



People, Nature, and Spices Partnership (PENS):

Baseline Evaluation

Request for Proposal (RFP)

RFP Number: PENS/001/2023

Closing Date: 24 February, 2023

Closing Time: 5.00 PM EST



I. STATEMENT OF WORK

1.1 Context

This Request for Proposal (RFP) is soliciting proposals from qualified firms or organizations interested in implementing the Baseline Evaluation of the *People, Nature, and Spices Partnership (PENS)* project in Peru, funded by the United States Department of Agriculture (USDA) and implemented by NCBA CLUSA. This request calls for a technical firm with demonstrated abilities in designing and implementing impact evaluations and research studies and collecting data from multiple stakeholders along three Peruvian value chains: Ginger, Turmeric, and Oregano.

NCBA CLUSA may, at its sole discretion, engage the party selected to conduct the baseline assessment to conduct a mid-term and final evaluation of the PENS project. Award of the baseline evaluation is not a guarantee of additional work.

Table 1: General Project Information

Activity Title	PERU SPICES Baseline Study
Project Name	People, Nature, and Spices Partnership (PENS)
Country	Peru
Agreement Number	USDA-FAS-10.606-0700-22-(136)
Donor	United States Department of Agriculture (USDA)
Project Duration	5 years
Funding	A total of USD \$23,373,411
Implementing Organization	National Cooperative Business Association CLUSA International (NCBA CLUSA)
Partner Organizations	PT CHC Public Private Partnerships (PPPs)
Geographic Area	1) New Production Area (Piura, Lambayeque, San Martin, Cusco) 2) High Production Area (Junin, Arequipa, Moquegua, Tacna)

1.2 Project Background

National Cooperative Business Association CLUSA International (NCBA CLUSA) will monetize 40,650MT of Soybean Meal in bulk (SMB) over a period of approximately five years, and use the proceeds from such sale to implement activities to achieve the following objectives under the Peruvian People, Nature, and Spices Partnership (PENS):

- To increase the productivity and efficiency of high-quality Peruvian ginger, turmeric, and oregano by strengthening the capacity of farmers, producer organizations (POs), processors and other private sector entities, while improving the food security and climate resiliency of farmers and protecting and preserving Peru’s natural biomes.
- To improve and expand the trade of ginger, turmeric, and oregano products by increasing their quality to meet international standards and connecting farmers and POs with Peruvian and international buyers.

PENS will be active in two different intervention areas (see Table 2):

Table 2. Intervention Areas

Intervention Area		Landscape Targets
1. High spice production areas for industry consolidation	Junin, Satipo, and Chanchamayo Provinces	5,000 ginger/turmeric producers (new/existing), five cooperatives, 30 POs, 10 local service providers and a minimum of 10 processors.
	a) Tacna: Provinces: Candarave, Jorge Basadre and Tarata	4,000 oregano producers (existing/new), 30 POs, 10 local service providers and a minimum of four processors.
	b) Moquegua: Provinces: Mariscal Nieto and General Sánchez Cerro	
	c) Arequipa: Provinces: Arequipa and Caylloma	
2. New spice production areas with potential for expansion	San Martin: Provinces: Tocache and Juanjui	2,000 producers, 20 Pos, and 10 service providers
	Lambayeque: Provinces: Chiclayo and Salas	1,000 producers, 10 Pos, 5 Service providers and 1 processor
	Piura: Province: Morropan	

1.3 Proposed interventions (noting that activities have not started):

1. Financial services to facilitate agricultural lending:

NCBA CLUSA will establish a Grant Fund the first year to support production, trade, improvements, and innovations in target spice value chains. The Grant Fund will assist farmers, producer organizations (POs), and processors to adopt Climate Smart Agriculture (CSA) practices, post-harvest handling, processing, and trade of high-quality spices and complementary crops. The fund will foster local capacity at all levels: farmer, producer organization, service provider and processor. Grants will be accompanied by technical assistance and training and will address climate change through investments in low emission agricultural practices (e.g. low till, rotation, agroforestry, soil fertility, certifications) that result in reduced deforestation and GHG emissions and increase sustainability. The Grant Fund will concentrate resources in the following areas: Farm Level Inputs, Equipment, Certification, and Management Tools; Agricultural Extension; and Processor Level Equipment, Facilities, and Machinery.

The Grant Fund will be integrated into the NCBA CLUSA’s financing strategy. The finance strategy will work on both the supply and the demand side of agricultural lending. In terms of supply, NCBA CLUSA will work with local financial institutions to design financial products tailored to production, processing, and trade needs across the spice sector including: 1) soil recovery and fertilization, 2) water harvesting, 3) crop diversification, and 4) post-harvest handling and processing. On the demand side, NCBA CLUSA will introduce POs/processors to multiple pathways to commercial borrowing, including production finance, working capital, and capital finance. Their requests will be mapped against the available financial sources (private and public)

to determine if the applicant is eligible. NCBA CLUSA will determine which applicants to assist via grants based on whether they qualify for locally available financing and provide hands-on, practical financial literacy education to POs as needed.

