | | Routine monitoring data and reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|--|-----------------|---|-----------------|-------------------------|----------------------|------------------------|---|-------------------------|---------------|---------------------------|-------------------------------------|---|
| Outcome 6: Policies that are favorable for development of the smallholder pig value chain are in place. | · New policies or regulations for marketing and development of pork products | outcome | · Number of new policies or regulations for marketing and development of pork products | Number | | | ILRI partners | Start of the project and after five and ten years | Value chain coordinator | | | | Routine monitoring data and reports |
| Objective 1: Develop, test and evaluate best-bet options on improved pig husbandry and manure management practices, swine health, breeding management and improved diets to strengthen the pig value chain through improved productivity and environmentally sustainable practices at the farm level. | | | | | | | | | | | | | |
| Output 1.1: A strategy developed for identification of sites, value chain actors /partners and ex-ante assessments of best-bet options for pilot testing. | · Strategy for site identification. | Output | Number of sites identified; No of consultative meetings with partners and value chain actors | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | A strategies developed | · Strategy paper and a project report |
| | · Partnership strategy developed. | Output | Number of partners identified and with MOUs signed; No of meetings with partners and value chain actors | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | Partner strategy developed | Partner strategy report, Partnership agreements; Partnership briefs |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|---|-----------------|-------------------------|----------------------|------------------------|--|-----------------------|---------------|---------------------------|--|---|
| | No. of best bet interventions that meet best bet criteria, disaggregated by type of technology | Output | Number of best bets selected | Number | | | | Start of the project, after six month and end of project | PI and M&E Specialist | | | | Case studies |
| | No. of ex-ante assessments for different best-bets | Output | Number of ex-ante assessment for different best-bets | Number | | | | Start of the project, after six month and end of project | PI and M&E Specialist | | | At least 2 ex ante assessments | Toolkit for ex-ante assessments; |
| | | Output | Number of cost-benefit assessments | Number | | | | Start of the project, after six month and end of project | PI and M&E Specialist | | | | |
| Output 1.2: An integrated strategy developed for improved swine health, especially with respect to priority | Integrated pig health strategy developed | Output | No. of studies focusing on adoption of biosecurity practices at the farm level. | Number | | | | Start of the project, after six month and end of project | PI and M&E Specialist | | | At least 3 integrated strategies covering pig husbandry, biosecurity | Strategy paper, routine monitoring data |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|--|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|--|---|
| diseases, that addresses biosecurity through improved husbandry and manure management practices on-farm. | | | | | | | | | | | | <ul style="list-style-type: none"> · y measures and manure management tested; At least 3 models for information delivery tested. · V alidated package of improved biosecurity measures, improved management and rapid diagnostic tests | |
| | Curricula module developed on different models of delivery of information, product and services to improve prevention | Output | Modules developed on different models of dietary information | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | <ul style="list-style-type: none"> · Validated model for delivery | <ul style="list-style-type: none"> · Extension factsheets translated into local language |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|----------------------|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|---|--|
| | and control of priority diseases and pig-related zoonosis. | | | | | | | | | | | | |
| | No. of models tested for delivery of information, product and services to improve prevention and control of disease | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | |
| Output 1.3: Diets for pigs formulated using locally available feed resources and labor-saving technologies for forage harvesting and feed conservation to address gender related time constraints. | No. of pig diets formulated that meet local feed composition and address women's time constraints | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | At least 4 balanced pig diets developed , 2 labor saving technologies for harvesting and feed conservation. | Project reports · Scientific papers, Extension factsheets translated into local language |
| | No. of gendered labor saving | Output | | Number | | | | Start of the project | PI and M&E Specialist | | | Validated package of | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|--|------------------------------------|
| | technologies for harvesting and feed conservation tested | | | | | | | , after six month and end of project | | | | improved feeding practices | |
