

Supplementary Material

Supplementary Table S1. Scale for assessing qualitative variables in productive systems across six municipalities of the Nariño department.

Variable	Code	Description
Altitude of the Farm	A1	Quantifies the vertical distance of the beneficiaries' lot into ranges: less than 1375, more than 1376.
Irrigation System	A2	Identifies whether the lot has a system that supplies water to the cultivation: Yes, No.
Source of Water for Irrigation System	A3	Identifies the water source for the irrigation system: Not applicable - Aqueduct - River, creek, spring or stream.
Certifications	A4	Determines if the beneficiary has any type of certification on the lot: Good Agricultural Practices (BPA), Organic, None.
Soil and/or Water Analysis	A5	Determines if tools have been used within the cultivation to determine the sufficiency or deficiency of soil nutrients and the physicochemical characteristics of water: Yes, No.
Crop Diversity	A6	Defines whether there is diversification of crops within the property: Totally diversified farm (with associations among them and with natural vegetation), High crop diversification (with medium association among them), Medium diversification (with very low level of association among them) and Little crop diversification, without associations or monoculture.
Conservation Areas	A7	Determines if the area of the lot has any type of protection and the types of zones they have: None, Forests - Streams - riverbanks - springs or streams, Forests - Streams.
Natural Disasters	A8	Identifies if natural events have occurred within the property, causing damage to the lot and the types of disasters that have existed: None, Landslides, Floods, Collapse.

Conservation Practices	A9	Identifies if the beneficiary employs methods that reduce soil erosion and retain its moisture: Infrastructure practices (drainage channels, contour lines, terraces, retaining walls, and biomechanical works) - Management practices (green manures, living barriers, proper use of amendments, proper use of fertilizers). Infrastructure practices, Management practices, and both Infrastructure and Management practices, None.
Water Management	A10	Determines the activity of planning, developing, distributing, and directing the optimal use of water resources on the beneficiary's property: PETAR, Water harvesting, PETAR + Water harvesting, None.
Waste Management	A11	Defines the method for the disposal of ordinary and special solid wastes on the soil of the property:
Crop Health	A12	Identifies the soil quality of the beneficiary's property: Not applicable, Integrated Pest Management (IPM) (includes all three or fungicides, insecticides, and biological control), Proper use of herbicides, None.
Income Generation	E1	Identifies the family member who generates income in the household: head of household - female head of household - male head of household, female head of household - male head of household, female head of household, Child(ren) - Child(ren).
Monthly Income Range	E2	Classifies beneficiaries' monthly income into ranges: Between 1 and 2 times the Minimum Legal Wage (MLW), less than 1 MLW, between 1 and 2 MLW.
Monthly Expenditure Ranges	E3	Classifies beneficiaries' monthly production expenses into ranges: Less than 1 MLW and between 1 and 2 MLW.
Economic Sectors	E4	Identifies the economic sector of the activity carried out on the beneficiary's lot: Agricultural, Agro-industrial, Forestry, Livestock, Fallow (None).
Time Dedicated to Economic Sector	E5	Establishes the experience the beneficiary has in developing activities in the sector they are dedicated to: More than 8 years, Between 6 and 8 years, Between 3 and 5 years, Less than 2 years, No experience.

Production Period	E6	Defines the production frequency of the lot: Not applicable, Weekly, More than a week and <=Monthly, Quarterly, More than a quarter and <=Biannual, >Semester.
Labor Force	E7	Defines whether the beneficiary uses labor for the development of activities on the lot: Not applicable, Yes, No.
Number of Employees	E8	Classifies the number of people the beneficiary employs for productive activities into ranges: not applicable, more than 10, 8-10, 4-7, 1-3.
Type of Labor	E9	Determines the type of labor used for activities to be carried out on the crops: Not applicable, Hired Permanent, Temporary hire (daily wage), Temporary hire (daily wage)-Family and Own- Family.
Monthly Labor Costs	E10	Quantifies the expenses incurred by the beneficiary for labor: not applicable, less than 1 MLW, between 1 and 2 MLW, between 3 and 4 MLW.
Staff Training	E11	Identifies whether the workers of the crop are trained for the activities to be developed on the lot: Not applicable, All, Most, Some, None.
Trainer	E12	Determines the person who provides the training for the workers of the beneficiaries: Not applicable, Given by the producer, Given by peers.
Tools for Cultivation	E13	Establishes the use of tools for carrying out activities in cultivation: Yes, No.
Machinery for Cultivation	E14	Determines the use of machinery for the maintenance of cultivation on the beneficiaries' lots: Yes, No.
Monthly Production Costs of the Crop	E15	Quantifies the expenses incurred by the beneficiary for productive activities: not applicable, less than 1 MLW, between 1 and 2 MLW, between 3 and 4 MLW.
Higher Production Costs	E16	Determines according to the beneficiary's criteria, the highest costs incurred for the development of productive activities: Not applicable, Labor, Fertilizers and Manures, Plant Material, Pesticides, Insecticides and Fungicides - Machinery and equipment.