2. Training

NCBA CLUSA has developed a training package to encourage the adoption of and strengthen them. Below we describe the activities included in the training package.

a. Capacity building for agricultural extension agents/ services:

NCBA CLUSA will strengthen the delivery of extension services through 1) private extension services at the PO and processor levels; 2) public extension services; and 3) a small team of project extension staff hired by sub-recipients, beneficiaries, and private sector partners. Extension agents will be recruited locally from a pool of existing agriculture professionals working in the agriculture sector or recent graduates from universities and technical schools who are entering the job market. NCBA CLUSA will conduct a training of trainers (ToT) followed by in-service training with all extension agents (public, private and project) focused on ginger, turmeric and oregano regenerative agriculture spice systems and farm management and Farmer Field Schools (FFS). Agents will be trained in andragogy and other basic extension skills and methodologies (e.g. farmer field schools and demo plots); learn how to assist farmers and PO members on basic soil and water management, crop rotation, pest and disease management, planting, harvesting and post-harvesting techniques; how to use organic fertilizers; how to use soil test analysis to improve soil health; and learn the benefits of crop diversification and increasing biodiversity on the farm to achieve premiums via eco-friendly certification. Processors and exporters will be invited to share market requirements for all levels of the supply chain with extension agents. Extension activities will include but not be limited to identifying “lead” farmers, organizing farm visits, training small groups of farmers, setting up demo plots, running FFS, and participatory technology development.

b. Training for improved agricultural production techniques

NCBA CLUSA will develop sustainable intensification technology packages to support: 1) agroforestry/regenerative practices for biodiversity and better yields on existing plots; 2) land use plans to better inform land use decisions in landscapes; and 3) farmer income diversification and high-quality production to reduce price volatility through complementary crops that benefit from market links to maximize incomes (e.g. ginger processors that buy dragon fruit for multi-crop processing opportunities). NCBA CLUSA and extension agents will identify and select lead farmers who are early adopters of technology and leaders among farmers. Agents along with Lead Farmers will train farmers/POs on improved production technologies and CSA practices to address their needs using Farmer Field Schools, followed by on-farm coaching and farmer-to-farmer exchanges, and learning while testing and demonstrating evidence that motivates adoption. Trainings will include land use plans which will be updated based on carbon assessments; study tours to processing facilities; improved water management and where needed, soil analysis.

To support Business Development Services (BDS) under this activity, NCBA CLUSA will build the capacity of local agripreneurs and nurseries. Local agripreneurs will be invited to participate in a series of trainings in soil testing, planting, weeding, harvesting, bulking, transporting, organic

fertilizer production, nursery and water management, financial services, and other services. NCBA CLUSA will develop a nursery plan, which will include locations of existing nurseries, POs, Lead Farmers, and youth and women agripreneurs, transportation and logistical requirements. Nurseries will be assessed for areas of improvement and raised to the standards of operation set by the project. NCBA CLUSA will provide nursery BDS training to PO staff, lead farmers and agripreneurs. For agripreneurs who qualify, NCBA CLUSA will assist them in establishing new nurseries.

c. Training for quality standards and certifications:

NCBA CLUSA will assist farmers, POs, and processors in post-harvest handling, processing, and certified techniques to prevent contamination, quality degradation, and any other losses or breaks in the traceability chain. NCBA CLUSA will use Farmer Field Schools (FFS) and on-farm visits to provide farmers trainings on proper harvesting, handling, and packing techniques and skills. These trainings will assist farmers, POs, and processors in addressing food safety, standards, and certifications to achieve premiums and avoid environmental harm. NCBA CLUSA will train and support POs and processors on using and accessing washers, driers, and other equipment for processing and storage capacity improvements. This will include trainings on Good Management Practices (GMPs), certifications, and where appropriate processing compliance plans to meet export market requirements. NCBA CLUSA will also conduct a feasibility study for a cooperative drying and processing facility. NCBA CLUSA will also provide grants to POs and processors to assist with equipment upgrades or expansion and other processing capacity building efforts to achieve food safety standards, and certifications and enter new end markets. In addition, NCBA CLUSA will conduct a climate impact analysis beyond farm level to include the entire carbon footprint or “farm to fork” lifecycle assessment. Its findings will determine carbon certification opportunities that align with market and consumer demand. To support Business Development Services (BDS) under this activity, NCBA CLUSA will identify and train local service providers in PHH and processing.

d. Capacity building for producer groups/cooperatives:

NCBA CLUSA will conduct a Social and Associativity Baseline of the ginger, turmeric, and oregano value chains during project startup, including a gender and age gap approach and analysis. These studies will assist with improving farmer associativity and assess the organizational capacities of POs to scale up improved services to spice farmers. For those farmers who wish to organize and establish POs, NCBA CLUSA will assist farmers through coaching and training to engage in production and marketing activities more effectively and enhance governance, management, business planning, and finance. NCBA CLUSA will also provide technical assistance to existing associations and cooperatives with developing business plans (BPs) and PO training and coaching plans. To address marginalized populations, NCBA CLUSA will promote the formation of youth group businesses and cooperatives that will offer agricultural services (e.g. land preparation, terrace restoration, nurseries, harvesting, transport). NCBA CLUSA will also deliver our Women’s Inclusion, Empowerment, and Leadership in Cooperatives (WIELCoop) training to cooperative leaders, members, and their communities. As a follow up to the WIELCoop training, we will help POs identify male leaders who will champion women’s empowerment, work with POs to review and update their gender policies and practices (e.g. timing and location of meetings to accommodate women’s schedules) and organize activities that encourage women’s

participation and leadership opportunities in their POs. NCBA CLUSA will assist with adapting the above trainings for indigenous groups and contexts.