| | No. of models of delivery of information, product and services to improve pig nutrition | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | |
| | Curricula module development for training package | Output | Modules developed on different diets for pigs formulated using locally available feed resources and labor-saving technologies for forage harvesting and feed conservation | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | |
| Output 1.4: Strategies for improved breeding management practices | No. of studies focusing on breeding management practices and | Output | No. of sites identified having proven sires | Number | | | | Start of the project , after six month | PI and M&E Specialist | | | 2 studies focusing on pig breeding managem | Project reports, Scientific papers |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|---|----------------------------|
| associated with the selection and use of village boars developed | selection of proven sires-- Semen Supply e.g. DEVENISH NUTRITION, KCCA farm,PPM | | | | | | | and end of project | | | | ent-Strategy for village boar selection and sexually transmitted disease management practices developed | |
| | No. of models for delivery of information on identification of best models for scaling out. | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | Strategy paper |
| Output 1.5: Generation of evidence on the performance and economic feasibility of indigenous microorganisms (IMO) technology to minimize negative | Assessment methodology for greenhouse gas emissions developed | Output | No. of studies focusing on IMO technology and pig feed efficiency under the technology. | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | Methodology validated, Validated package of IMO technology | Toolkit for assessment |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|----------------------|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|---|--|
| environmental effects associated with smallholder pig production. | | | | | | | | | | | | | |
| | No. of models for delivery of information identification of best models for scaling out. | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | Assessment report |
| Output 1.6: A gendered-assessment of performance of the improved pig productivity best bet options (outputs 1.2 – 1.5) that incorporate the best-bet options for animal health, feeding, breeding and manure management | No. of best bets that are socially acceptable, affordable by pig producers and minimizing negative environmental effects associated with poor manure management.- Animal health biosecurity tools engendered | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | Lessons documented on performance of the production best-bets | Assessment reports(Development of a gendered assessment methodology) |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|----------------------|-----------------|-------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|-------------------------------------|----------------------------|
| and effectiveness of partnership developed. | | | | | | | | | | | | | |
| 1.6.2 Assessment of the effect of the production related best-bet options on the human nutrition indicators such as dietary diversity to further inform development of nutrition interventions. | · No of gendered assessments on performance of the production best bets focusing on productivity indicators (mortality rate, kg of pork produced/animal/year) | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | · Survey data |
| | · No of studies on linkages between pig productivity interventions, income and household diet diversity. | Output | | Number | | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|---|---|------------------------------|----------------------|------------------------|---|-----------------------|---------------|---------------------------|---|--|
| Output 1.7: Capacity development of national and local value chain actors for effective operationalization and larger scale pilots of the production best bets---this are the extension manuals | · Capacity development strategy of national and local value chain actors for effective operationalization and larger scale pilots of the production best bets developed, including delivery models | Output | No of people trained disaggregated by actor type, level and gender smallholder farmer groups on best management practices in pig production; No. of input and service providers on provision of quality inputs and services whose capacity was build; No of best bets delivery models | Number of trainings; Number of people trained; Number of best bet delivery models | Sex, actor and location/area | | | Start of the project , after six month and end of project | PI and M&E Specialist | | | · Strategy developed ; 20 small scale feed manufacturers trained on feed mixing in each project site. At least 25% of pig farmers in the project sites involved in various levels of training. · At least 20 extension staff and veterinary officers trained in each target site. At least 2 MSc students trained | · Project monitoring data, meeting reports. Project reports, Partner reports, Extension tools; Routine monitoring data showing activities, training and participation, Training manuals translated into local language; · Group training reports |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|---|---|