Destination of Production	E17	Identifies the marketing destination of the crop harvest production: Sales, Sales and Self-consumption, Self-consumption.
Accounting Records	E18	Defines whether the beneficiary keeps any accounting organization documents regarding the income and expenses of their crops: Yes, No.
Production Records	E19	Defines whether the beneficiary keeps documentary records of the production of their crops: Yes, No.
Records of Production Expenditures	E20	Determines whether the beneficiary keeps any records of the expenditures on materials and inputs used in cultivation: Yes, No.
Labor Expenditure Records	E21	Recognizes whether the beneficiary keeps records of the labor expenditures used in cultivation: Yes, No.
Monthly Sales	E22	Quantifies the monthly sales of products generated by the beneficiary into ranges: not applicable, more than 5 MLW, between 3 and 4 MLW, between 1 and 2 MLW, less than 1 MLW, unknown.
Product Pricing	E23	Identifies whether the beneficiary offers their harvest product at different prices: Yes, No.
Pricing Criteria	E24	Identifies the criteria beneficiaries have for managing different prices for crop products: Not applicable, Competition Prices, Special Customers, Market, None.
Distribution Market	E25	Determines the types of markets to which the beneficiary sells the products of cultivation: Departmental- Local, Municipal, Departmental- Local, Municipal.
Farm Area	E26	Quantifies the dimensions of the beneficiaries' lot into ranges: Less than 15325, more than 15325.
Gender	S1	Classifies project participants according to gender: female, male.
Age Group	S2	Classifies the ages of beneficiaries into ranges: 18-30 years, 31-45 years, 46-55 years, 56 years and older.

Marital Status	S3	Determines the legal status of the beneficiary in their family relationship and in society: married, single, common-law.
Ethnicity	S4	Identifies the sociocultural group to which the beneficiaries belong based on common ancestry: none and indigenous.
Education	S5	Identifies the highest level of education each of the beneficiaries has achieved: postgraduate and university, technologist and technician, complete high school, complete primary, illiterate or some primary education.
Forced Displacement	S6	Indicates the situation of beneficiaries who leave their homes or flee due to conflicts, violence, persecutions, and human rights violations: yes, no.
Household Composition	S7	Classifies the number of people in the beneficiary's household into ranges: 1-2, 3-5, 6-8.
Land Ownership	S8	Identifies the beneficiary's ownership rights to the lot where productive activities will be carried out: own, rented, inheritance.
Family Housing	S9	Determines which of the beneficiaries' lots have family housing: yes, no.
Construction Material	S10	Identifies the raw material used in the construction of family homes located on the beneficiaries' lots: Not applicable, brick, wood, mud wall, block, bahareque.
Type of Housing	S11	Refers to the classification of the building that exists on the lot designated for the project: House (two or more floors), House (one floor) or apartment, Room.
Hydrosanitary Devices	S12	Identifies devices connected to the water supply installation that provide water for different services on the lot designated for the project: Not applicable - Sanitary Service, shower - Sanitary Service - Latrine, shower, Latrine.
Basic Services	S13	Determines the basic services available on the lot designated for the project: Not applicable, Aqueduct, Sewerage, Electric power, Propane gas - Aqueduct, Sewerage, Electric power - Aqueduct, Electric power, Propane gas - Aqueduct, Electric power, Internet - Aqueduct, Electric power - Electric power - Aqueduct.

Kitchen Appliances	S14	Identifies the elements and/or appliances used by beneficiaries in the kitchen: Not applicable - gas stove, wood - gas stove, electric stove - gas stove - Wood.
Drinking Water	S15	Determines the supply system and/or installation for capturing, transporting, purifying, storing, and distributing water on lots designated for project execution: Rural aqueduct, Creek, stream, reboces-spring or stream - Spring - Well - None.
Days of Water Service Provision	S16	Classifies the number of days the beneficiary has access to potable water on their property into ranges: 1-3, 4-6, none.
Waste Disposal	S17	Determines the final disposal of waste accumulated by the beneficiary on the lot: Not applicable, Collection service, Burning, Burial, Wasteland, Collection service, Burning, Burning, Burial, Collection service, Wasteland.
Social Security	S18	Indicates whether the beneficiary is affiliated with a health regime: Subsidized Regime, Contributory Regime, None.
Access Roads	S19	Determines the conditions and/or characteristics of the access roads to the beneficiaries' lots: Paved, Unpaved, Bridle path, Bridle path, Unpaved.
Educational Buildings	S20	Identifies the educational services accessible to beneficiaries: Secondary School, Primary School, General Basic Center or Secondary School, Primary School, None.
Health Buildings	S21	Identifies the health services accessible to beneficiaries: Hospital - Hospital, Health Post/Center - Health Post/Center - None.
Community Participation	S22	Determines the level of participation in community actions of the beneficiaries: Community Action Boards, Associations, Councils, None.
Producer Training	S23	Defines if the beneficiary has received training, the topics of these, and the name of the institution that provided them: Yes, No.
Technical Assistance	S24	Determines if the beneficiary has received assistance and/or technical support for the care of their cultivation: Yes, No.