3. Access to market and policy and regulatory changes

In addition to access to financial services and the training package, PENS will promote two more interventions: 1) access to market and 2) policy and regulatory changes.

a. Market access to buyer-seller relationships:

NCBA CLUSA will invest in long-term relationships based on market incentives between producers, processors, and end-buyers to drive higher quality, reliable, and certified volumes of sustainable spice production. Since farmers will also grow complementary crops that ginger, turmeric, and oregano buyers also process, these market links can be strengthened while supporting diversification. NCBA CLUSA will increase market information via phone applications, e-bulletins, webinars, and other events. We will also strengthen long-term buyer-seller relationships through business-to-business meetings between cooperatives and associations and local processors and buyers as well as in-person and virtual meetings between key international buyers and POs/processors in Peru. NCBA CLUSA will develop detailed profiles of producers and their products, send samples to potential international buyers seeking quality products, and support R&D on spice varieties and unique characteristics to assist with creating niche markets and branding strategies. NCBA CLUSA will facilitate trade shows and business tours in the United States, Europe and regionally, and support festivals and campaigns and sponsor competitions for ginger, turmeric, and oregano to raise product visibility.

To further reinforce market linkages with key private and public sector actors along the value chains, NCBA CLUSA will advance a Public-Private Partnership (PPP) approach to ensure engagement and commitment of these partners across our interventions. Such activities will be through in-kind support, investments in new personnel (i.e. extension agents), financing to upgrade facilities and processing equipment, support R&D on spice varieties, new products, CSA innovations, and contribute to improve the regulatory framework and spices sector coordination. These PPPs will mobilize resources from partners that will include Buyers/Importers, Processors/Exporters, Producer Organizations, Input Suppliers, and Universities.

b. Promote improved policy and regulatory framework:

To improve the policy and regulatory framework, NCBA CLUSA will work with the Government of Peru (GoP) and private sector to promote an enabling environment for spices by supporting the formation of spice technical working groups to improve coordination and competitiveness of ginger, turmeric, and oregano. Key activities the working groups will pursue include reducing trade barriers and developing research that generates statistical evidence to formulate spice product standards. Working groups will also develop and promote a Technical Quality Standards for Ginger, Turmeric, and Oregano as well as conduct a feasibility assessment of “off-the-shelf” software packages for traceability. Other key working group activities include coordinating with the GoP on enforcing the application of technical quality standards and addressing informal practices. Working groups will also assist with public awareness campaigns.

II. OBJECTIVES

The Baseline Evaluation has two main objectives: 1) estimate a performance evaluation for PENS prior to the start of the project, following USDA guidelines, and 2) design PENS rigorous impact evaluation. Sections III and IV provide the methodological details to achieve each objective.

III. PERFORMANCE EVALUATION COMPONENT

The performance evaluation component has the following specific objectives: 1) measure pre-implementation values for the proposed performance indicators, 2) confirm estimated indicator targets, 3) confirm and make recommendations on project design assumptions, suitability of project locations and identify potential threats to project implementation, and 4) formulate project specific learning agenda that contributes to USDA learning goals.

3.1 Data Collection

The Baseline Evaluation will follow the data collection and sampling methodology described in Section IV and include a performance evaluation component. The performance evaluation component will follow a mixed method approach that will combine quantitative and qualitative data collection methods as follows:

- A desk review of PENS internal project documents, and information and research related to the project produced by academia, government agencies, and donors related to the agricultural and the spice sector. The purpose of the desk review is to gain a deep understanding of PENS design and implementation, the spice sector in Peru and to identify potential areas that need refinement prior to implementation.
- A quantitative survey: The survey will be applied to a selected sample of eligible farmers following the sampling methodology presented in Section IV to collect information needed to estimate performance indicators and understand the overall initial conditions pre-implementation of the project. The project originally proposed 30 (9 custom) indicators to measure project performance. Of this total, 8 indicators need to be estimated through representative samples. The following table presents these indicators in detail. The remaining performance indicators will be estimated with administrative data. The selected evaluator could refine, revise, and/or expand the list if necessary to achieve the Baseline Evaluation goals.

Table 3. List of performance Indicators measured through surveys.

#	Performance Indicator
1	Average Yield of targeted agricultural commodities among programs participants (e.g., ginger in MT/ha)
2	Value of annual sales of farms and firms
3	Volume of commodities sold by farms and firms
4	Number of hectares under improved management practices or technologies that promote improved climate risk reduction and/or natural resources management
5	Number of hectares under improved management practices or technologies

6	Number of individuals in the agriculture system who have applied improved management practices or technologies
7	Number of farmers groups and cooperatives applying best post-production handling practices and techniques that will include for e.g., scrapping, in-field drying, moisture tests closer to global market standards, packaging, and labelling
8	Percentage of certified farmers

- Key informant interviews (KII): The evaluation will carry out KIIs with a purposively selected sample of members of all project stakeholder groups. The purpose of the KIIs is to better understand perceptions about the project and the challenges and opportunities in the spice value chains that could be addressed by the project. The evaluation team will use the information collected during the desk review and the quantitative data to deepen the understanding of the issues and identify emerging themes. The evaluation will include the following stakeholder group as participants of the KII:
 - Farmers, Producer Organizations, Cooperatives
 - Private sector/enterprise partners (spice agribusiness buyers, spice processors and buyers, services providers)
 - Financial institutions staff from Rabo foundation and Ciderural.
 - Civil society, such as ADEX, Chambers of Commerce, Local Technical Committees, Universities (e.g., Agraria University) linked to PENS.
 - Government officials from INDECOPI, INACAL, PSI, Programa de Riego, Fondo Agroperu, Agroideas, Promperu, Produce, Midagri, Sierra y Selva Exportadora, INIA, SENASA, DIGESA and DEVIDA.
 - Donor partners, including USDA.