| Objective 2: Develop, test and evaluate best-bet options on sustainable organizational marketing mechanisms and waste management practices to strengthen the pig value chain through improved pork safety and better access to inputs, services and output markets for smallholders in environmentally sustainable means | | | | | | | | | | | | | |
| Output 2.1: Strategy for establishing sustainable and well-organized pig business hubs delivering demand-led inputs and services developed to improve access to quality inputs, services and output markets. | · Strategy for pig business hubs developed | Output | No of business hubs established; No of consultative meetings with partners and stakeholders ; No of actors involved | Number | | | | | | | | · At least 4 pig business hubs tested in the project area with membership of about 100 members each of which at least 40% are women | · Strategy/discussion paper |
| | · Stakeholder assessment and SWOT analysis of existing hub-type arrangements and lessons learnt documented; | Output | No of studies | Number | | | | | | | | · At least 3 business development service providers operating at each hub, Stakeholder assessment strategy | · Register of members. project reports, Scientific papers, Case studies |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|---|------------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|--|--|
| | No. of pig hubs tested | Output | No. of pig hubs tested | | | | | | | | | | |
| Output 2.2: Capacity development of business groups (women, farmer and trader groups), business hubs and other value chain actors for effective management and business operations, enterprise development and appropriate slaughtering, pork handling and waste management. --look at this gain especially in relation to activities | Capacity building strategy (identifying capacity gaps and the how) for the business hubs; No. of people trained disaggregated by actor type and gender slaughter slabs, abattoirs and butchers on appropriate slaughtering and pork handling in collaboration with the local governments, Ministry of Public Health, college of Veterinary Medicine - Makerere University and Wambizzi | Output | Capacity building strategy (identifying capacity gaps and the how) for the business hubs; No. of people trained disaggregated by actor type and gender slaughter slabs, abattoirs and butchers on appropriate slaughtering and pork handling in collaboration with the local governments, Ministry of Public Health, college of Veterinary Medicine - | No. of trainings | | type, actor and sex | | | | | | Strategy developed, At least 5 farmer and women groups and trader organizations strengthened and linked to the pig business hubs. At least 2 gender training workshops held. | Project monitoring data, Meeting reports, Project reports, Partner reports, Extension materials; Training manuals translated into local language |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|--|-----------------|--|------------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|---|--|
| | cooperative. | | Makerere University and Wambizzi cooperative. | | | | | | | | | | |
| 2.2.3 Implementation of gender training events for stakeholders across the research-to-development continuum | Curricula module development for training package | Output | No. of modules developed | No. of trainings | | type, actor and sex | | | | | | 50 slaughterers trained in each target site. | Group training reports |
| Output 2.3: Assessments of the pig business hubs approach and enhanced capacities on pork handling as a means to improve learning and performance of the value chains. | No. of assessments on pig business hubs and pork quality in the marketing channels | Output | No. of studies to assess quality of pork through the marketing systems | Number | | | | | | | | Key lessons gathered and documented on the pig business hubs strengths and weaknesses | Assessment reports, Assessment toolkit |
| 2.3.2 Assessment of the effect | Development of an assessment | Output | Assessing performance (volumes | | | | | | | | | | Survey data |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|---|--|
| of the interventions on returns to different value chain actors disaggregated by gender and age. | methodology for pig business hubs | | sold, returns, quality issues) not necessarily impact | | | | | | | | | | |
| 2.3.3 Assessment of the performance of the pork quality interventions focusing on pork quality indicators. | No. of studies on pork quality supplies | Output | | Number | | | | | | | | | |
| Output 2.4. Evidence generated on environmental impacts associated with waste management in the slaughtering and processing nodes in the value chain. | No. of studies on waste management at the slaughtering and processing nodes | Output | | Number | | | | | | | | At least 2 interventions identified from the pig waste management studies | Project reports; Advocacy paper with policy recommendations; Scientific papers |
| Activities: 2.4.1 Mapping of | Assessment methodology for | Output | | | | | | | | | | | Assessment toolkit for GHG |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|----------------------|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|----------------------------|
| organizations involved in sustainable waste management and drawing on lessons learnt from other countries. | greenhouse gas emissions and water resources developed | | | | | | | | | | | | emissions |
| 2.4.2 Exploring and promoting appropriate ways of waste handling in slaughtering and processing nodes as means to sustainably reduce negative environmental effects. -- linked to Butcher trainings | No of ways for pig waste management identified; No of butchers trained on pork safe handling and waste proper waste management | Output | | Number | | | | | | | | | |
| Objective 3: Develop, test and evaluate best-bet options to increase utilization of edible pig parts and increase consumer awareness about benefits of consumption of animal source foods. | | | | | | | | | | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|--|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|--|----------------------------|
| Output 3.1: Strategy to increase utilization of edible pig parts and to provide nutritional information to farmers and consumers. | · No. of nutritional information tools developed on utilization of edible pig parts. | Output | · No. of studies focusing on nutritional and economic assessments of utilization of edible pig parts. | Number | | | | | | | | · At least 5 nutrition information tools developed and disseminated | · Routine monitoring data |
| | · Strategy for utilization of edible pig parts developed. | Output | | Number | | | | | | | | · At least 2 nutritional and economic assessment studies on the utilization of edible pig parts. | · Strategy paper |
| | · No. of trainings for veterinarians, butchers and slaughterhouse workers; | Output | | Number | | | | | | | | | · Routine monitoring data. |
| | · No. of models of delivery of human nutrition messages including | Output | | Number | | | | | | | | | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|---|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|---|---|
| | through new media approaches. | | | | | | | | | | | | |
| Output 3.2: A gendered-assessment of the role of pork and other animal source foods in human diets and associated preferences. | No. of studies on consumer preferences for pork and other animal source foods | Output | No. of studies on intra-household consumption patterns and access to food. | Number | | | | | | | | Generation of information for targeting and refinement of nutrition interventions | Project reports; Consumer assessment toolkit, Survey data, Routine monitoring data. Scientific papers |
| Output 3.3: Consumer education on dietary diversity and benefits of consumption of animal source foods promoted, with an emphasis on special interest groups such as pregnant women, children, persons living with HIV- | Strategy for consumer education developed | Output | No. of studies on nutritional education programs on community level nutrition status based on diet diversity and % of animal-source foods in the consumption basket | Number | | | | | | | | 1 strategy paper developed ; 4 dietary diversity message tools developed | Strategy paper, Dietary diversity message tools translated into local language and Scientific papers |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|---|--|
| AIDS and the elderly. | | | | | | | | | | | | | |
| Objective 4: To inform policy to recognize and appropriately promote the role of pro-poor pig value chains in Uganda | | | | | | | | | | | | | |
| Outputs 4.1: Lessons for sustainable pig value chain development through evidence-based research, monitoring and evaluation, and recommendations for scaling up and out developed and disseminated | No. of project reports, knowledge products, focused on lessons from project | Output | No. of project reports, knowledge products, focused on lessons from project | Number | | | | | | | | At least 2 functional regional pig platforms formed | Project reports Routine monitoring data |
| | No. of policy engagements, disaggregated by type (e.g., workshops, | Output | No. of policy engagements, disaggregated by type | Number | | | | | | | | A vibrant and functional national pig | |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|--|----------------------------|
| | meetings, policy briefs, etc) | | (e.g., workshops, meetings, policy briefs, etc) | | | | | | | | | platform developed . At least 5 seminars conducted in each target area to disseminate lessons from the evidence based research.4 main policy workshops conducted At least 2 case studies developed | |
| | No. of stakeholder pig platforms formed; Documentati on of alliances formed | Output | No. of stakeholder pig platforms formed; Documentati on of alliances formed | Number | | | | | | | | | Multimarket model report |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|--|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|--|
| 4.1.2 Conduct economic and policy analyses of the pig value chain and the level and distribution of the benefits it generates among different groups, especially the youth and women. -- only macro level data available and results from the multimarket model feed in | Economic and policy analysis on the smallholder pig value chain done | Output | Economic and policy analysis on the smallholder pig value chain done | Number | | | | | | | | | Routine monitoring data |
| 4.1.3 Generate and communicate of evidence and lessons. | No. of outreach efforts and seminars targeting pig sector stakeholders to communicate outputs of evidence | Output | No. of outreach efforts and seminars targeting pig sector stakeholders to communicate outputs of evidence | Number | | | | | | | | | Communication materials e.g blog posts, policy briefs, case studies etc. |