If necessary, this list will be updated and expanded based on information obtained by the evaluation team through document review and results from the quantitative survey. Purposive selection sampling of KIIs should consider the likelihood of significant knowledge as well as convenience of access to maximize the number of KII interviewed. KII will be an in-depth facilitated discussion with individuals or small groups of individuals. NCBA will arrange a key informant interview between USDA and the selected evaluator as well.

- Focus group discussion (FGD): The evaluation will follow a purposively selected sample of farmers, farmers’ organizations, and enterprises including processors. As per the KII, the FGD’s purposive selection will consider the likelihood of significant knowledge as well as convenience of access to maximize the number of informants. The purpose of the focus group is to better understand current challenges and opportunities that could inform the project before implementation. The FGD will follow a semi-structured format and use probing questions elaborated with information from the desk review, quantitative survey, and the KII. Approximately 40 to 60 individuals will be interviewed.

3.2 Data Analysis

For the quantitative survey, the data will be cleaned, undergo a consistency check, and uploaded to statistical software. The evaluation team will estimate baseline indicator values and conduct

basic descriptive analysis to identify any emerging trends such as frequency distribution and sub-group comparison via cross-tabulation. In addition, the quantitative analysis will inform the probing questions for the qualitative data collection such as KIIs and FGDs.

The qualitative data will use triangulation to cross-verify and cross-validate emerging findings from the different data sources. Parallel protocol and similar questions will be applied across the KII and FGD based on the information collected during the desk review and the quantitative survey. The analysis of qualitative data will apply data reduction, data visualization, and conclusion drawing and verification. The data reduction phase will include selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcripts. All the field notes will be transcribed first in the local language and then will be translated into English. Findings from the document review will be noted in the document summary forms. Data will be presented in a visual format that will help with conclusion drawing and verification. Finally, the team will follow content analysis to draw conclusions based on regularities, patterns, explanations, causal flows, and propositions.

3.3 Key Evaluation Questions

As per USDA FAS guidelines, Table 4 below describes the Key evaluation questions proposed for the Baseline Evaluation. These evaluation questions will be further refined by the selected independent evaluator.

Table 4. Key Evaluations Questions for the Baseline

Categories	Baseline Evaluation Questions
Relevance	<ul style="list-style-type: none"> • How relevant is the project’s theory of change for each value chain? Does it still hold? • Are the assumptions still valid? • Is there any modification required in the proposed TOC? • Do the proposed PENS interventions meet the actual needs and interests of the targeted farmers, associations, groups, and other stakeholders/participants? • Do PENS proposed interventions align with the Peruvian Government’s agricultural and/or development investment strategy? • Do the proposed PENS activities compliment, overlap, or conflict with prior USDA, USG or other similar activities?
Effectiveness	<ul style="list-style-type: none"> • What are the likely factors that will enhance effectiveness? • What factors are likely to adversely affect effectiveness?
Efficiency	<ul style="list-style-type: none"> • In what ways can the project optimize internal resources? • Which internal factors could influence the ability of PENS to meet its expected targets? • Do the project targets need revision or adjustments? • Can project staffing, training activities, and management structures as designed efficiently support the achievement of targets? • Can the project resource allocation to activities, and the PENS’ geographic areas efficiently support the achievement of expected targets?
Impact	<ul style="list-style-type: none"> • What is the effect of PENS on farmers adoption of improved management practices and agricultural techniques? • What are the effects of PENS on farmers’ productivity? • What are the effects of PENS program on farmers’ agricultural gross profit?

Sustainability	<ul style="list-style-type: none"> • What external factors should the project focus on to ascertain sustainability? • What strategies should the project adopt in the initial stage of the implementation to assure sustainability? • Do the selected local counterparts sufficiently reflect capabilities necessary to sustain the activities once project ends? • What are the external factors that could lower the likelihood of these partners contributing to sustainability?
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IV. IMPACT EVALUATION COMPONENT

This section describes the suggested methodology to achieve the main objectives of the Baseline Evaluation for the impact evaluation. Consulting firms are expected to take this design as a basis and propose technical improvements and efficiencies.

4.1 Impact Evaluation Methodology

The NCBA CLUSA plans to implement an experimental design to test the effects of the program. A randomized experiment is an evaluation method that will allow the construction of an adequate counterfactual about what would have happened to the beneficiaries had they not received the benefits of PENS program. In addition, this method provides a fair and transparent rule for program administrator to allocate benefits among the eligible population.¹ In technical terms, by controlling the program assignment mechanism, randomization eliminates the selection bias problem.² After randomization, the treatment group and the control group should have balanced observable and unobservable characteristics.

4.11 Research Questions

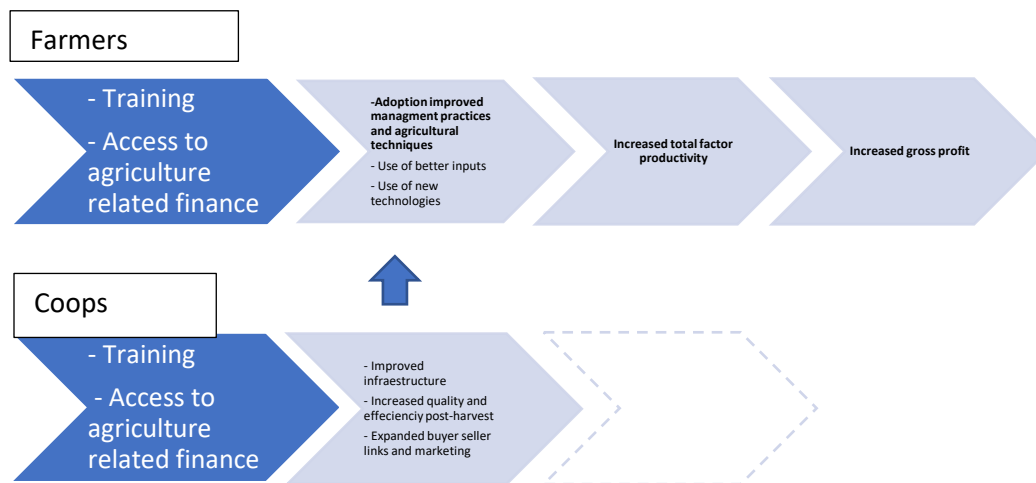
Based on the theory of change proposed by the program, Diagram 1 show a simplified version of the expected cause-effect relationships for the two key interventions that are the focus of the impact evaluation.³ At the Coop level, credit loans will allow investments for improved harvest, post-production processing and handling, and for market and trade infrastructure. Training, on the other hand, will increase Coop's quality and efficiency of post-harvest activities and will also support Coops to effectively expand buyer-seller linkages, improve marketing strategies, and apply standards and obtain certification.

At the farmer level, the first set of intervention focused on access to agriculture related finance will allow farmers to acquire better agricultural inputs and invest in new technologies. The second set of interventions, the training package, will encourage the adoption of improved management practices and agricultural techniques. In addition, it is expected that the changes generated by PENS at the Coop level will encourage farmers to participate in PENS and further incentivize behavioral changes and the adoption of innovations promoted by the program.

¹ Gertlet et al (2016) "Impact evaluation in practice: second edition". The World Bank and the IDB.
² Athey and Imbens (2016). The econometrics of Randomized Experiments.
³ Expected policy and regulatory changes are excluded in the evaluation plan because their effect is expected to be observable after the analysis period of the impact evaluation. Moreover, as will be described later, the expectation is that impact evaluation results will be a key input for the policy dialogue with the main players in the sector that aim to influence policy and regulatory changes.

Then, because farmers have adopted improved management practices and agricultural techniques, used better inputs, and invested in new technologies, we would observe an increase of farmers' productivity for the crops of interest. As a final outcome, PENS farmers will experience an increase in gross-profit due to increased productivity.

Diagram 1. Simplified Cause-Effect Relationships



Note: not all PENS causes and effects are included in the diagram, in particular we don't complete causal links that happens at the Coop level. The diagram only highlights changes at the Coop level that could cause farmers behavioral changes and are related to the research question of the impact evaluation.

The impact evaluation must focus on three research questions, that are sequentially aligned to the causal logic of PENS program. The selected evaluator is expected to refine the proposed research questions.

1. What is the effect of PENS on farmers adoption of improved management practices and agricultural techniques?

The hypothesis is that PENS will increase the adoption of improved management practices and agricultural techniques of farmers that participate in the program with respect to farmers that do not participate. The mechanism that encourages adoption is the training package that PENS will provide to farmers and Coops participating in the program. The training package will be provided by leading institutions⁴ in the market and specialized in the prioritized products (ginger, turmeric, oregano). In the presence of these institutions, farmers will be more willing to adopt these new techniques because risk aversion and uncertainty is reduced, and potential asymmetric information and lack of information is addressed through the training.⁵ On the other hand, farmers will observe the effects of training and financial access at the Coop level, and this will incentivize them to take the training and adopt the new practices because the expectation of the better benefits for their products at the Coop level such as storage, post-harvest handling, package, commercialization,

⁴ Apasem, Urku, Suma Yapu and Selva Sana are very established providers of extension services.

⁵ Winter P., L. Salazar and A. Maffioli (2010). "Designing Impact Evaluation for Agricultural Projects. Impact Evaluation Guidelines". Technical note 198. InterAmerican Development Bank.

among others. The effect is defined as the difference in the number of improved management practices and agricultural techniques adopted between PENS beneficiaries and non-beneficiaries.

2. What are the effects of PENS on farmers' productivity?

The hypothesis is that PENS will increase the average total factor productivity of farmers who participate in the program with respect to farmers who do not participate. This intermediate effect would be observed because farmers are implementing the new adopted practices and technologies in their fields during the cultivation season and have accessed to financial services, for those who requested it, to implement agricultural related investment. The effect is defined as the difference in the percentage change of the average total factor productivity (reproductive efficiency) between beneficiaries and non-beneficiaries of PENS.

3. What are the effects of PENS program on farmers' agricultural gross profit?

The hypothesis is that PENS will increase the agricultural gross -profit of farmers who participate in the program with respect to farmers who do not participate. This effect is expected to be observed because of the increase in the average productivity of farmers, as well as better prices for their products that would result from processing, post harvesting handling, and marketing strategies implemented by the Coops. The effect is defined as the difference in the percentage change of the average agricultural gross profit between beneficiaries and non-beneficiaries.

4.1.2 Selection of Beneficiaries

The impact evaluation must include the 8 regions of Peru where PENS program will be implemented. These regions are distributed along the coast, mountains, and jungle of the country. Likewise, the evaluation must use the approximately 90 Coops previously identified by PENS to select both the treatment group and the control group.