| Objective/ Result | Indicators | Indicator level | Indicator definition | Unit of measure | Level of disaggregation | Data and data source | Data collection method | Frequency | Responsibility | Data analysis | Who/How data will be used | Targets at project sites in 2 years | Means of verification (MV) |
|----------------------|---|-----------------|---|-----------------|-------------------------|----------------------|------------------------|-----------|----------------|---------------|---------------------------|-------------------------------------|----------------------------|
| | based research for pig sector development | | based research for pig sector development | | | | | | | | | | |

5 Evaluations

This is a short duration project with only two years of intensive implementation. The project will give much focus on monitoring progress rather than evaluation. Evaluation mechanisms will be limited to simple surveys.

5.1 Objectives

The aim is to determine the relevance and fulfilment of objectives, effectiveness, impact, and sustainability

5.2 Elements

5.3 Evaluation approaches

This is a short duration project with only two years of intensive implementation. The project will give much focus on monitoring progress (monitoring outputs) and rather than evaluation. Evaluation mechanisms will be limited to baseline midline, simple qualitative studies and end line surveys. The fore and the later will be full blow. Impact evaluation will be done after ten years

There will be five types of evaluations for SPVCD

5.3.1 Baseline

The baseline will be considered as an extended 'Round 1 of the monitoring of outcomes survey'. The methodology (sampling methodology, sample size etc.) applied here will be applied in all other evaluation activities; mid-term survey and end term survey. Indicators obtained from interviewing a stratified random sample of respondents drawn from the project area will be used as a basis for mid-term and end term surveys. In case a proper baseline is not possible due to budgetary constraints; baseline data from the previous ILRI projects and other reputable sources of secondary data can be used to establish baseline values.

5.3.2. Mid-term Evaluation

Few indicators will be investigated qualitatively at this stage. The mid-term evaluation will also assess to what extent the intervention is leading to change in the outcome indicators. The evaluation will go ahead to establish whether the approached used by SPVCD were effective and efficiently; secondly, if activities systematically leading to the desired change and whether the program is making difference in terms of changes in knowledge, attitude, skills, behavior and practice. The mid-term evaluation should be conducted at the end of year one of the project. The focus will be on the implementation process and short-to-medium term changes. Data on the key indicators will be however be collected periodically as the indicator framework.

5.3.3 End-term Survey

Final program evaluation will be conducted when the project closes ILRI MEL team in combination with SPVCD project management and SPVCD M&E unit. It will be carried out in April 2016. The tools and

methodology used in the Baseline will be applied here for consistency. The focus will be on the progress towards outcomes and sustainability of the SPVCD Project. The final project evaluation will establish the extent to which targets, outcomes and objectives are being achieved; positive and negative unplanned results of the project; effectiveness of project activities. The evaluation will also shade light on the success stories and lessons learned.

5.3.4. Impact Evaluation

There should be a rigorous impact evaluation of the SPVCD project after ten years. The Impact evaluations will attempt to measure and demonstrate cause-and-effect. An independent consultant should be identified and contracted to implement the impact evaluation studies.

6.0 Management of M&E process

Monitoring will aid the comparison of actual with planned performance. Monitoring will include assessing the extent to which implementation coincides with planned. Monitoring is intended to generate information for SPVCD management on a regular basis highlighting whether implementation is as per plan, whether changes are occurring over time at output levels and identifying and address challenges encountered. Monitoring activities will include four distinct components, namely; Routine data collection, Field monitoring, Data analysis, and Reporting and Data utilization.

6.1 Routine Data Collection

Monitoring data will be collected through established and systematic methods during distinct phases as per the indicator framework of program implementation. Basic information of pig value chain actor bio data such as their location, association membership, and types of activities involved in and other key variables already highlighted. While in the course of implementation any other information deemed necessary such training meetings attendance and associated immediate outcomes and other unplanned results.

6.2 Data Collection Methods

SPVCD will use both qualitative and quantitative methods for collecting data and reporting on results. The following method will be employed for data collection;

- Case studies this is done on topical issues; they are need based. It is only done whenever an issue has emerged that needs a closer look.
- Surveys: Baseline Survey, Mid Term Survey and End Term Survey. Data for the fore and the later will be collected by well-trained research assistants.
- Field visits (success stories documentation): this is a crucial method that keeps the actors informed on qualitative issues in the field on constant basis.
- Records review: this will be very vital in capturing pig cooperative union performance data such as number of active members, pig sales, pig prices, payments to farmers, agro vet shop sales etc. this information will be collected and reported monthly by the M&E specialist and PIs.

Data collection will involve development of data collection tools: data collection tools are designed based on the results framework and information needs of key stakeholders. This needs to be participatory process to ensure that most of the actors information needs are catered for. SPVCD maintains the following data collection tools for monitoring purposes:

6.3 Field Monitoring

This will form the major component of the SPVCD monitoring system and will involve regular visits to the projects sites to capture information on on-going activities. The larger part will involve qualitative approaches such as observations, unstructured interviews.

6.3.1 Management of Field monitoring activities

To ensure efficiency and effectiveness of field monitoring, the following procedure will be followed for all field monitoring activities:

- A template of the reporting format documenting the monitoring visit has been attached and yet to be agreed upon by the SPVCD team for finalization to be used by members conducting field monitoring.
- After the visit, the official conducting the field visit will compile with the guidance of the M&E focal person his/her field report within one week after the field visit and submit it to the value chain coordinator who will share with the rest of the team.
- On a quarterly basis, the M&E specialist will extract all the relevant data in the field monitoring reports and note the critical issues highlighted there-in. These issues will be part of the agenda for the team's quarterly meeting. Minutes of the meeting will clearly indicate any actionable points and responsible persons with agreed timelines.

6.3.2 Data Collection instruments

Data collection instruments (appendix 2) and regular supervisory monitoring tools will be used to capture information required by the project. These tools have been designed basing on the project's indicator framework. The indicator baselines and targets are included and quarterly actual values for the indicators will be input in the IPPT for comparison over time and reporting.

6.3.3 Data Management and Storage

Data Entry: A person(s) is strategically placed by SPVCD to enter and identify any errors made by data collectors hence enhances the data cleaning process.

Storage: data may be stored using cabinet, desk based or web based system. When using cabinet system, data is stored in books or papers that are filed and put in the cabinet.

6.4 Data Analysis, Reporting and Utilization

6.4.1 Data Analysis

As this project plans to generate a huge amount of data from baseline study to periodic monitoring survey, a proper analysis and summarization would be done to make sense of it and use them for project benefits. Various statistical and data presentation software will be used for data analysis and presentation. This may include simple systems such as MS Access, MS Excel for basic processing, to statistical soft wares like SPSS, STATA, Epi Info etc. depending on the capacity available.

5.4.2 Reporting and Utilization of Information

5.4.3 Project Reporting

The PI is required to report on the progress of project implementation to the donor and other stakeholders. The main progress reports are bi-annual and annual progress narrative reports.

1.1 Semi-annual Progress Reports

PIs are required to report to the Project Management Team on progress outputs and research outcomes on 6-monthly basis. In order to do that, Research technicians will prepare and submit output reports to the relevant PI every six months. PIs and M&E Specialist will consolidate output reports to summary progress for the value chains coordinator and country representative.