To choose the farmers, who will be part of the treatment group and the control group, the following protocol is proposed:

1. Randomly select two groups of Coops. Based on the final list of the 90 Coops, the consulting firm will select through a simple random sample half of the Coops as treatment group (Coop-1) and the other half will serve as control group (Coop-2).
2. All farmers from the treatment group (Coop-1) will be offered PENS benefits at the beginning of the project (Q1 2023).
3. All farmers from the second group (Coop-2) will be offered benefits in Q2 2026, after the impact survey is collected.

Once the information from the baseline is collected, the consulting firm must verify, using statistical significance tests, that both groups are balanced in their main observable characteristics.

4.1.3 Potential Challenges to the Impact Evaluation Design

The consulting firm must discuss potential challenges to the impact evaluation design and propose

mitigating actions. Some examples of challenges that need to be addressed are compliance with the design, contamination, and spillover effects. The list is not exhaustive and consulting firms must expand if deemed necessary.

4.1.4 Econometric Analysis

The impact evaluation will estimate PENS effects through regression analysis. While all farmers in the treatment group are eligible to participate and will be offered PENS benefits, it is anticipated that not all farmers will take up the program. Given this context, the regression analysis will focus on two specifications:

4.1.4.1 Intention to Treat Effects (ITT)

The present design expects one-sided no compliers, i.e. some farmers assigned to the treatment group decide not to participate in the program. In this context, we are interested in identifying the impact of offering the program to all the farmers in the treatment group, regardless that some of them did not take it up. This estimate is called the intention to treat effect (ITT) and is obtained by regressing each of our three outcome variables (# of adopted practices, total factor productivity and gross agricultural profit) on the treatment assignment variable (Coop-1) for the whole sample of farmers. Regression specification will control other covariates, in addition to the treatment assignment variable (Coop-1).

4.1.4.2 Treatment on the Treated (TOT)

Assuming one-sided compliance, the evaluation will also estimate the treatment on the treated effect (TOT).⁶ This effect will estimate the impact of PENS on farmers that effectively received benefits from the program. Given the possible presence of selection bias among farmers who took the PENS benefits, instrumental variables method will be used. The evaluation will use the random assignment variable (Coop-1) as instrument. Impact coefficient will be estimated using a two-stage regression (2SLS).

4.2 Sampling Strategy

To determine sample size, the updated information from the most recent and available National Agricultural Survey (NAS) and other publicly available sources (such as MIDAGRI, INEI, SUNAT etc.) must be used if no other better data is available.⁷ The outcome variable selected for the analysis must be an outcome variable such as farmers' gross profit.⁸ The consulting firm could propose another outcome variables if deemed appropriate. The sampling assumptions must be at a

⁶ If after impact survey collection, some control did take the treatment, then the impact evaluation must estimate a Local average treatment effect (LATE)

⁷ The NAS survey allows estimation of several production indicators such as average production (kg), cultivation area (hectares), land yield (kg/hectares), sales value and farmers' production costs. Production costs include expensed for seeds, fertilizers, and pesticides.

⁸ For a definition of gross profit see Beaman et al (2020). "Selection into Credit Markets: Evidence from agriculture in Mali". Gross profit is estimated by subtracting agriculture revenue from expenses but not all them. Family and unpaid labor is not subtracted.

significance level (α) of 0.05 and a statistical power of 0.8. The intra-cluster correlation (ICC) can be estimated using the NAS.

It is recommended that for the final sample selection, the consulting firm should prepare an updated list of Coops and farmers containing information that allows stratifying the sample based on key variables, particularly those that could explain the variance among the impact variables. To minimize attrition bias and measurement errors, the consulting firm must propose an adequate oversample size and propose actions that could be taken at the program level and during data collection to assure survey response rates remain high.

4.3 Impact Evaluation Limitations

The consulting firm must also present a discussion of the limitations of the proposed evaluation design, in terms of which attributions are being identified and which are not.

4.4 Data Collection

Two rounds of surveys will be implemented for the impact evaluation data collection. A baseline survey will be scheduled for the first quarter of the calendar year 2023. The baseline survey will be the same for both the Impact Evaluation and the Baseline Evaluation for performance measurement. This information will be used to characterize the initial state of the target population and to check whether observable characteristic of the treated group and control group are balanced.

The final impact evaluation survey will be carried out in the second quarter of the calendar year of 2026. This data collection will coincide with the midterm evaluation. This survey will collect the same information captured by the baseline, so that it allows a precise comparison for the variables needed to perform the impact evaluation. If everything is implemented as planned, the exposure period for program beneficiaries will be approximately 30 months. A 30-month period contains three production cycles and two sales cycles for farmers participating in the program. This exposure provides sufficient time to identify potential short-term impacts. The final performance evaluation will capture progress and potential effects across all beneficiaries by project end.

Table 5. Evaluations Timeline

2023	2024	2025	2026	2027
Baseline			Midterm Impact	Final

4.5 Quantitative Survey

The proposed survey should contain detailed modules on key variables of the agricultural production function to allow the construction of the impact variables such as total factor productivity and gross profit. The National agricultural survey (NSA) is a very comprehensive survey that collects information to monitor agricultural indicators of small, medium, and large

agricultural units from the 24 regions of Peru.⁹ The questionnaire of the National Agricultural Survey can be used as a basis to build PENS survey questionnaire. Finally, the baseline survey will be carefully designed to minimize potential changes on the second-round questionnaire, which could complicate the replication of certain key variables. The quantitative survey will be the same for the impact evaluation component and the performance evaluation component.