Monthly reporting format



Monthly PLanning &
Report Template.docx

semi-annual reporting format



Semi annual
reporting template.doc

1.2 Annual Progress Reports

Two annual technical Progress Reports will be prepared for submission to the donor and other key stakeholder in May 2015 and 2016. The report will comprehensively present project's outputs and research outcomes during the whole implementation period, significant achievements, observations, challenges encountered and recommendations. The reports will also document what is working and what is not working plus necessary explanatory notes.

1.3 Final Project Report

During the last two months of the project (April.– May. 2016), the PIs, Research Technicians, in collaboration with the M&E Specialist, will prepare a final Project Report. This report will comprehensively summarize all the activities, outputs and outcomes of the project, lessons learnt, objectives met, or not met and why.

6.4.4 Project Reviews

Annual Project Review

The Annual Project Review meeting will serve as a mechanism for annual assessment of implementation progress. The Annual Project review meeting will help highlight areas for critical reflections pertinent to overall improvement of project actions. The outcome of the APR will feed into the annual planning and allow strategic adjustments. During such meetings, project indicators can be reviewed.

6.3. Dissemination of Results/Information

It is important to plan for information dissemination before reports start flowing. Table 2 suggests the dissemination approaches to various audiences and timing.

Table 2: Information type and audiences

| Stakeholder | Dissemination approach | Frequency |
|---|--|---|
| Smallholder pig producers | <ul style="list-style-type: none"> •SPVCD/ILRI wiki space •Events •Mass Media | <ul style="list-style-type: none"> •Annually •As deemed necessary |
| Live pig traders, butchers, feed traders, and their organizations. Service providers/ Business development Service Providers The pig business hub/cooperative union | <ul style="list-style-type: none"> •Reports •Social Media: Facebook and twitter accounts •Events •Mass Media | <ul style="list-style-type: none"> • Annually •As deemed necessary |
| Public (MAAIF, Ministry of Health and Local Government – Animal Production department, NAADS, Uganda Bureau of Standards) | <ul style="list-style-type: none"> •Reports •Social Media: Facebook and twitter accounts •Events •Mass Media | <ul style="list-style-type: none"> • Annually •As deemed necessary |
| National policy makers in the livestock sub-sector, UBOS, NALLIRI, private sector associations, and NGOs | <ul style="list-style-type: none"> Reports •Social Media: Facebook and twitter accounts •Events •Mass Media | <ul style="list-style-type: none"> • Annually •As deemed necessary |
| SPVCD project staff | <ul style="list-style-type: none"> •SPVCD/ILRI wiki space •Social Media: Facebook and twitter accounts •Events | <ul style="list-style-type: none"> •Annually •As deemed necessary |
| Funders | <ul style="list-style-type: none"> •SPVCD reports •ILRI/SPVCD wiki space | <ul style="list-style-type: none"> • Semi-Annually •As deemed necessary |
| Private sector | <ul style="list-style-type: none"> Reports •Social Media: Facebook and twitter accounts •Events •Mass Media | <ul style="list-style-type: none"> •Annually •As deemed necessary |
| Research and learning institutions | <ul style="list-style-type: none"> Reports •Social Media: Facebook and twitter accounts •Events •Mass Media | <ul style="list-style-type: none"> •Annually •As deemed necessary |

7.0 Appendices

Appendix I: Project monitoring tools

Pig business hubs



SPVCD Household
monitoring survey toc



Pig business hub
monitoring tool 1008:

Animal health—Breeding and ASF



Animal Health.docx



Butchers
questionnaire.doc



Extension_staff.doc



Pig breeding.doc

Environment-Slaughter waste management



Wabizzi pig abattoir
waste management pr

MSPs participant profiling sheets



MSPs Participant
profiling sheet_RO230

ILRI extension manuals



ILRI Extension
manuals training_ part

Appendix 2: Indicator measurement sheet- Adapted from LGI indicator manual



Indicator measurement
.doc