V. Consulting Firm Activities

The successful applicant will lead the entire baseline study process from design to report writing. NCBA CLUSA staff will provide logistic and other administrative support. The successful applicant must adopt specific behaviors around COVID-19 protocol e.g., social distancing and the maintenance of ‘sanitized’ space throughout the study to ensure the security of the respondents and of the project staff.

Some of the expected activities includes:

- 1) Review project documents and other published and grey literature related to the project. This includes the project’s internal documents, e.g., work-plan and strategies as well as relevant external documents including but not limited to national policies and regulations, special studies carried out by other agencies.
- 2) Develop Baseline Evaluation design for both components: the impact evaluation and the performance evaluation.
- 3) Identify and select study participants.
- 4) Develop, edit, and finalize data collection tools.
- 5) Develop data collection guide specifying data collection and management structure, field schedules and data-quality assurance methodology.
- 6) Train field supervisors, key informant interviewers and focus-group facilitator on the methods and processes.
- 7) Administer data collection survey and FGDs.
- 8) Ensure data quality by establishing clear procedure for data transmission, cleaning, and entry.
- 9) Present findings, conclusions, and recommendations (in both written report and PowerPoint formats).
- 10) Deliver raw data, cleaned data, and all clearly notated data cleaning and analysis code.

⁹ For a detail of information collected see <https://cdn.www.gob.pe/uploads/document/file/3591149/Ficha%20t%C3%A9cnica..pdf>

VI. Timeline

Activity	Estimated Date of Completion
Selection of Candidates	February 28, 2023
Notification USDA on selected candidate	February 28, 2023
USDA and selected consultant/firm discuss baseline survey methodology prior to commencing activities	March 3, 2023
Development and testing of data collection tools and training of enumerators	March 10, 2023
Conduct the study	March 20 to April 21, 2023
Prepare analysis documents and reports	April 28, 2023
Program team (Chief of Party, senior leadership in HQ, M&E Manager, technical teams where appropriate) review evaluation report and analysis, as well as lessons learned and other documentation.	May 4, 2023
NCBA CLUSA sends final report to USDA	May 9, 2023
Study report reviewed and approved by USDA	May 19, 2023
Baseline findings integrated into workplan activities with revised targets	May 31, 2023

VII. Expected Deliverables

The select evaluator will provide the following deliverables, in English, to NCBA CLUSA during the Baseline study implementation:

1. *Inception Report*: that will include methodology, sampling approach, data analysis, field procedures. The inception report will also include data quality assurance plan and method.
2. *Data Collection and Analysis Tools*: Set of questionnaires, formats, and software used to collect and analyze data and their implementation guidelines and sample code.
3. *Weekly Progress Reports*: A written report of the evaluation's progress made in the field covering key scheduled activities, completion status and constraints found regarding data collection.

4. *Initial Presentation*: A PowerPoint presentation on results and conclusion of the evaluation. The presentation should not be more than 15 slides.
5. *Draft Baseline Evaluation*: The team will submit an electronic draft report to NCBA CLUSA key staff (Project COP and PENS M&E Specialist; and Program Manager at HQ) and USDA Analyst, who will provide comments for revision. The draft will include all the sections required in the Final Baseline Evaluation stated below under point no. 6.
6. *Final Baseline Evaluation*: The final expected product is a Baseline Evaluation that provide 1) an estimation and analysis of a performance evaluation pre-implementation following USDA guidelines and 2) propose a rigorous impact evaluation design and method that shows evidence of a balanced treatment and control group on observable characteristics after randomization. The team will submit a written and electronic document that includes an executive summary, table of contents, methodology, findings, conclusions, lessons learned and recommendations. The report will also include annexes that will have all custom and standard indicators with disaggregates and updated values in comparison to baseline values. All final versions of international food assistance evaluation reports will be made publicly available. The Evaluator shall provide a copy of the evaluation reports that is free of personally identifiable information (PII) and proprietary information. Final versions of evaluation reports ready for publication should be accessible to persons with disabilities. The report will be submitted in English.
7. *Data Files*: The team will submit a database with all collected information and analytical framework, including raw field notes, transcribed notes, raw tabulated data, cleaned data, and all annotated code used for analysis and data cleaning.
8. *A 2–3-page stand-alone brief*: describing the evaluation design, key findings, and other relevant considerations. It will serve to inform any interested stakeholders of the midterm evaluation and should be written in a language easy to understand by non-evaluators and with appropriate graphics and tables.

VIII. Evaluation Management and Coordination

Per USDA policy, independent third-party evaluators will conduct this evaluation. NCBA CLUSA will provide logistical support (e.g., identifying vehicle, stationaries, sampling frames, organizing meetings with stakeholders). The evaluator will present methodology and findings to USDA official and NCBA CLUSA team. NCBA CLUSA will share the draft report with USDA for their review and comments. The report will be finalized after the approval from USDA.

8.1 Audience and Intended Use

The primary audience is USDA, NCBA CLUSA, PENS staff, partners *APASEM*, *Urku*, *Forliance*, and *CATIE*, key service providers *Suma Yapu* and *Selva Sana*, and project beneficiaries. The secondary audience includes local government, and key public sector partners such as Ministry of Agriculture (MIDAGRI), Ministry of Production (PRODUCE), National Commission for Development and Life without Drugs (DEVIDA), *Sierra y Selva Exportadora*, and others local community groups, and business entities that are not targeted by the project. The project will disseminate results through several learning workshops. The workshops will allow field level stakeholders to participate in preliminary results validation and learning. The final workshop will be a more detailed analysis and discussion of the findings detailed in the final report. This final

workshop will bring together key stakeholders including government, USDA, NGOs, and the private sectors, as relevant.

8.2 Selection of the Evaluation Team

An outside firm/external evaluator will be selected for the Baseline Evaluation. Using a competitive process, NCBA CLUSA will select an evaluation firm who has deep experience in evaluating agricultural and trade initiatives with similar target audiences. Major requirements for the evaluator will include:

- Experience in designing and implementing experimental and quasi-experimental impact evaluations.
- Experience in designing and implementing performance evaluations and must demonstrate an understanding of the M&E systems.
- Expertise in inferential statistical procedures e.g., t-tests, logistic regression, multiple correlations and regression analyses.
- Proven experience in the evaluation of USDA-funded or equivalent USG-funded or other international organization funded agricultural development projects applying mixed-method designs.
- Strong experience implementing quantitative and qualitative data collection.
- Strong experience in conducting agricultural surveys and the dynamics of farmers' groups/organizations.
- Good knowledge of gender issues, the associative system and micro-finance in rural areas.
- Good balance of gender in the evaluation team.
- Demonstrated cultural sensitivity as judged by reference check and past performance.
- Experience in Latin American countries.
- Ability to travel to rural areas of Peru on difficult roads to meet with stakeholder partners.
- Budget Competitiveness.
- Fluency in English and Spanish.
- Competency to write detailed, concise, and coherent final evaluation reports.

The independent evaluator selected for the baseline study may be hired for the successive studies (Midterm Evaluation and Final Evaluation), depending on satisfactory performance during baseline evaluation.

IX. Conditions of Application

Application must be on 8.5 by 11 inch or A4 size paper, single spaced, 12-point Times New Roman font with one-inch margin on all sides, including consecutive page numbers, date of submission, and applicant's name on a header or footer.

9.1 Technical Proposal

The technical proposal (12 pages max.) must reflect how the offeror will carry out the tasks included in the work. Candidate companies will provide a detailed plan of the specific activities,

the timetable for carrying out the mission, as well as the data collection and analysis activities. In addition, it will include a proposal for the statistical approach and analysis methodology.

9.2 Financial Application

The candidate companies/consultants will propose a realistic estimate of the cost of this mission, including a detailed budget and a justification of the expenditure. The budget will only contain costs that can be directly attributed to the proposed activities, with an explanation of the line items. All training costs, such as rental of premises, transport, etc. must be clearly articulated for each training. Applicants must present adequate administrative and financial systems to manage the funds covered by this agreement. If the candidate companies charge overhead, they will need to provide their NICRA. The maximum amount available is US \$200,000.

NCBA CLUSA may, at its sole discretion, engage the party selected to conduct the baseline assessment to conduct a mid-term and final evaluation of the PENS project.

9.3 Organization

The candidate companies/consultants must briefly list and describe their history, vision, objectives, legal status, ownership and management structure, current projects / services, current clients / assignors, current geographic scope, and experience.

9.4 Personnel

The candidate companies/consultants must briefly list and describe the names and qualifications of the key personnel assigned to the assignment (the CVs of the proposed staff must be included in an Annex). The key personnel will include 1) Principal Investigator – Master’s in economics or statistics and a minimum 5 years of experience in research and evaluation (Phd preferred); 2) Senior Surveyor- Master’s in Social Sciences and minimum of 5 years of experience in research and evaluation; 3) Data Specialist - Bachelor and minimum of 3 years of experience in data management and analysis; 4) Agro-economist/Agriculture Specialist – Master’s in agriculture or economics with minimum of 5 years of experience.

The proposed team should preferably be multi-disciplinary and contain persons with experience and qualifications: a team leader with extensive experience designing and implementing evaluations and analyzing the results, with experience in the target regions; and an agricultural economist with rural development, economic development and data collection activities and database and information system management skills. The team will also include a data entry member as well as enumerators.

9.5 Proof of Experience

Applicant companies/consultants will have to prove their experience in similar missions by providing a list of all contracts and/or cooperative agreements involving similar or related work during the last two years. Additionally, the applicants must submit at least three reference letters from previous consultancies.

9.6 Legal Registration

Candidate companies/consultants' engagement is subject to the consultant obtaining necessary visas and work authorization.

X. Criteria for the Evaluation of the Proposal

The following criteria are those under which all proposals will be judged:

- 1) Quality of technical approach and methodology (60%)
- 2) Experience of individual and/or company with USDA and/or USAID or other International Development Organizations (10%)
- 3) Demonstrated experience and technical skills of the team/reference letters (5%)
- 4) Completeness of proposal (including schedules, total budget, employee CVs, etc. (5%)
- 5) Cost realism, budget justification and effectiveness. Given it meets these standards, competitive budgets will receive a higher score. (20%)

XI. Application Deadline and Timeline

Proposals must be sent by e-mail to NCBA CLUSA at the following address: anunez@ncba.coop

Please include in the subject of the email the following: "Proposal for Baseline PENS", and include in the text of the email message the name of the point person in your organization sending the application, as well as phone number, fax number and e-mail address.

Applications must be submitted by **February 24, 2023 at 5:00 pm EST** at the latest.

NCBA CLUSA reserves the right to accept all or none of the applications submitted and / or to modify the terms of reference/geographical areas before the project begins.

ANNEX A Project Results Frameworks 1 and 2

RF 1:

