THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD3207

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$ 100 MILLION

TO THE

REPUBLIC OF PARAGUAY

FOR A

MARKET ACCESS FOR AGRICULTURAL PRODUCTS PROJECT

February 27, 2020

Agriculture Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 17, 2020)

Currency Unit =	Guarani (PYG)
PYG 6,519=	US$1
US$0.000153=	PYG 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	J. Humberto Lopez (Acting)
Country Director:	Jordan Z. Schwartz
Regional Director:	Anna Wellenstein
Practice Manager:	Preeti S. Ahuja
Task Team Leader(s):	Maurizio Guadagni

ABBREVIATIONS AND ACRONYMS

ALAT	Local Technical Assistance Agency of DEAg (*Agencia Local de Asistencia Técnica*)
CAH	Agricultural Credit Agency (*Crédito Agrícola de Habilitación*)
CCAP	Climate Change Action Plan
CPF	Country Partnership Framework
CRI	Core Results Indicators
DC	Directorate of Commercialization of MAG (*Dirección de Comercialización*)
DEAg	Directorate for Rural Extension of MAG (*Dirección de Extensión Agraria*)
DGP	Directorate of Planning of MAG (*Dirección General de Planificación*)
DINCAP	National Directorate for Coordination and Administration of Projects of MAG (*Dirección Nacional de Coordinación y Administración de Proyectos*)
EFA	Economic and Financial Analysis
EH&S	Environment, health and safety
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ESA	Environmental and Social Assessment
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
EX-ACT	Ex-Ante Carbon-balance Tool
FAO	Food and Agriculture Organization of the United Nations
FIRR	Financial Internal Rate of Return
FM	Financial Management
FMA	Financial Management Assessment
GDP	Gross Domestic Product
GEI	Gender Equality Index
GHG	Greenhouse Gases
GoP	Government of Paraguay
GRS	Grievance Redress Service (*Sistema de Atención de Reclamos y Sugerencias – SARS*)
IFC	International Finance Corporation
INCOOP	National Institute of Cooperativism (*Instituto Nacional de Cooperativismo*)
IFMR	Interim Financial Management Report
INDERT	National Rural Development and Land Institute (*Instituto Nacional de Desarrollo Rural y de la Tierra*)
INDI	National Institute of Indigenous Peoples (*Instituto Nacional del Indígena*)
IPTA	National Institute for Agricultural Research (*Instituto Paraguayo de Tecnología Agropecuaria*)
IPPF	Indigenous Peoples Planning Framework
IRR	Internal Rate of Return
MAG	Ministry of Agriculture and Livestock (*Ministerio de Agricultura y Ganadería*)
M&E	Monitoring and Evaluation
MIS	Management Information System

MTR	Mid-Term Review
NPV	Net Present Value
NRM	Natural Resource Management
O&M	Operation and Maintenance
PIMA	Spanish acronym of the Market Access for Agricultural Products Project (*Proyecto de Inserción Mercados Agrarios*)
PCE	Strategic Communication Plan (*Plan de Comunicación Estratégica*)
PDO	Project Development Objective
PMU	Project Management Unit (*Unidad Ejecutora de Proyectos - UEP*)
POA	Annual Operational Plan (*Plan Operativo Anual*)
POM	Project Operational Manual (*Manual Operativo del Proyecto*)
PPSD	Project Procurement Strategy for Development
PRODERS	Sustainable Agriculture and Rural Development Project (*Proyecto de Desarrollo Rural Sostenible*)
RENABE	National Registry of Beneficiaries (*Registro Nacional de Beneficiarios*)
SENACSA	National Service for Animal Health and Quality (*Servicio Nacional de Calidad y Salud Animal*)
SEP	Stakeholder Engagement Plan
SGIP	Project Management System (*Sistema de Gestión Integral del Proyecto*)
SMEs	Small and Medium-sized Enterprises
SENAVE	National Service for Plant and Seed Quality and Safety (*Servicio Nacional de Calidad y Sanidad Vegetal y de Semillas*)
Sub-UAF	Administrative and Financial Sub-Unit of DINCAP (*Sub-unidad Administrativa Financiera*)
Sub-UOC	Procurement Sub-Unit of DINCAP (*Sub-unidad Operativa de Contrataciones*)
ToR	Terms of Reference
TRC	Technical Review Committee (*Comité de Revisión Técnica*)
TU	Technical Unit in DEAg
UGR	Risk Management Unit of MAG (*Unidad de Gestión de Riesgo*)
VMA	Vice-Ministry of Agriculture of MAG (*Viceministerio de Agricultura*)
VMG	Vice-Ministry of Livestock of MAG (*Viceministerio de Ganadería*)

TABLE OF CONTENTS

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Paraguay	Market Access for Agricultural Products Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P168153	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
19-Mar-2020	30-Jun-2026

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The objective of the Project is to enhance access to markets by Agricultural Producer Organizations and Indigenous Communities in selected parts of the Borrower's territory.

Components

Component Name	Cost (US$, millions)

Capacity Building and Institutional Strengthening	38.37
Enhancing Market Access through Productive Alliances	61.22
Overall Coordination, Management and Monitoring and Evaluation	10.16

Organizations

Borrower:	Republic of Paraguay
Implementing Agency:	Ministry of Agriculture and Livestock Production

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	110.00
Total Financing	110.00
of which IBRD/IDA	100.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	100.00

Non-World Bank Group Financing

Counterpart Funding	10.00
Borrower/Recipient	5.88
Local Beneficiaries	4.12

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026	2027
Annual	0.00	8.00	12.00	16.00	20.00	20.00	20.00	4.00
Cumulative	0.00	8.00	20.00	36.00	56.00	76.00	96.00	100.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Low
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
9. Other	Moderate
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description
Schedule 2-Section I. A.(a). The Borrower shall vest the overall responsibility for the implementation of the Project in MAG, and to this end shall, establish within DINCAP, and thereafter operate and maintain, throughout Project implementation, a unit (the PMU), to manage Project implementation with a structure, functions and responsibilities acceptable to the Bank and set forth in the Operational Manual, including, inter-alia, the responsibility of the PMU to coordinate, monitor and supervise the carrying out of the Project.

Sections and Description
Schedule 2-Section I. A.1(b). The Borrower shall ensure that the PMU is at all times during Project implementation headed by a Project general coordinator and assisted by professional staff (including, inter-alia, procurement, financial management, monitoring, environmental and social management specialists) and administrative staff, all in numbers and with terms of reference, and qualifications and experience, acceptable to the Bank, as set forth in the Operational Manual.

Sections and Description
Schedule 2-Section I. A.1(c). The Borrower shall establish within DEAg , and thereafter operate and maintain, throughout Project implementation, a technical unit (the DEAg Technical Unit), to manage technical assistance and the carrying out of operational activities at the field level related to the Project, with functions and responsibilities acceptable to the Bank and with staff in numbers and with qualifications and experience acceptable to the Bank (including environmental and social specialists), as described in the Operational Manual.

Sections and Description
Schedule 2-Section I, A.6. The Borrower, through MAG (through the PMU), shall, not later than nine (9) months after the Effective Date, establish, and thereafter operate and maintain, at all times during Project implementation, a computerized management and monitoring information system, satisfactory to the Bank, for purposes of monitoring the execution of each Beneficiary under an Investment Subproject.

Sections and Description
Schedule 2-Section I. A. 3. For purposes of enabling INDI to provide the required assistance under the Project, including, inter-alia, for the carrying out of strategic capacity building activities and for the provision of support for the implementation of the ESCP, as applicable, the Borrower, through MAG, shall, not later than four (4) months after the Effective Date, enter into an agreement with INDI (the INDI Participation Agreement), all under terms and conditions acceptable to the Bank and as set forth in the Operational Manual.

Sections and Description
Schedule 2-Section I. B.1. Upon approval of the pertinent Investment Subproject under Part 2 of the Project and prior to the carrying out of said Investment Subproject, the Borrower, through MAG (through the PMU), shall transfer, on a grant basis, part of the proceeds of the Loan allocated to Category (2) under Section III.A. of the Loan Agreement to the corresponding Investment Subproject Beneficiary under a subproject agreement (the Investment Subproject Agreement) to be entered into between the Borrower, through MAG (through the PMU), and said Investment Subproject Beneficiary, under terms and conditions acceptable to the Bank.

Sections and Description
Schedule 2-Section I. B. 3. The Borrower, through MAG (through the PMU), shall furnish to the Bank for its prior review and approval the proposed Investment Subprojects in accordance with the criteria set forth in the Operational Manual and the ESCP.

Sections and Description
Schedule 2-Section I. B.4. The Borrower, through MAG (through the PMU), shall refrain from presenting to the Bank Loan withdrawal applications and/or withdrawing Loan proceeds from the Designated Account under Category (2) of Section III.A of Schedule 3 of the Loan Agreement to finance any given Investment Subproject, until the Borrower, through MAG (through the PMU), has furnished to the Bank, evidence, acceptable to the Bank, indicating that the auditor to carry out the audits referred to in Part 3(b)(iii) of the Project has been hired as provided in Section I.A.5 of Schedule 2 of the Loan Agreement.

Conditions

Type	Description
Effectiveness	That the Borrower has prepared and adopted the Operational Manual in a manner satisfactory to the Bank.
Type	Description
Effectiveness	That the PMU has been established and staffed as provided under Section I.A.1(a) and (b) of Schedule 2 to the Loan Agreement and in a manner satisfactory to the Bank.
Type	Description
Effectiveness	That the DEAg Technical Unit has been established and staffed as provided under Section I.A.1(c) of Schedule 2 to the Loan Agreement and in a manner satisfactory to the Bank.
Type	Description
Disbursement	No withdrawal shall be made for payments made prior to the Signature Date of the Loan Agreement.
Type	Description
Disbursement	No disbursement under Category (2) of the loan until the Technical Review Committee has been established by MAG in accordance with Section I.A.2 of Schedule 2 to the Loan Agreement..

I. STRATEGIC CONTEXT

A. Country Context

1. **The agricultural sector has significantly contributed to GDP growth and poverty alleviation over the last 15 years.** During the period between 2004 and 2016, Paraguay's average GDP growth was 4.7 percent per year, which was higher rate than other countries in the region, along with significant reductions in poverty levels. Since, 2003, poverty and extreme poverty levels were reduced by 44 and 54 percent, respectively, mainly due to an average annual rate of income levels increase of 5.7 percent for the 40 percent of the population with lower per capita incomes. Key drivers of growth were the agriculture and hydroelectric power sectors. Crops alone contributed to one-quarter of total growth, with expanded agriculture (comprising backward and forward linkages) contributing a higher share to overall GDP growth (reaching around 20 percent of GDP).

2. **Strong duality in agriculture.** Paraguay's population is estimated at 7 million inhabitants, with 40 percent of the population – roughly 2.8 million – living in rural areas. Within the rural population, there is an important proportion of rural poverty comprised of a lagging subsistence farms, in parallel to a vibrant, commercially-oriented, and capitalized agricultural industry (individual producers, cooperatives and corporations), which is reaching export markets with increasing success. Since 2003, the boom in export-oriented production has contributed to a significant fall of national poverty rates: 45 to 20 percent in urban areas, and 58 to 36 percent in rural areas. These prosperous years have also resulted in an increase in income for the bottom 40 percent and the expansion of the middle class, which currently comprises 38 percent of Paraguay's population.[1]

3. **Agricultural Trade and Contribution to Exports**. Agricultural products and electricity constitute the bulk of Paraguay's exports. Between 2015 and 2017, the agricultural exports averaged around US$5 billion per year[2], concentrated mostly on soybeans, soybean products (such as cakes, flour and oil) and beef. On the other hand, Paraguay is a net importer of a variety of horticultural products (such as potatoes, tomatoes, apple, garlic, onions, etc.), milk and milk products, in the order of US$50 million per year (average 2015-2017), which are mainly perishable products subject to competition by neighboring countries.

4. **Paraguay enjoys many natural advantages which provide great potential for driving economic growth through the development of a diversified and resilient agricultural development.** Paraguay must overcome the challenges of creating economic opportunities, while conserving its natural endowments and improving resilience to climate change. In addition, Paraguay is highly vulnerable to impacts of climate change, particularly because of its dependence on exports of a few climate sensitive agricultural products. Droughts and floods have had significant impacts on agriculture outputs and the overall economy. These climate change risks combined with limited diversification, poor soil and weak water resources management, are increasing the country's vulnerability to extreme weather events.

B. Sectoral and Institutional Context

5. **A large share of the rural population, including poor subsistence farmers and indigenous peoples, rely on small-scale family farming.** In 2017, 76 percent of households in rural areas were engaged in family farming, or small informal agricultural-based activities, individually or in an organized way. The impressive growth of capitalized

[1] World Bank. 2018. Paraguay - Systematic Country Diagnostic (SCD) (English). http://documents.worldbank.org/curated/en/827731530819395899/Paraguay-Systematic-Country-Diagnostic.
[2] According to FAO Statistics Division (FAOSTAT)

commercial agriculture has not translated into significant benefits for smallholders, who are left far behind in terms of per capita income and other socio-economic indicators. In addition, their capacity to protect and adapt to climate risks is extremely limited. Exposure to climate or other shocks can push vulnerable households back or further into poverty since years of economic gains can be lost in one season of severe drought[3].

6. **Global experience demonstrates that removing barriers and integrating small-scale farmers into agriculture markets creates economic opportunities for sustained growth.** Recent evidence in Paraguay confirms that vulnerable rural inhabitants can lift themselves out of poverty and begin to prosper when they receive assistance in accessing proper technologies and profitable markets. It is the case of about 35,000 households who have benefited from the Sustainable Rural Development Project (PRODERS, P088799[4]). By selling their surpluses either in local fairs and open markets, through institutional markets, or by linking themselves to local industries, subsistence and transition agricultural producers have significantly enhanced their earnings and almost 19,000 of them were able to rise above the poverty threshold (See Annex 7).

7. **There is untapped potential to enable the transition of large proportion of rural producers toward greater and more sustainable value-added production systems.** Paraguay's food system has formal supply chains with large potential, such as horticulture, fruits, milk, organic yerba mate for export, and nutrition-rich grains and beans as inputs for processed foods. Empirical experience in Paraguay indicates, however, that multiple barriers prevent rural producers from becoming providers in more modern chains, especially arising from lack of critical assets, weak infrastructure, limited know-how and/or organization, as well as vulnerability to climate change impacts.

8. **Barriers faced by small and medium-size farmers trying to establish linkages with buyers is their limited ability to deliver the required quantity of produce in a timely and consistent schedule.** Even in the segment of emerging commercially-oriented medium-sized farmers, it has been challenging for them to meet the demands and requirements of buyers, including supplying consistent quantities and quality of goods that comply with sanitary and phytosanitary standards and are delivered on time. These medium-sized farmers are less capitalized than the large individual producers or corporations, have low technology adoption and limited access to information. In addition, they lack the equipment, infrastructure, and farm management skills (including production planning, crop management knowledge, and post-harvest handling capacity) to diversify into new products and become reliable suppliers to large buyers and industry. Also, the limited cooperation and weaknesses of their organizations reduce farmers access to remunerative markets. Poor communication and coordination between supply and demand complicates planning and creates uncertainty for buyers and sellers.

9. **Paraguayan agro-processing industry is not entirely well developed.** Several small and medium-sized enterprises (SMEs) produce a range of products, but difficulties in obtaining financing on affordable terms limit the investments in infrastructure, equipment, and inputs required to scale up and generate consistent profits. Many agribusiness' entrepreneurs lack technical skills and knowledge to develop viable business plans, make the required investments, develop a network of reliable farmer-suppliers, and comply with the quality, food safety, and certification standards enabling them to penetrate profitable local or overseas markets. A combined production-marketing system, based on private sector aggregators of smallholder produce and agro-processors, could address

[3] Paraguay is among the top ten countries in the world that are most exposed to agricultural productivity loss risks, according to a ranking compiled by the Center of Global Development.

[4] PRODERS is financed by two World Bank Loans: an initial Loan of US$37.5 million and an additional finance of US$100 million. The Project was approved on January 29, 2008 and the additional finance was approved on December 5, 2014. During its implementation, the project went through implementation ups and downs, with issues that add to the complexity of assessing project performance. The project is still ongoing, with a closing date of November 30, 2020.

some of these constraints and improve international competitiveness. Promising models are based on aggregation by private sector actors, who purchase from a large number of producers and perform basic activities such as aggregation, storing, grading and classification, but also adding some value to certain products (packaging, processing and marketing).

10. **Gender gaps.** In the 2018 "Gender Equality Index" (GEI, part of the UNDP Human Development Index), which measures women's disadvantage in reproductive health, empowerment and the labor market, Paraguay ranked tenth among the eleven South American countries listed, and 126 out of 177 worldwide. Access to economic opportunities is a key gender gap in Paraguay. Gender gaps are most evident in patterns of employment and incomes, access to resources, control over assets and decision-making, access to justice and freedom from violence, particularly in rural areas. While 16.7 percent of men above 15 years of age have no income, this increases to 34.7 percent in the case of women. By providing technical assistance and matching grants for investments, the proposed Project contributes to addressing key gender gaps in Paraguay with envisaged improvements in gender equality outcomes: access to knowledge and financial resources.

11. **The sectoral agenda is led by the Ministry of Agriculture and Livestock in partnerships with its decentralized institutions.** The Ministry of Agriculture and Livestock (MAG) focuses on producers for whom agriculture represents a critical source of income (see beneficiaries for a more specific classification). It is responsible for the sectorial policy and is at the helm of a set of decentralized sectoral institutions such as the Institute for Agricultural Technology (IPTA: *Instituto Paraguayo de Tecnología Agraria*), the National Service for Quality and Safety in Vegetables and Seeds (SENAVE: *Servicio Nacional de Calidad y Sanidad Vegetal y de Semillas*), and National Service for Animal Quality and Health (SENACSA: *Servicio Nacional de Calidad y Salud Animal*), and the aforementioned Agricultural Credit Agency (CAH), among others.

C. Relevance to Higher Level Objectives

12. **Twin Goals.** The Project[5] supports the achievement of the World Bank's twin goals to end extreme poverty and promote shared prosperity in a sustainable through its emphasis on expanding the benefits for small family farmers and poverty vulnerable producers, as well as improving service provision for a broad segment of the small farming population in rural areas, with attention to improving climate resilience.

13. The **Country Partnership Framework (CPF) for FY19-FY23[6]**, concluded that Paraguay's economic model of heavy reliance on its abundant natural resources and favorable demographics would need to shift in the medium-term, both to maintain the economy's strong growth trajectory and to further reduce poverty and promote shared prosperity. Households dependent on family farming are at the highest risk of being poor and face multiple constraints to productivity growth. The rural poor report especially high vulnerability to negative price and climatic shocks which, together with limited risk-coping strategies and capacity, can motivate distress sales of their limited assets, diminished access to socio-economic services and reduced food consumption. The CPF identified four policy priority areas: (i) Promotion of the rule of law and trust in public institutions by making them more transparent and accountable, reducing corruption and continuing to modernize the business environment; (ii) Management of natural wealth which, combined with high quality inputs and comparatively low costs, could give the country an increased comparative advantage in agriculture and energy sectors; (iii) Provision of equitable, high quality public services to help bring further poverty reduction and increase firm productivity; and (iv) Human capital development. The Project includes specific mechanisms targeting small and medium size producers to help them carry out investment activities

[5] In Spanish, the proposed Project is called: *Proyecto de Inserción a Mercados Agrarios* (PIMA)
[6] Discussed by the Board on January 22, 2019 and building on the Systematic Country Diagnostic (SCD) of June 29, 2018.

that would improve their productivity and commercial orientation, support modernization of relevant public sector services, and provide support to the development of more profitable productive enterprises with greater market access opportunities. The project activities will support economic and climate resilience via the responsible management of the agroecological endowments in target areas and promote inclusion through support to indigenous communities and women beneficiaries.

14. **Climate Change Action Plan (CCAP).** The Project supports the implementation of the Corporate Climate Commitment. The following project investments are expected to generate climate co-benefits: (i) increasing farmers understanding of climate change risks; (ii) enhance farmers' knowledge of the opportunities available for mitigation and adaptation and how to incorporate them in their productive process; (iii) reducing vulnerability of beneficiary farmers and communities to climate events by co-financing the activities most appropriate for their situation; and (iv) incorporating mechanisms across the project for reducing substantially the carbon balance resulting from its implementation.

15. **The project is fully aligned with the IFC Paraguay Strategy FY19-23**. The International Finance Corporation (IFC) strategy has three main axes: Connectivity, Sustainability and Inclusion. The proposed project supports the following specific objectives of IFC: develop value chains and micro, small, and medium enterprises linkages; access to markets and to finance for small and medium enterprises and agribusiness (IFC 2.0); and, green growth and sustainable agriculture (IFC 3.0). The project will build on the strong agricultural cooperative sector in Paraguay, so that existing cooperatives can expand their base and increase the number of beneficiaries. These organizations are expected to contribute to scalability and expansion of agri-food related business in the future. The provision of grants, as seed capital to enable the required level of investment to such types of beneficiaries is a catalyst for stimulating private sector development.

II. PROJECT DESCRIPTION

A. Project Development Objective (PDO)

16. The objective of the Project is to enhance access to markets by Agricultural Producer Organizations and Indigenous Communities in selected parts of the Borrower's territory.

17. **PDO Level Indicators**. The PDO level indicators are as follow:

(a) Increased gross value of sales (in real terms) by Beneficiary Organizations, disaggregated by Agricultural Producer Organizations and Indigenous Communities (Percentage).
(b) Beneficiary Organizations that continue realizing sales at project closing in accordance to their respective approved subproject -Disaggregated by Agricultural Producer Organizations and Indigenous Communities (Percentage).
(c) Farmers directly benefiting as members of Beneficiary Organizations and participating in implementing investment subprojects (Number).
(d) Farmers reached with agricultural assets or services (CRI), disaggregated by gender and ethnicity (Number).
(e) Individuals directly benefitting from the Project, disaggregated by gender and ethnicity (Number).

18. **Strategic Approach.** The project will be implemented in the Eastern Region of the country, with the possibility of expanding this coverage based on implementation results and assessment of demands (to be reviewed at Mid-Term). The project will contribute to creating long-term economic opportunities for the rural small and medium-sized agricultural producers and indigenous people by applying a three-fold approach: (i) supporting farmers' organizations

development via training and capacity building; (ii) institutional strengthening of public sector institutions for improving delivery of agricultural key services; and (iii) supporting investment subprojects focused on improving access to markets, based on increasing competitiveness and improved climate change resiliency. In the short and medium term, the project will put into operation an inclusive agribusiness model based on productive alliances, formed between Agricultural Producer Organizations, Indigenous Communities, aggregators, agribusinesses and buyers. In the long term, it is expected that the project will spark the creation of both on-farm and off-farms jobs and strengthen sectoral resilience, while contributing more significantly to human capital creation and economic development.[7] (see detailed description in Annex 2).

19. **Promising Value Chains**. The Ministry of Agriculture carried out an analysis of the twelve most promising value chains for small and medium-sized agricultural producers. There were 41 indicative models of subprojects identified for productive alliances in those twelve selected value chains, based on the real situation of the buyers´ demand and the capacity of known organizations, which could benefit different types of agricultural producers´ organizations in several departments. At the same time, based on data from the National Census (2011), it is estimated that around 4,000 industrial and commercial private firms are currently engaged in the handling, storage, aggregation, processing and marketing of agricultural products in Paraguay. These firms are mainly concentrated in the processing of products in the selected value chains, either for the local as well as the foreign markets (See Annex 2).

B. Project Components

Component 1: Capacity Building and Institutional Strengthening (Total Cost US$38.37 million; IBRD Loan US$33.38 million; GoP Counterpart US$4.99 million).

20. **Sub-component 1.1: Capacity building of Agricultural Producer Organizations and Indigenous Communities (Total Cost US$22.11 million; IBRD US$20.12 million; GoP Counterpart US$1.99 million).** The main goal of this subcomponent is to help remove barriers that prevent potential Agricultural Producer Organizations and Indigenous Communities, from taking advantage of investment opportunities. This subcomponent will support carrying out of capacity building activities to address critical factors to facilitate effective access to markets and sustainable integration with formal and lucrative value chains, and to support the preparation of Investment Subproject proposals, all through, *inter alia*: (i) the carrying out of studies and analysis in support of value chains, the identification of promising business opportunities and recommended technologies and practices to increase competitiveness and enhance climate resiliency; (ii) the carrying out of workshops, training courses and the dissemination of Project information aimed at increasing knowledge of Agricultural Producer Organizations and Indigenous Communities on modern and climate smart practices, and promoting their technical and managerial capacities; (iii) the preparation of education materials; (iv) the provision of scholarships to members of Beneficiary Organizations, in technical and vocational educational institutes, to broader their skills to manage modern and climate smart productive technologies as well in business management and administration; (v) the provision of support for the Project's communication strategy and the carrying out of Project dissemination campaigns; and (vi) the provision of technical assistance to Agricultural Producer Organizations and Indigenous Communities to, *inter alia:* (a) identify possible competitiveness and market opportunities, value chains and business opportunities,

[7] Linking producers to markets and strengthening value chains that lead to production intensification will result in increased demand for both skilled and unskilled labor. Productive-alliance projects have also been effective in creating jobs linked to service providers and processors along value chains. Vulnerable rural inhabitants can profit from successful agribusiness in labor-intensive value chains such as the horticulture sector. For instance, the Second Rural Productive Partnerships Project in Colombia created more than 10,000 new jobs — 14 full-time jobs on average for each alliance, essentially unskilled labor; and the Rural Alliance Project in Bolivia created more than 1,000 advisory jobs to dairy farmers as part of the spillover effects.

technologies and climate smart practices appropriate to their situation and target market; and (b) formulate Investment Subproject proposals for establishing productive alliances. (See further description in Annex 2).

21. **Sub-component 1.2: Public Sector Institutional Strengthening (Total Cost US$16.26 million; IBRD US$13.26 million; GoP Counterpart US$3 million).** This subcomponent has the objective to strengthening the institutions and systems of public sector agencies (mainly in the orbit of the Ministry of Agriculture) that are pivotal to promoting access to markets. By doing so, the project will contribute to creating an environment conducive for improving partnerships between organized producers and firms, as well as supporting the implementation of the subprojects. In particular, institutional strengthening of MAG and the National Institute of Indigenous Peoples (INDI) will be supported through, *inter alia*: (i) the carrying out of capacity building activities, studies and diagnosis and the provision of technical assistance to address key bottlenecks for the development of selected value chains, including, *inter alia:* the carrying out studies to identify constraints for expanding financial services to the agricultural sector, and to propose solutions for improving policy and regulatory framework reforms; (ii) the provision of support for the development and dissemination of new agricultural technologies and practices to increase competitiveness and enhance resiliency to climate change; (iii) the improvement, rehabilitation and/or construction of facilities and the acquisition of equipment and vehicles necessary for effective Project implementation and institutional development; (iv) the design and/or establishment and/or operation and/or improvement of supervision, monitoring, integrated management, agrometeorological and information systems, including, *inter alia*, the design and establishment of a system to improve interconnectivity among MAG's departments and decentralized agencies to enhance sharing of information and support planning and decision making; (v) the provision of support for improving productive inclusion opportunities for Indigenous Communities (including, *inter alia*, the provision of support for land tenure regularization); (vi) the provision of Scholarships in technical, graduate and post-graduate institutions and universities to increase their knowledge in modern and climate smart productive technologies and business administration; and (vii) the promotion of the coordination and the provision of support for the carrying out of joint activities with agencies of the agricultural sector related to Project implementation. (see Annex 2).

Component 2: Enhancing Market Access through Productive Alliances (Total cost US$61.22 million; IBRD loan US$57.1 million; Beneficiaries' Counterpart Funding US$4.12 million).

22. The objective of this component is to promote the development of organizations of small and medium-sized farmers and Indigenous Communities participating in "productive alliances". These Alliances will operate competitively in selected value chains, with strengthened and more reliable linkages with buyers and markets and increased capacity to manage climate risks. Project financing will support the implementation of competitive and climate-resilient investment subprojects for business investments and ventures established by Agricultural Producer Organizations and Indigenous Communities, agents and buyers. The component will help tackling the following constraints: (i) Limited aggregation of small and medium size agricultural producers and lack of coordination among stakeholders along the value chains; (ii) Low productivity and limited market integration; and (iii) Vulnerability to climate change and other weather events, together with low adaptive capacity of targeted stakeholders. For further details see Annex 2.

23. The component will provide support for enhancing market access through promoting the development of Productive Alliances through, *inter alia*: (i) the carrying out of activities for the stimulation of access to financial services; (ii) the provision of Matching Grants for the implementation of Investment Subprojects by Agricultural Producer Organizations and Indigenous Communities ;and/or (iii) the acquisition of goods, the carrying out of works and the provision of services to support the implementation of Investment Subprojects. As key elements of these subprojects, the adoption of technologies and climate smart practices contributing to enhancing climate resilience

and the expected adoption of these technologies will be prioritized when assessing the proposals for selection of the ones to be financed. In addition, this component will contribute to the project's net carbon balance through: (i) sequestration from afforestation and/or restoration of degraded areas and the transition from degraded lands to perennials (agro-forestry, orchards, gardens, tree crops, etc.); and (ii) through emission reductions from improved management of agro-forestry, livestock and improved cropping systems.

Component 3: Project Coordination, Management and Monitoring and Evaluation (Total Cost US$10.16 million; IBRD loan US$9.27 million; GoP Counterpart funding US$0.89 million).

24. This component will provide support to MAG for Project coordination, management, monitoring, evaluation and communication, including, *inter alia*: (i) the provision of support for inter-institutional coordination and Project administrative and fiduciary management; (ii) the carrying out of: (a) Project internal controls; (b) Project audits; (c) Investment Subprojects semi-annual audits; and (d) environmental and social risk management activities; (iii) the design and operationalization of a computerized management and monitoring information system for Investment Subprojects; (iv) the establishment and operation of a Technical Review Committee; (v) the implementation of a citizen engagement mechanism and a grievance redress mechanism; (vi) the monitoring and evaluation of results; (vii) the carrying out of Project-related studies, including mid-term review studies and the Project's final impact evaluation; (viii) the strengthening of cross-cutting areas within MAG; (ix) the design and implementation of a communication strategy, including, *inter alia*, the carrying out of campaigns to improve transparency and enhance dissemination of Project information, Project results and lessons learned; and (x) the provision of technical assistance to analyze and prepare potential interventions to facilitate access to markets.

25. **Project Cost.** The estimated project costs and sources of funding are presented in the table below.

Table 1: Project Costs (US$ million)

Components	IBRD Loan	Counterpart Funding	Total
1. Capacity Building and Institutional Strengthening	33.38	4.99	38.37
1.1. Capacity Building of Beneficiary Organizations	20.12	1.99	22.11
1.2. Public Sector Institutional Strengthening	13.26	3.00	16.26
2. Enhancing Market Access through Productive Alliances	57.10	4.12	61.22
3. Project Coordination, Management, Monitoring and Evaluation	9.27	0.89	10.16
Front-end-Fee	0.25		0.25
TOTAL	**100.00**	**10.00**	**110.0**

C. Project Beneficiaries

26. Expected beneficiaries are envisaged to include the following levels of direct and indirect beneficiaries[8]:

(a) **Direct beneficiaries**: (i) Beneficiary Organizations, comprising of Agricultural Producer Organizations and Indigenous Communities and their members (as well as their family members), who are *direct beneficiaries of the productive alliances,* receiving investments and access to technology and services, for enhancing market access through the implementation of investment subprojects; (ii) Beneficiary Organizations together with their participating members (farmers and their family members) *receiving capacity building and technical assistance* (including those not participating in investment subprojects); and (iii) Staff of the targeted public

[8] In all these groups of potential beneficiaries, participation by women and youth (up to 29 years of age) will also be prioritized.

agencies (providing basic support services to the agricultural sector) who are direct individual beneficiaries of the *institutional development activities.*

(b) **Indirect beneficiaries**: (i) Farmers and rural households who have access to improved services by the Ministry of Agriculture and other related agencies, including the beneficiaries of improved extension services by the Directorate for Rural Extension (DEAg) of MAG; (ii) rural population in general benefitting from health benefits due to availability of more accessible and affordable food supplies, as well as an improved local economy and more dynamic market opportunities; and (iii) Commercial and industrial cooperatives, small- and medium-sized agro-enterprises or any partner institutions or agents, providing inputs or services considered to be essential for the success of the productive alliance, or off-takers with access to the increased and diverse local food production. A full quantification of beneficiaries, disaggregating direct and indirect beneficiaries per component, is presented in Annex 2.

27. **Estimate of Total Beneficiaries**. The project is expected to directly benefit 169,400 individuals through: (i) investment subprojects (430 subprojects involving about 25,800 farms and 107,400 people); plus (ii) people benefitting exclusively from technical assistance and services (about 14,540 farms/households and 62,000 people). Including indirect beneficiaries, gaining from better public services and improvements to the local economy, food and nutritional security, and opportunities, the project will benefit a total of 59,340 farms and 245,400 people. There are about 253,486 farming units in the Eastern Region[9] with sizes up to 100 ha (estimated population of about one million rural inhabitants), while there are at least about 4,000 organizations of different types and maturity levels, comprising about 80 to 100 thousand farmers. This group constitutes the bulk of organizations and farming units being potentially targeted by the Project (is spite of the possibility of having additional organizations established). For further details see Annex 2.

28. **Citizen Engagement.** During preparation, the Borrower carried out extensive consultations involving different stakeholders, both among project-affected parties (Agricultural Producer Organizations and Indigenous Peoples) and other interested parties. There were two rounds of consultations; the first one provided input to draft the following environmental and social documents: (i) Environmental and Social Management Framework (ESMF); (ii) Resettlement Policy Framework (RPF); (iii) Indigenous Peoples Planning Framework (IPPF); (iv) Pest Management Plan (PMP); (v) Stakeholder Engagement Plan (SEP); and (vi) Environmental and Social Commitment Plan (ESMP). A second set of consultations was carried out after disclosure to discuss the draft documents. The Borrower included mechanisms to ensure that the perspectives of women and Indigenous People were included in project design. This process also provided inputs for the preparation of the SEP, providing a roadmap for engaging with stakeholders throughout project implementation and completion, including a culturally appropriate Grievance Mechanism. Appropriate Citizen Engagement indicators are included in the result framework. The final versions of above documents were disclosed in both Government's and Bank's web sites[10].

D. Results Chain

[9] National Agricultural Census (2008)

[10] The documents were disclosed on January 20 in the following Government site: *http://www.mag.gov.py/index.php/institucion/pima-marco-de-gestion-ambiental-y-social* and on February 10, 2020 in the Bank's external website: http://documents.worldbank.org/curated/en/docsearch?query=P168153

Table 2 – Results Chain

<table>
<tr><th>Sectoral Constraints</th><th>Activities Proposed</th><th>Outputs Expected</th><th>Outcomes (PDO)</th><th>Long-Term Impacts</th></tr>
<tr><td rowspan="3">- Lack of productivity growth.
- Limited Access to Markets for Agricultural Products
- Significant asymmetries between smallholders and larger farmers in access to land resources, information, technologies and sources of finance.
- Existing organizations lacking adequate organization, business skills and marketing capacities.
- Limited sectoral ability to respond to market demands.
- High vulnerability of natural resources to climate conditions and adverse weather.
- Limited access to modern technologies.
- Limited public-sector capacity to provide effective services.
- Large proportion of the territory without clear or secure land tenure.</td><td>Component 1: Capacity Building and Institutional Strengthening
- Promote strengthening of Agricultural Producer Organizations in technical and managerial capacities.
- Identify possible competitiveness and market opportunities, formation of alliances and preparation of subproject proposals.
- -Strategic support for capacity building to address critical factors to access markets and lucrative value chains.
- Improve coordination among agricultural sector agencies and MAG’s dependencies.</td><td>Component 1:
- Agricultural Producer Organizations and Indigenous communities trained, and capacity strengthened.
- Women producers and public service staff trained.
- Productive alliances with subprojects approved for implementation, incorporating modern and climate smart technologies.
- MAG able to have better coordination within its departments.
- Expanded availability of sectoral knowledge.
- Agricultural public institutions strengthened to provide key services.</td><td rowspan="2">- Agricultural Producer Organizations and Indigenous Communities strengthened, with enhanced skills, increased profitability and improved gender outcomes and resiliency to climate change.
- Increased rural incomes, based on strong sales and sustainable markets linkages.
- Strengthened public institutions providing efficient services.</td><td rowspan="2">- More inclusive rural economy.
- Improved rural incomes and livelihoods.
- Enhanced employment opportunities and better living conditions for the rural population.</td></tr>
<tr><td>Component 2: Enhancing Market Access through Productive Alliances
- Provide matching grants to selected subprojects with clear market access potential, to enhance livelihoods and increase competitiveness and market linkages, as well as promoting adoption of climate resilient technologies.
- Assistance to Beneficiary Organizations and communities to implement selected investment subprojects.</td><td>Component 2:
- Beneficiary Organizations including women members and indigenous communities have implemented sustainable subprojects successfully, with technical support.
- Beneficiary Organizations with enhanced capacity to access demanding markets, with increased value of sales.
- Increased productive investments with enhanced resiliency to climate change.</td><td rowspan="2" colspan="2">Critical Assumptions
- Beneficiary Organizations and their members are interested to gain access to dynamic and evolving markets.
- Beneficiary Organizations meet counterpart funding requirements.
- Concrete market demand for agricultural products.
- Beneficiary Organizations improved their organizational and managerial capacities and adopt adequate technologies and practices.
- Effective coordination and collaboration among public agencies, as well as a continued commitment to the project.
- Right technologies/inputs are available for improving productivity and mitigating vulnerability to climate change.
- Adequate technical assistance is efficiently provided to Beneficiary Organizations (quality and timing).
- Legal/regulatory framework continues to improve providing support to capital investment and business development.
- No extreme weather conditions or adverse external factors affecting substantially the sector.</td></tr>
<tr><td>Component 3: Project Coordination, Management and Monitoring and Evaluation
- Strategic support for capacity building in project planning, coordination and M&E activities.
- Enhance project fiduciary administration, internal controls, environmental and social risk management and improving the citizen engagement mechanism.</td><td>Component 3:
- Effective Monitoring and Evaluation system in place.
- Fiduciary functions strengthened.
- Better coordination of activities.</td></tr>
</table>

E. Rationale for Bank Involvement and Role of Partners

29. The World Bank has wide knowledge and experience designing and financing projects aiming at supporting market access for small and medium-sized holders in several regions and to design mechanisms helping remove the main constraints commonly faced by them. The productive alliances experience in Latin America shows that linking farmers to markets requires initial public support to offset part of the startup costs and reduce risks for private financiers. The World Bank would bring world-wide knowledge and experience and transferring technical and strategic knowledge transfer through the participation of specialists with ample experience in these areas.[11] Finally, the World Bank has developed important experience in the implementation of a set of rural development projects in Paraguay, including most recently PRODERS (See Annex 7).

F. Lessons Learned and Reflected in the Project Design

30. The proposed Project design draws valuable lessons from the Paraguay Sustainable Agriculture and Rural Development Project (PRODERS, P088799; closing on November 30, 2020) and other agriculture operations in Latin America, as well as World Bank's agriculture sector analytical work in the region[12]. The main lessons that guided the design of the proposed operation were:

(a) **Differentiated lines of support for organizations of competitive family farmers and other more vulnerable groups.** Previous experiences have shown that not all smallholders receiving "productive" support (matching grants and technical assistance) are able to realize increased sales or able to reach demanding markets., and it is important to provide tailored support to beneficiaries. For the more vulnerable groups, support would need to be more focused toward improving their productivity and strengthening resilience to climate impacts.

(b) **Preparation and selection of quality subprojects.** Gaps pervade in the capacity for preparation or ex-ante evaluation of subprojects by rural households and organizations of family farmers. Sectoral public institutions, as well as alternatives sources of technical assistance, should be considered; for example, hiring of external qualified civil society or private entities to provide preparation assistance or separately independent assessment capability for review of the business plan proposals (prior to approving financing) may be necessary, for ensuring preparation and selection of quality subprojects.

(c) **Careful and continuous assessment of potential buyers and markets.** In some projects, Beneficiary Organizations found that their increased productive capacity could surpass their current buyer's capacity. Measures to mitigate this include improved buyer identification and their market competitiveness and viability, brokerage services for organizations that outgrow their current alliance arrangements, and an increased outreach to potential buyers outside the local sphere if needed.

(d) **Capacity-building activities for Beneficiary Organizations need to adapt to specific business needs.** In some projects, capacity-building of Beneficiary Organizations has focused on general managerial requirements (e.g. accounting, procurement); however, it has also become evident that capacity building needs to be tailored to the specific functions each producer organization. For example, organizations may need to reduce production costs (e.g. input purchases), others may also need to undertake more downstream food systems work or operate collective infrastructure (e.g. storage, processing and packaging).

[11] In Paraguay, the Bank has carried out the following technical assistance studies: Agriculture Commodities Exchange Development (P154806); Strengthening Paraguay's Agriculture Risk Management System (P145224); and Paraguay Crop Risks Preparedness (P163737). In addition, the project built on the recommendations from: Linking Farmers to Markets through Productive Alliances, 2016.

(e) **Addressing increased vulnerability to climate change.** Given the impacts of climate change and the predicted tendencies in terms of changing rainfall and temperature patterns, it is imperative to incorporate specific measures and investments to contribute to the adoption of adequate technologies and management practices to help enhance the capacity to mitigate these climate risks.

(f) **Learning by doing in project implementation is not sufficient to strengthen public institutions.** The experience with PRODERS proved the experience with implementing projects does not ensure building institutional capacity in the long term. Since public institutions are weak, it is essential to have a robust and dedicated effort to strengthen existing institutions to contribute to their improved services delivery capability and enhance institutional sustainability.

(g) **Strengthened sectoral coordination.** The focus of productive investments for market access is to assist Beneficiary Organizations and their members through technical assistance and financial provision to increase their competitiveness and market access. The participation of key public agencies in such projects, should be decided on a careful assessment of their institutional roles and capacity and, based on the conclusions, complemented by the design of appropriate institutional coordination efforts for improved outcomes.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

31. At the national level, the project will be headed by the Director General in the National Directorate for Coordination and Administration of Projects (DINCAP) of MAG, that is designed by law as the unit in charge of coordination and administration of all projects with foreign funding in the agricultural sector. The Administrative and Financial Unit (Sub-UAF), responsible for the accounting and financial management, will directly report to the Director of DINCAP. In addition, DINCAP will establish a Project Management Unit (PMU) for this project within its structure, headed by a General Project Coordinator. The PMU will coordinate and monitor project activities during implementation and coordinate with other Directorates and Departments of MAG and partner institutions (e.g. INDI). Further details are presented in Anne 1.

32. The establishment of the PMU with a General Project Coordinator and a team of qualified staff for project management (planning, coordination, administration, etc.), satisfactory to the Bank, is a condition for Loan Effectiveness. However, it is expected that most staff in the PMU of the ongoing PRODERS project will be gradually moved into the new PMU, taking advantage of their ample experience in project implementation and Bank policies and procedures. The PMU will be organized in five units reporting to the General Project Coordinator:

(a) Administration and Financial Coordination Unit

(b) Planning, Monitoring and Evaluation Unit

(c) Communication and Dissemination Unit

(d) Institutional Strengthening Unit

(e) Technical Unit (TU) within DEAg to manage technical assistance and supervision of project related activities in the field.

B. Results Monitoring and Evaluation Arrangements

33. A decentralized Monitoring and Evaluation (M&E) System to support project planning, monitoring and management will be implemented by the project under the responsibility of the PMU through its Planning, Monitoring, and Evaluation Unit, in order to support project monitoring, evaluation and impact assessment and to provide

information for decision making, to optimize managerial information and improve implementation performance of the Project. Progress in the fulfillment of the project objectives and outcomes will be monitored in accordance with MAG and Bank procedures and will be based on the project Results Framework. This M&E Unit will: (i) monitor the day-to-day activities and outputs of the project generating and systematizing information for management; (ii) support the project budgeting process; (iii) monitor project outcomes and the progress of indicators at the end of each semester; (iv) monitor results at a technical, financial, environmental and social level; (v) provide inputs for the communication of project results and lessons learned; (vi) establish a communication mechanism with field staff of the Ministry; (vii) promote accountability for resource use against objectives; (viii) provide and receive feedback from stakeholders; and (ix) Undertaking special evaluation studies and generate inputs for dissemination of project results and lessons learned and for the periodic evaluation. Further description of the M&E system is provided in Annex 1.

C. Sustainability

34. The key for the sustainability of community investments will be through enhanced competitiveness leading to improved market sales. It is expected that the flow of funds from the project to Beneficiary Organization to finance productive investments and adoption of technological improvements would produce a substantially profitable enhancement of their flow of funds from sales to markets. Sustainability of productive investments will be improved through rigorous design and independent assessment of technical, financial and social/environmental safeguards viability. Based on lessons from previous projects, productive subprojects will be designed with a greater emphasis on improving on-farm climate resilience, market access and Operation and Maintenance (O&M) of overall financed investments and businesses. Subprojects will support incorporation of climate smart agricultural related technologies and practices, based on the assessments of on-farm agro-climatic vulnerabilities at the pre-investment stage. To improve market access, each subproject proposal will be required to identify existing commercial constraints and potential market outlets. Long-term sustainability will rely on human capital formation (adequate capacity building and technical assistance provision) and tailored O&M procedures (working capital, capital cost, maintenance of infrastructure and equipment, administration, etc.), together with increase adaptation to climate changes based on enhanced adoption of resilient approaches and technologies. During the evaluation phase of the subproject proposals, special attention will be paid to ensure that market demand is clearly identified, and the financial viability of the subproject is assessed.

35. On the institutional side, the project will help strengthen the strategical and operational capacities of the public agricultural sector's institutions, mainly in terms of rural technical assistance and extension systems, marketing and risk management. This will increase the likelihood of continued assistance to beneficiaries even after closing date of the project. Component 1 is intended to strengthen beneficiaries' organizations and enhance the capacity of the public entities to generate appropriate technologies and practices (or adapt imported technologies) and to continue assisting rural enterprises and other partners to ensure the sustainability of the rural enterprises.

IV. PROJECT APPRAISAL SUMMARY

A. Economic, Financial, and Greenhouse Gas Analyses

36. **Economic and Financial Analysis.** The economic and financial analysis estimated incremental benefits and costs of the project-related investments in order to measure the economic worth of the project from the perspective of society. The financial impact from the point of view of the beneficiaries was estimated based on subproject investment models. The Financial Internal Rate or Return (FIRR) was estimated at 23 percent. The table below reports the main results of the Economic Analysis. The EFA is summarized in Annex 4.

37. In addition, it is important to highlight that the enhancement of market access for agricultural projects and the expansion of a dynamic agricultural commercial sub-sector will generate effects on the general economy of the country, due to forward linkages of agriculture (agribusiness, transportation, etc.) and backward linkages (services, input suppliers, etc.). The effect of expanded agricultural activities on the rest of the economy is larger in those countries where agriculture is a major net exporter, as is the case of Paraguay. Furthermore, the model to be put in place by the project will certainly have ample possibilities for expansion: (i) the participating agriculture organizations will improve their technical, organizational, managerial and financial capacity to expand their operations with identical or diversificating the target markets; (ii) other organizations could also be incentivized by the results achieved and willing to follow the example; and (iii) the private sector will also be encouraged to continue with similar approaches and willing to expand their operations involving larger number of farmers.

Table 3: Summary of Economic Analysis (US$)

Indicator	Baseline[13] (excludes Carbon benefits)	Lower Carbon Value of US$40/ton	Higher Carbon Value of US$80/ton
Economic Internal Rate of Return (EIRR)	15%	58%	134%
Net Present Value (NPV, US$)	21,637,075	165,778,865	310,435,240
Switching value for costs (%)	30%	231%	432%
Switching value for benefits (%)	-23%	-70%	-81%

38. **Greenhouse Gas Accounting.** The Project aims to maximize the likely co-benefits of interventions, including sustainable development co-benefits such as: (i) conservation of biodiversity; increased and enhanced provision of ecosystem services; (ii) improved and diversified livelihoods for local communities; and(iii) improved human and social capital. The project's impact on Greenhouse Gas was estimated by quantifying the net carbon balance with regard to CO2e, resulting from GHGs emitted or sequestered during the project implementation and capitalization period (20 yeas) compared to the without-project scenario. The analysis estimated that project leads to estimated annual climate change mitigation benefits of 430,992 tCO2e, when compared to a business-as-usual baseline scenario. This is equivalent to annually reduced GHG emissions per hectare of 2 tCO2e. After 20 years, GHG mitigation benefits amounting to a reduction of 8,619,840 tCO2e will be generated. The GHG analysis is summarized in Annex 5.

39. **Maximizing finance for development**. It has become evident that current levels of investment in the agricultural sector are not sufficient to address rural poverty, increase productivity, reach new markets, and manage climate risks. There are several constraints that have prevented a more substantive participation of commercial sources of financing, which, if removed, might contribute to increase private investment. The main obstacles are: (i) unequal levels of profitability; (ii) unsecure land tenure; (iii) limited availability of collateral, mainly because of legal limitations for using other forms of capital (mobile goods) as collateral, rather than only land; (iv) low levels of financial literacy and credit background; (v) common perception in the financial sector that agricultural is too risky and returns are uncertain; (vi) small farm size and low level of organization; (vii) limited experience of the financial sector in lending to organizations; and (viii) financial intermediaries normally lend at short-term (due to the structure of their resources) and are extremely reluctant to lend for medium- and long-term investments.

[13] Baseline is the net incremental economic benefits, derived from the financial streams of the investment subprojects, but valued at economic prices. It does not include expected economic benefits from GHG sequestration.

40. There are three main reforms to the legal framework already proposed by GoP, which are important for the agricultural sector, mainly for Small and Medium-Sized Enterprises (SMEs): (i) regulate the use of movable goods as credit guarantees under the Commercial Code; (ii) legal framework regulating insolvency of private firms; and (iii) the establishment of a national registry for private firms, regulating the basic requirements needed in accordance with the Commercial Code. In addition, there are several complementary mechanisms to be put in place under the project to contribute to an increased use of financial resources: (i) carrying out studies to identify the constraints and limitations for expanding financial services to small and medium-sized farmers and their organizations, as well to propose solutions including improving policy and regulatory framework; (ii) promoting public-private sector dialogue to decide on the key actions to be supported for leveraging private sector engagement in rural sector finance; (iii) inviting financial institutions to be part of the review of the subproject proposals submitted for review by potential beneficiaries; and (iv) increasing financial literacy of members and managers of organizations, to try to contribute to bridge the gap and promote better access to existing financial services (see Annex 2).

B. Fiduciary

41. **Financial Management**. The DINCAP of MAG will be responsible for project Financial Management (FM) function including project's budget formulation and execution, transfer of funds to subprojects' beneficiaries, assuring adequate and timely financing of eligible expenditures, maintaining project's accounting records and preparation of interim and annual financial reporting required by the Bank, and complying with project's external auditing arrangements. The conclusion of the Financial Management Assessment (FMA) carried out was that the FM arrangements for the proposed Project meet Bank requirements. The FM arrangements will mostly remain the same as for the ongoing Sustainable Agriculture and Rural Development Project (PRODERS; P088799)[14] which FM performance rating has ranged from Moderately Satisfactory to Satisfactory since 2015 as evidenced by Bank FM Implementation Support and Supervision Reports (ISSR). Additional description is presented in Annex 3.

42. **Procurement.** The procurement staff who is currently implementing PRODERS within DINCAP will continue working for the new Project. A procurement capacity assessment of DINCAP and PRODERS's was carried out by the World Bank on November 2019. Some factors that may potentially affect project implementation and proposed mitigation measures are detailed in Annex 3. Procurement will be conducted in accordance with the World Bank's Procurement Regulations for IPF Borrowers, issued in July 2016 and revised in November 2017 y August 2018. See Annex 3 for further details.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

43. **International Waterways (OP 7.50).** The level of expected irrigation under the project is very small and it would not produce any impact on the flow of the regional river network. The Riparian Notification process was completed, and the update Memorandum was approved by the Bank's Regional Vice-President on February 5, 2020.

[14] Known as PRODERS for its acronym in Spanish. Loan 7503-PY 37 million, closed December 31, 2015. Loan 8316-PY 100 million, closing date November 30, 2020

D. Environmental and Social

Specific sub-project investments will be identified during project implementation. MAG has therefore prepared and disclosed an advanced draft Environmental and Social Management Framework (ESMF) that includes an Environmental and Social Assessment (ESA) on January 20, 2020. E&S risks and impacts were assessed at a framework level to identify key risks and impacts and provide measures to manage them in line with the mitigation hierarchy. Further, the ESMF establishes the entry points of E&S considerations throughout the subproject cycle, where E&S aspects were analyzed in an integrated way as required particularly when successful project implementation requires behavioral changes by vulnerable, low capacity smallholder producers. The scale and type of the subprojects under component 2 will be subject to site-specific screening prior to approval to evaluate potential risks and mitigations. The approval of these sub-projects will be linked to specific monitoring activities by the E&S Unit. Most of sub-projects are expected to be small-scale, community-driven development subprojects that involve matching grant schemes. Potential value chains to be supported include : (i) vegetables (tomatoes, onions, potatoes, carrots, beets, peppers, lettuce); (ii) aromatic and medicinal plants; (iii) fruits (citrus fruits, passion fruits, banana, pineapple, etc.); (iv) milk and milk products; (v) small animals (chicken, sheep); (vi) honey production; (vii) yerba mate; (viii) flowers; (ix) cattle; (x) grains (beans, corn, sesame, etc.); (xi) cassava; and (xii) organic sugar cane. Potential areas of interventions and types of support were analyzed in terms of risks and mitigation measures. A checklist for subproject screening has been prepared; this will facilitate the early identification of risks and management measures required. The outline for the preparation of specific E&S management plans for subprojects have been prepared as well as guidelines for assessing mitigation measures presented and gap- filling measures needed for specific environmental requirements if they arise. A list of activities not eligible for funding by the project have also been included.

Social aspects considered in the ESA include, among others: (i) barriers for targeted vulnerable groups to participate in Project activities and access to its benefits including cultural and economic barriers to participating in innovation partnerships under Component 2; (ii) risks of creating or exacerbating conflicts with stakeholders who may have developed patronizing political and economic relations with smallholder farmers and/or Indigenous Peoples and risks of elite capture of Projects benefits; (iii) risks or impacts associated with land and natural resource tenure and use; (iv) risks of child and adolescent labor associated with the proposed subprojects; (v) barriers to developing an inclusive and culturally adequate stakeholder engagement strategy.

Environmental risks and impacts considered include: (i) potential for improper application, storage, and disposal of pesticides (ii) worker and beneficiary health and safety risks of small- scale agricultural production and within processing facilities, (iii) community health and safety risks from operation of farm machinery and other agricultural activities, (iv) potential for small-scale impacts to critical, natural, or modified habitat from expansion of production activities without proper planning, (v) food safety and animal health concerns, (vi) potential for road accidents related to transport and marketing of products, (vii) potential for land degradation and soil erosion from improper farming techniques, among other potential impacts. Management measures have been included in the ESMF aligned with best-practices and considering the WBG EH&S General and Agribusiness sector guidelines as well as FAO Code of Conduct for pest management. Projects will be screened and supervised based on procedures included in the ESMF and in the draft operational manual as well as monitoring and evaluation requirements for ongoing investments and overall project footprint to consider cumulative impacts.

The ESA also developed a stakeholder analysis considered in the SEP. The SEP covers consultations on project design, environmental and social risks and impacts, the ESMF and other ESF-related documents that have been disclosed. Consultations were held with key stakeholders during preparation and feedback incorporated into project design and environmental and social instruments.

V. GRIEVANCE REDRESS SERVICES

44. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit *www.inspectionpanel.org.*

VI. KEY RISKS

45. The overall risk is assessed as **Substantial**, based on the following identified areas of risk, all of which are rated Substantial:

(a) **Political and Governance Risks.** Providing grants to small and medium-sized farmers' organizations has significant political implications and risks of elite capture. According to Transparency International, the Perception of Corruption in Paraguay ranks as 132 out of 180 countries. To mitigate these risks, the project design includes rigorous eligibility criteria for beneficiaries, together with close implementation monitoring and adequate checks and balances mechanisms on the ground to be implemented by the PMU, complemented with comprehensive institutional capacity building measures. The experience of PRODERS shows that it is possible to mitigate these risks with strong internal controls together with implementation support efforts.

(b) **Institutional Capacity for Implementation and Sustainability Risk.** Implementation is a challenge in Paraguay, a country with overly bureaucratic administration and limited public sector capacity; these aspects will continue to require close attention, technical assistance and Bank task team support. Therefore, the project includes a major technical assistance and capacity building component to help project implementation and strengthen the overall institutional framework related to the project.

(c) **Fiduciary Risks.** The Financial Management (FM) and Procurement risk ratings are both Substantial; thus, the combined fiduciary risk rating also remains as Substantial. Even though likelihood of major risks to occur is moderate, the impact on the achievement of project's development objective is high should FM or procurement risks materialize. The project includes measures to enhance FM and Procurement capacity, inter-alia: (i) reinforcement of the PMU contract administration function; (ii) capacity building; (iii) carrying out periodic implementation support missions for post review of procurement actions; (iv) inclusion in the Monitoring System of a module to collect key information on the procurement processes under investment Sub-projects; and (v) review procurement and FM procedures within MAG in order to remove bottlenecks.

(d) **Environmental and Climate Risks.** The project developed a thorough analysis of potential risks, which were previously identified through the ESA scoping, preparation and during consultations. A range of appropriate mitigation measures are included in the project design (as specified in the ESRS, SEP and ESCP) to address their impacts. In terms of environmental challenges, risks or impacts associated with land, water and natural resources management present the potential for pollution, land degradation and soil erosion from improper farming techniques, among other potential impacts. Secondly, the area has experienced extreme weather events in the past and is expected to experience more of them in the future, with moderate to high intensity,

frequency, and duration. The disaster risk assessment identified droughts, extreme temperatures, extreme precipitation and flooding as the main hazards in the project intervention areas. The project supports measures to enhance climate resilience through capacity building, technical assistance and subproject investments including for uptake of improved technologies and practices.

(e) **Social Risks.** One of the main identified risks is elite capture of matching grants intended for small and medium-sized agriculture produce organizations. In addition, there are barriers for vulnerable groups, such as indigenous, women, youth, disabled and isolated small farmers to participate of project's benefits. Building on previous experiences, the Project established rigorous eligibility criteria and strong internal control mechanisms to ensure grants are used for the intended purposes. Differentiated institutional arrangements, a strong communication campaign, and teams with technical expertise, including the collaboration with INDI, will help mitigate these risks.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Paraguay

Market Access for Agricultural Products Project

Project Development Objectives(s)

The objective of the Project is to enhance access to markets by Agricultural Producer Organizations and Indigenous Communities in selected parts of the Borrower's territory.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Enhance market access				
Increased gross value of sales (in real terms) by Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities). (Percentage)		0.00	15.00	30.00
Increased gross value of sales (in real terms) by Indigenous Communities (Percentage)		0.00		30.00
Increased gross value of sales (in real terms) by Agricultural Producer Organizations (Percentage)		0.00		30.00
Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) that continue to realize sales at project closing according to approved investment subproject. (Percentage)		0.00		75.00

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Agricultural Producer Organizations (Percentage)		0.00		75.00
Indigenous Communities (Percentage)		0.00		75.00
Farmers directly benefiting from the Project as members of Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) and participating in investment Subprojects. (Number)		0.00		25,800.00
Farmers reached with agricultural assets or services (CRI, Number)		0.00		35,000.00
Male (Number)		0.00		25,000.00
Female (Number)		0.00		10,000.00
Beneficiary members of Indigenous Communities (Number)		0.00		9,000.00
Individuals directly benefiting from the project, disaggregated by gender and ethnicity. (Number)		0.00		169,000.00
Males (Number)		0.00		100,000.00
Females (Number)		0.00		69,000.00
Beneficiaries members of Indigenous Communities (Number)		0.00		41,000.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Capacity Building of Beneficiary Producer Organizations			
Increased organizational and managerial capacity of Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities). (Percentage)		0.00	80.00
Subproject "expressions of interest" submitted for review by Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) (Number) (Number)		0.00	600.00
Members of Agricultural Producer Organizations and Indigenous Communities receiving training and capacity building from the project (Number)		0.00	35,000.00
Male (Number)		0.00	21,000.00
Female (Number)		0.00	14,000.00
Women-tailored training events implemented to provide additional support for women-led businesses (Percentage)		0.00	20.00
Public Sector Institutional Strengthening			
DEAg's new institutional processes reviewed and implemented (Number)		0.00	14.00
New market intelligence system adopted and implemented by MAG (Yes/No)		No	Yes
Members of Beneficiary Organizations (Agricultural Producer Organizations) satisfied with technical assistance received for the preparation and implementation of investment subprojects. (Percentage)		0.00	80.00
Male (Percentage)		0.00	80.00
Female (Percentage)		0.00	80.00
Farmers benefiting directly form the project and satisfied with services received from DEAg. (Percentage)		0.00	80.00

Indicator Name	DLI	Baseline	End Target
Public sector staff trained by the project (Number)		0.00	1,000.00
Male (Number)		0.00	700.00
Female (Number)		0.00	300.00
Public sector staff taking gender trainings provided by the project (Number) (Number)		0.00	1,000.00
Gender disaggregation of female extension agents and field technicians (Percentage)		30.00	35.00
Enhancing Market Access through Productive Alliances			
Agricultural Producer Organizations and Indigenous Communities benefiting from the project by implementing investments Subprojects. (Number)		0.00	430.00
Farmers adopting improved agricultural technology (CRI, Number)		0.00	25,000.00
Male (Number)		0.00	15,000.00
Female (Number)		0.00	10,000.00
Members of Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) participating in investment subprojects and adopting climate smart technologies or practices. (Number)		0.00	15,000.00
Male (Number)		0.00	9,000.00
Female (Number)		0.00	6,000.00
Project Coordination, Management and Monitoring and Evaluation			
Strategic Communication and Dissemination Plan successfully implemented (Yes/No)		No	Yes
Total people benefiting from the project (directly and indirectly) satisfied with the Grievance Redress Service (Percentage)		0.00	80.00
Grievances responded and/or resolved within the stipulated service standards for response times (Percentage)		0.00	90.00

Indicator Name	DLI	Baseline	End Target
Digitalized Monitoring System under operation (Yes/No)		No	Yes

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Increased gross value of sales (in real terms) by Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities).					
Increased gross value of sales (in real terms) by Indigenous Communities					
Increased gross value of sales (in real terms) by Agricultural Producer Organizations					
Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) that continue to realize sales at project closing according to approved investment subproject.					
Agricultural Producer Organizations					
Indigenous Communities					
Farmers directly benefiting from the Project as members of Beneficiary					

Organizations (Agricultural Producer Organizations and Indigenous Communities) and participating in investment Subprojects.					
Farmers reached with agricultural assets or services	This indicator measures the number of farmers who were provided with agricultural assets or services as a result of World Bank project support. "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber, and non-timber forest products. Assets include property, biological assets, and farm and processing equipment. Biological assets may include animal agriculture breeds (e.g., livestock, fisheries) and genetic material of livestock, crops, trees, and shrubs (including fiber and fuel crops). Services include research, extension, training, education, ICTs, inputs (e.g., fertilizers, pesticides, labor), production-related services (e.g., soil testing, animal			"farmers' is referred to a household, not an individual family member.	

	health/veterinary services), phyto-sanitary and food safety services, agricultural marketing support services (e.g., price monitoring, export promotion), access to farm and post-harvest machinery and storage facilities, employment, irrigation and drainage, and finance. Farmers are people engaged in agricultural activities or members of an agriculture-related business (disaggregated by men and women) targeted by the project.				
Male					
Female					
Beneficiary members of Indigenous Communities					
Individuals directly benefiting from the project, disaggregated by gender and ethnicity.	This indicator measures the number of people directly benefiting from the project, assuming that one farm is one household and using national averages for family sizes.				
Males					

Females					
Beneficiaries members of Indigenous Communities	Includes beneficiaries of capacity building, land titling, and subprojects				

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Increased organizational and managerial capacity of Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities).	The organizational and managerial capacity of each participating Beneficiary Organization (Agricultural Producer Organization or Indigenous Community) will be assess as a baseline point and throughout the implementation period to record its increased status, by using a multi layer composite index to be developed under the Project.				
Subproject "expressions of interest" submitted for review by Beneficiary Organizations (Agricultural Producer Organizations and Indigenous Communities) (Number)	This indicator measures the number of potential Beneficiary Organizations presenting "expressions of interest" resulting from the calls for proposals. .				
Members of Agricultural Producer					

Organizations and Indigenous Communities receiving training and capacity building from the project					
Male					
Female					
Women-tailored training events implemented to provide additional support for women-led businesses					
DEAg's new institutional processes reviewed and implemented					
New market intelligence system adopted and implemented by MAG					
Members of Beneficiary Organizations (Agricultural Producer Organizations) satisfied with technical assistance received for the preparation and implementation of investment subprojects.					
Male					
Female					
Farmers benefiting directly form the project and satisfied with services received from DEAg.					
Public sector staff trained by the project					
Male					
Female					
Public sector staff taking gender trainings					

provided by the project (Number)					
Gender disaggregation of female extension agents and field technicians					
Agricultural Producer Organizations and Indigenous Communities benefiting from the project by implementing investments Subprojects.					
Farmers adopting improved agricultural technology	This indicator measures the number of farmers (of agricultural products) who have adopted an improved agricultural technology promoted by operations supported by the World Bank. NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products. Adoption refers to a change of practice or change in use of a technology that was introduced or promoted by the project. Technology includes a change in practices compared to currently used				

	practices or technologies (seed preparation, planting time, feeding schedule, feeding ingredients, postharvest storage/ processing, etc.). If the project introduces or promotes a technology package in which the benefit depends on the application of the entire package (e.g., a combination of inputs such as a new variety and advice on agronomic practices such as soil preparation, changes in seeding time, fertilizer schedule, plant protection, etc.), this counts as one technology. Farmers are people engaged in farming of agricultural products or members of an agriculture related business (disaggregated by men and women) targeted by the project.				
Male					
Female					
Members of Beneficiary Organizations (Agricultural Producer Organizations and					

Indigenous Communities) participating in investment subprojects and adopting climate smart technologies or practices.					
Male					
Female					
Strategic Communication and Dissemination Plan successfully implemented					
Total people benefiting from the project (directly and indirectly) satisfied with the Grievance Redress Service					
Grievances responded and/or resolved within the stipulated service standards for response times	This indicator measures the proportion of grievances received by the Project's PMU that were responded and/or resolved within the response times defined in the Project Operational Manual.				
Digitalized Monitoring System under operation					

Annex 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN

PARAGUAY
Market Access for Agricultural Products Project

A. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION

1. **Project Duration, Execution and Oversight**. The project will have a six-year duration from the expected date of Board approval, considering the period required for effectiveness (due to Congressional approval). Overall project management and implementation will be the responsibility of the Ministry of Agriculture and Livestock (MAG), on behalf of the Government of Paraguay (GoP). It will be initially implemented in the Eastern Region of Paraguay, which has 14 geographical departments. MAG will be responsible for project implementation and coordination consistently throughout the life of the project and involving various departments of the ministry and ensuring alignment of the work program with the objectives of the project and the Government's own policies and structure.

2. At the national level, the project will be headed by the Director General of National Directorate for Coordination and Administration of Projects (DINCAP) of MAG, that is designed by law as the unit in charge of coordination and administration of all projects with foreign funding in the agricultural sector. The Director of DINCAP will have the accounting and financial management function directly reporting to him/her (Administrative and Financial Unit, Sub-UAF). In addition, DINCAP will establish and Project Management Unit (PMU) within its structure, specifically for this project, headed by a General Project Coordinator, for coordination and operational monitoring of project activities through implementation and for overall technical coordination with others MAG'S Directorates/Departments and partner institutions (INDI and others).

3. The establishment of the PMU, including the appointment of a General Project Coordinator and adequate staff required for functioning, satisfactory to the Bank, is a condition for Loan Effectiveness. This includes the TU to be established within the Directorate for Rural Extension (DEAg) of MAG. However, it is expected that the existing PMU for the ongoing PRODERS project will be transformed into the new PMU unit for this project, taking advantage of the current staff with ample experience in project implementation under Bank's policies and procedures.

4. The PMU, headed by the General Project Coordinator, and composed of a team of qualified professionals dealing with general management (planning, coordination, administration, etc.) and technical and normative functions, will be organized in five (5) units reporting to the General Project Coordinator:

a. **Administration and Financial Coordination Unit**, to be in charge of all administrative and fiduciary matters of the project, including financial management and procurement;
b. **Planning, Monitoring and Evaluation Unit**, to prepare Action Plans, and manage the Monitoring system. Will be responsible for disseminating the procedures and guidelines of the project, as well as preparing the Annual Operational Plan (POA) and executing the monitoring system. Information management will be carried out by establishing a physical and financial information system. It will be responsible for managing the evaluation systems, in coordination with de General Directorate of Planning (DGP), and preparation of all results and impact evaluation reports.
c. **Communication and Dissemination Unit**, to disseminate project information and materials. Will coordinate the dissemination of project information and materials to promote understanding and transparency,

including the maintenance of a web page, the distribution of promotional videos, folders, posters, etc., and the execution of campaigns to disseminate the project.

d. **Institutional Strengthening Unit,** will be in charge of overall coordination of institutional strengthening efforts with all institutions within MAG, as well as other autarchic agencies related to the agricultural sector (e.g., INDI, IPTA, SENACSA, SENAVE, etc.)
e. **Technical Unit (TU)**, to manage technical assistance operational activities at the field level and related to the execution of the project. This coordinating unit will be located within DEAg, depending functionally on DINCAP's PMU, but under the daily operational coordination of DEAg's Executive Coordinator. DEAg's Executive Coordination is currently responsible for coordinating seven (7) operational technical departments and this TU will be the eighth unit under its responsibility. The TU will carry out implementation of technical activities at the field level of geographic departments, and will have at least three (3) advisors, reporting for him/her, for specific functional guidance relating to:
    i. Environmental management,
    ii. Social organization and capacity building,
    iii. Indigenous management.

5. In case of the TU within DEAg, it is expected that adequate staff will be appointed from the existing DEAg's roster (who will receive intensive training on project procedures and technical updates related to the project particular approach and methodologies) plus additional staff to be recruited by the project to perform their functions within DEAg's TU, and based on specific Terms of Reference and qualifications adequate to the role envisaged for them under the project. Part of DINCAP's field staff currently working under the ongoing PRODERS project, carefully selected in accordance with the technical profile required, are expected to be gradually transferred to the TU in DEAg.

6. The project will also coordinate its actions with the National Indigenous Peoples' Institute (INDI). A General Agreement on Project Coordination and Execution is expected to be signed no later than four (4) months after Loan Approval. Some of the objectives of the Agreement will be to facilitate knowledge and understanding of the project, clarify institutional responsibilities and commitments for project execution, define management mechanisms, as well as strategic capacity building activities to be supported by the project.

7. Within MAG, the following Directorates will play an active role in the execution of project activities in the areas of management, capacity building, rural extension, and commercialization, in coordination with DICNAP, and mainly involving: Vice-Ministry of Livestock (VMG) and Vice-Ministry of Agriculture (VMA); DEAg; Directorate of Commercialization (DC); General Directorate of Planning (DGP); and the Risk management Unit (UGR). In addition, interinstitutional cooperation agreements will be sought with several autarchic agencies (with their own independent budgetary sources) related to the agricultural sector, with the objective of enhancing coordination of activities and, eventually, supporting operational efforts to expand some of these agencies' key strategic activities that could be essential for the results of the project. The main institutions are, inter-alia: the National Service for Quality and Safety in Vegetables and Seeds (SENAVE), the National Service for Animal Quality and Health (SENACSA), and National Institute of Cooperativism (INCOOP).

8. At the regional level in the Eastern Region, the implementation of the project and the assistance to beneficiaries will be carried out on the basis of the DEAg's Agricultural Development Centers (CDA), which are the decentralized coordinating centers for the DEAg's field operations at the regional level, and the Local Technical Assistance Agencies (ALAT), that operate under each one of the CDAs. The CDA will be eminently operational and responsible for the field work in the region, for which it will have a range of specialists or experts to integrate the

project activities: (i) Component 1, capacity development; and (ii) Component 2, investments subprojects for productive alliances. The Technical Unit will be responsible for carrying out these technical assistance activities and to ensure full operational coordination with the PMU for the project.

9. At the local level, most of the project activities will be implemented in a participatory manner through Agricultural Producer Organizations and Indigenous Communities. The diagnostic, planning, implementation, monitoring, accountability and reporting of the financed productive alliances will be carried out through the ALAT of the DEAg in coordination with the CDA.

10. The PMU will implement a Grievance Redress Service (GRS) – *Sistema de Atención de Reclamos y Sugerencias* (SARS) – in order to register, control and respond to the requirements of project beneficiaries, communities or any individual who considers that the implementation of the project is affecting a particular individual or group. Complaints and suggestions may be sent at any time. Through the GRS, the PMU will review the requirements and give a timely response to all those that have submitted a claim. The timely response of complaints is an indicator that is included in the Results Framework. Likewise, communities or individuals that consider that they are affected by the implementation of the project may make their complaints, which will be evaluated, and an adequate answer will be issued in a timely manner. If the assessment concludes a damage has been produced, proper measures will be taken to repair it and, eventually, a compensation might be required.

11. The PMU will design a Strategic Communication Plan (PCE: *Plan de Comunicación Estratégica*) for the Project, which will aim to keep interested parties informed of their progress. The PCE will have two axes: (i) for internal clients and (ii) for external clients. In the case of internal clients, they will design information communication mechanisms regarding operational aspects of the project, such as: diffusion of window calls, conditions to participate in the project, eligibility criteria, services or benefits of the project, communication channel (contacts and office address), etc. For this, the PMU will prepare graphic and audiovisual material for its effective dissemination, considering the reality of the regions and subgroups of interest of the project (women, youth and Indigenous Communities). It will also prepare local and regional workshops to disseminate information about the project and its results. In the case of external clients, the PMU will design actions to disseminate results to individuals and institutions that are not beneficiaries of the project and to the general public. Actions are also considered to strengthen the results-oriented public image of MAG in front of its target audience.

Planning, Monitoring and Evaluation

12. **Overview.** A decentralized Monitoring and Evaluation (M&E) System to support project planning, monitoring and management will be implemented by the project under the responsibility of the PMU through its Planning and Monitoring, and Evaluation Units. Progress in the fulfillment of the project objectives and outcomes will be monitored in accordance with MAG and Bank procedures and will be based on the project Results Framework.

13. The overall objective of the M&E System is to support project management and supervision, including: (i) interinstitutional coordination, especially with others initiatives of projects and initiatives for sustainable rural development, (ii) monitoring, evaluation and impact assessment, (iii) fiduciary administration, internal controls and audits, (iv) environmental and social safeguards management and implementation, (v) a citizen's engagement and grievance redress mechanisms,(vi) studies and pilots supporting Subprojects, and (vii) communication and outreach strategy. The goal is to facilitate the accomplishment of the chronogram, budget, risk mitigation plans, and decision making to optimize the management of the Project.

14. To achieve its outcomes, the M&E System will cover the following actions:

i. Monitoring the day-to-day activities and outputs of the project. Based on the project annual operational plans and on the selection of indicators and methodologies for the different project dimensions (socioeconomic and environmental) and providing periodic reports.
ii. Monitoring project outcomes. To determine impacts on key variables over the life of the project, including community involvement and behavior change indicators.
iii. Undertaking special evaluation studies. To guide decisions and to measure the effectiveness of project performance, providing feedback and helping improve the effectiveness of the project, as well as to carry out impact evaluations.

15. The PMU will have an Monitoring and Planning Unit with the objectives of: (i) generate and systematize information; (ii) negotiate the project budget with the Ministry of Finance (*Ministerio de Hacienda*), (iii) monitor the progress of indicators; (iv) monitor results at a technical, financial, environmental and social level; (v) provide inputs for the communication of project results and lessons learned; and (vi) establish a communication mechanism with field staff of the Ministry. For the monitoring of the project, an Integral Project Management System (SGIP – *Sistema de Gestion Integral del Proyecto*) will be implemented, which will contain all the activities of the project and will be the main tool for planning, control and coordination, with which physical and financial progress will be monitored. The SGIP is expected to have an integrated module with a Geographic Information System to visualize the progress of the project and its results through maps. Project Monitoring will be carried out based on the Results Framework, which will have a specific module within the SGIP to facilitate monitoring and reporting of indicators.

16. The PMU will be responsible for the administrative management of the project and will perform management control audits. Likewise, it must have specialists to safeguard compliance with environmental and social safeguards. In addition, the PMU will contract external audits to validate the use of financial resources and internal disbursement controls. The PMU will prepare Semiannual Progress Reports that will cover periods of six-month and that will be sent to the World Bank for consideration. The Reports will present the physical and financial progress of the project, based on the planned activities, and the results of the project based on the Results Framework. They will also present the problems faced during the implementation and describe the corrective measures considered.

17. The PMU will be responsible for raising and systematizing the baseline information of all subprojects that are being applied to receive project financing, through surveys of communities specifically designed for this project. This survey will reveal socioeconomic, productive, environmental and organizational information, before receiving the funds to implement the project or that technical assistance is granted. The baseline analysis should perform analyzes by subgroups of interest to identify specific gaps for women, youth and Indigenous Communities.

18. The DGP will carry out a baseline data collection before project begins, including for a control group. The DGP will prepare a Mid-Term Review (MTR) report through an independent institution, once 40 percent of the resources are committed, or when at half time in the original implementation period, whichever comes first. The objective of this evaluation will be to assess whether the execution is satisfactory in terms of physical, financial and impact results, in order to predict whether the project is well in course for achieving the PDO and the intended targets. The MTR will be carried out based on a review of documents and field information, through a sample designed to define a statistically representative sample and apply a questionnaire prepared exclusively for these

purposes. The MTR will give recommendations for adjustments to be implemented to correct deviations from the planning that have been identified. For each component, the evaluation will highlight the challenges faced and the responses adopted by the PMU to address them. It will also give preliminary recommendations regarding the design, implementation and management of the project. The results of the MTR will be compared with the results stated in the Results Framework, in order to compare indicators and evaluate consistency of the results. The PMU will generate the Terms of Reference (TOR) for the MTR and will be referred to the World Bank for no objection.

19. An Independent Final Evaluation will be conducted to evaluate the results of the project and identify lessons learned and challenges to consider in new operations, including the sustainability of the project results. This final evaluation must begin once 90 percent of the resources have been disbursed, or six months before the project closes, whichever comes first. The evaluation should assess the differences in key results by comparing the situation "with project" with the baseline, controlling at the same time for other factors that could change over time (control group). The analysis should consider social and environmental variables, including gender, youth and indigenous peoples. Likewise, it should consider the degree of satisfaction of the beneficiaries of the project. The results of the final evaluation will be compared with the results of the results matrix indicators obtained by the PMU to assess consistency. The PMU will generate the TOR for the final evaluation and will be referred to the World Bank for no objection.

20. The Independent Final Evaluation must establish the causal relationship between the interventions of the project and the outcome variables and conclude how the project (and only that project) has generated changes in the results. The key variables that will be evaluated will be (at least) the PDO indicators as well as the Intermediate Indicators in the Results Framework. The evaluation must isolate the influence of external factors (price variations, climate variables, macroeconomic conditions, etc.) that allow establishing a causal relationship of the results that are attributable to the project. This analysis should differentiate the impact generated by the project considering subgroups of interest: women, youth and Indigenous Communities.

B. IMPLEMENTATION SUPPORT PLAN

21. Due to the adjustments made in the project design based on lessons from the previous operation (PRODRES), and the emphasis placed on technical quality and adequate monitoring and evaluation, the Project will require intense implementation support. The WB will be the main source of Project support, either from headquarters as well as the Buenos Aires office which has qualified technical expertise related to the project scope, fiduciary and safeguards and specialized staff available to follow-up on the Project's implementation. Implementation support will be provided through short follow-up technical meetings and semiannual supervision missions that focus on the following areas:

a. **Strategic support**. Supervision missions will meet with MAG representatives to (i) review progress on the Project's activities; (ii) discuss strategic alignment of the Project's different activities, especially at the planning level between the relevant stakeholders; and (iii) evaluate progress on cross-cutting issues such as M&E (baseline and design and execution of impact evaluation), training, communication, knowledge exchange, innovation, dissemination of Project results and experiences, and coordination between relevant stakeholders.

b. **Technical support**. Supervision will concentrate on ensuring the technical quality of investment subprojects. Implementation of Component 1 activities will require intense support during the first two years to ensure that there is an effective institutional strengthening and the subproject cycle is adequately in place and functioning efficiently, incorporating technological solutions aimed increase productivity,

competitiveness and climate resilience in agricultural production. In Component 2, emphasis will be placed on territorial prioritization and design aspects of the subprojects. For Component 3, technical assistance including capacity building and institutional strengthening will be provided to enhance performance of Project-supported activities. Lastly, for all project activities supervision will ensure the quality of bidding documents, Terms of References (ToR), evaluation reports, construction plans, products delivered by consultants. During the execution of investments, technical supervision will be provided to ensure that technical contractual obligations are met. Regular site visits will be carried out during project implementation and involve technical specialists as needed.

c. **Fiduciary support**. Periodic supervision of procurement and FM support will be carried out by the World Bank semiannually or annually to (i) perform desk reviews of project IFRs and audit reports, following up on any issues raised by auditors, as appropriate; (ii) assess the performance of control systems and arrangements; (iii) update the procurement and FM rating in the Implementation Support and Status Report as needed; (iv) provide training and guidance on carrying out procurement processes in compliance with the Procurement and Anti-Corruption Guidelines and the POM; (v) review procurement documents and provide timely feedback to DINCAP and the PMU; (vi) carry out the post review of procurement actions; and (vii) help monitor project's progress against the Procurement Plan. In addition, an independent auditor, with experience and qualifications acceptable to the Bank, will be hired for purposes of carrying out a semi-annual audit on subprojects executed under Component 2. The scope of this concurrent audit will comprise eligibility, financial and procurement aspects of the investment Sub-projects.

d. **Safeguards support**. The coordination that began during preparation will continue throughout Project implementation, especially to ensure that relevant safeguards concerns are included in the works financed under all components through due diligence from applications of the site-specific ESMPs, RPFs and IPPFs and effective mitigation measures. Supervision from the World Bank safeguard specialists will take place at least twice a year.

Table A1.1: Implementation Support Resource Estimates

Time (after Board Approval)	Activity	Skills Needed	Resource Estimates
Year 1[15]	- Baseline studies - Refine and finalize strategic studies and detailed plan for project activities. -Recruitment/reallocation of staff to initiate project's activities. - Initiate promotion and dissemination campaigns. - Refine market studies to identify promising value chains. - Refine the identification of business opportunities for possible alliances and technologies requirements. - Preparing ToRs for technical assistance and bidding documents for major processes (computerized systems, civil works, equipment of key MAG's agencies, etc.). - Negotiations and singing of Participation Agreements with related agencies and autarchic institutions in the agricultural sector. - Identify additional gaps in technical assistance and needs for additional institutional strengthening efforts.	-Project management -Agricultural, climate change, value chains. -Safeguards management -Fiduciary management -Monitoring and evaluation	- at least 2 yearly support missions, one with full Task Team -support from CMU office at the technical, safeguards and fiduciary aspects

[15] It is expected that the Congressional approval of the project would probably take a major part of the first year of the project. After signing the Loan Agreement, the project will be presented to Congress for ratification. Congress ratification is required to declare the project Effective. Based on recent experiences, the ratification process might take several months. Therefore, even though MAG plans to start some tasks during this period, full-fledged implementation cannot start until Effectiveness.

	- Planning of technical assistance campaigns to be carried out after effectiveness. - Design of calls for proposals to be done after effectiveness. - Design of office facilities rehabilitation or constructions - Carry out a diagnostic of the rural finance system to identify bottlenecks		
Year 2-5	- Full project implementation. -. Call for proposals, reception and assessment of proposals; - Proposals approvals and financing; - Implementation of subprojects; - Intensify Technical Assistance; -Social and environmental monitoring and management. -Fiduciary (FM review and supervision of procurement bidding documents /processes and consultant contracts) - Full implementation of Monitoring and evaluation system.	-Project management -Agricultural, climate change, water and sanitation expertise -Safeguards management -Fiduciary management - M&E	-2 yearly support missions, one with full Task Team -support from country office at the technical, safeguards and fiduciary levels
Year 6	-Completion of investment subprojects -Monitoring and evaluation -Final Evaluation and Reporting	-Project management -Technical quality -Monitoring and evaluation	-2 support missions, one with full Task Team

Table A1.2: Skill Mix Requirements

Skill Needs for Supervision	Origin	Estimated Staff Weeks
Task team leaders	Headquarters and country based	10 per year
Agricultural Technologies (smart practices)	Headquarters and country based	5 per year
Agri-business and marketing	Headquarters and country based	4 per year
Agricultural economists	Headquarters and country based	5 per year
FM specialist	CMU based	4 per year
Procurement specialist	CMU based	4 per year
Social specialist	CMU based	4 per year
Environmental specialist	Country Based	4 per year
M&E specialists	Headquarters/country based	6 per year
Operations analyst	Country based	6 per year
Lawyers	CMU based	4 for project lifecycle
Disbursement officers	Headquarters/country based	2 per year

Annex 2: DETAILED PROJECT DESCRIPTION

PARAGUAY
Market Access for Agricultural Products Project

A. Project Development Objective (PDO)

1. The objective is to enhance access to markets by Agricultural Producer Organizations and Indigenous Communities in selected parts of the Borrower's territory.

2. The PDO level indicators are as follow:
   (a) Increased gross value of sales (in real terms) by Beneficiary Organizations, disaggregated by Agricultural Producer Organizations and Indigenous Communities (Percentage).
   (b) Beneficiary Organizations that continue realizing sales at project closing, in accordance to their respective approved subproject. Disaggregated by Agricultural Producer Organizations and Indigenous Communities (Percentage).
   (c) Farmers directly benefiting as members of Beneficiary Organizations and participating in implementing investment subprojects (Number).
   (d) Farmers reached with agricultural assets or services (CRI); disaggregated by gender and ethnicity (Number).
   (e) Individuals directly benefitting from the Project; disaggregated by gender and ethnicity (Number).

B. Project Strategic Approach

3. The main approach for the proposed project is based on earlier successful experiences gathered from several Bank-supported operations, mainly in Latin America, using what is called the "Productive Alliances" model, adapted to the specific country's conditions, limitations and possibilities. This approach aims at improving access of small and medium-scale producers to markets, using the private sector as a vehicle to align producers with market demands in terms of quantity, quality, and timeliness of delivery, within a promising value chain where there are competitiveness advantages. The design of the main components of the project are based on the need for improving linkages between demand and supply of agricultural, livestock and forestry products, supporting technically feasible, financially profitable, economically viable, socially responsible and environmentally sustainable investment subprojects, through technical/managerial assistance and provision of a matching grant mechanism for encouraging investments and technology adoption leading to enhancing market access and achieve sustainable results.

4. **The Productive Alliance Model**[16]**.** Theoretically, the model involves four core partners: (i) a group of organized agricultural producers, structured in one or several organizations (adopting different legal standing and compositions, according to local legal framework) who have the potential to improve productivity and competitiveness for an enhanced market access; (ii) another group of partners or participating agents providing technical advice or financial support during implementation (including the public sector providing matching grants); (iii) a third type of partner (or group of partners) participating in the alliance providing services or inputs needed for the aggregation, handling, storage, processing (value adding) and marketing of the product (according to the product and the value chain characteristics); and (iv) the final buyer(s), who could be located either locally

[16] Based on "*Linking Farmers to Markets through Productive Alliances*, *An Assessment of the World Bank Experience in Latin America",* The World Bank, 2016."

or abroad. All these participating partners are connected through a business proposition (commonly called an "investment subproject"), which describes the capital and services needs of the producers and proposes improvements that would allow them to upgrade their production/processing capacities and skills to strengthen their linkage with the market, i.e. the buyer(s). The implementation of such a business proposition is formalized through a detailed investment proposal (the "Subproject") that is typically supported by core inputs and/or activities directed towards the specific needs of the alliance: productive investments, technical assistance for adopting new technologies and practices, and business development. For the selected subprojects, these core activities are normally financed through public grants provided by the Project, which are matched by beneficiary contributions and formalized by a legal agreement (the "Subproject Agreement") between all members of the alliance and the provider of the grant financing (the Project). Experience has showed that existence of significant motivations perceived by partners in the alliance, but most importantly between producers and buyers, have increased stability in prices, assured sales, as well as improvements in product quality and, hence, have resulted in increased revenues. The financial support provided to Productive Alliance subprojects by the public sector usually comes in the form of matching grants, which are justified by the positive externalities that are normally generated by the subproject and the rural smallholders do not have yet the capacity to access commercial finance.

5. The basic concept of the Productive Alliance approach has proven sufficiently flexible to adjust to a wide range of countries' characteristics, market realities and policy objectives, as well as to market opportunities and countries' economic conditions. By design, the Productive Alliance approach resolves multiple constraints in a simultaneous and tailored fashion by providing integrated solutions that are adapted to local conditions. In favorable enabling environments, Productive Alliance projects benefit from complementary support systems from public and private sector agents, encouraging a harmonization of public and private services in line with the overall Productive Alliance project's objectives of improving smallholder production and market integration.

6. **Implementation Experience.** The Productive Alliance approach was introduced during the early 2000s in Latin America. Since then, the World Bank has provided more than US$1.5 billion in financing to support projects adopting this approach in about fifteen countries across Latin America (the Productive Alliance model has also been introduced in countries in Bank-funded projects in other regions). This widespread adoption is based on increasing evidence suggesting that this approach can lead to increases in productivity, market integration, production, sales volume, value-addition, prices, and income of smallholder farmers, while generating on-farm and non-farm employment (improving the quality of jobs), as well as the effective inclusion of vulnerable groups in promising value chains.

7. Across the Latin America region, there are different variations of the Productive Alliance approach. They are distinguished in terms of their areas of emphasis, types of beneficiary producers, end-markets and formality of commercial agreements between producers and buyers. Similarly, Productive Alliance projects in Latin America have adopted a variety of targeting strategies regarding geographical coverage, agricultural value chains and types of target beneficiaries. Almost all projects have aimed to enhancing producers' access to commercial finance as a way for leveraging Productive Alliance subproject financing; however, these efforts have rarely been successful. The reasons for this are multiple and include, among others, low coverage of financial services in rural areas, lack of collateral from the smallholder producers, limited financial literacy among beneficiaries, regulatory issues that prevent financial institutions from making loans to groups of producers (as opposed to individuals), and perceived high risk in financial support to smallholders.

8. **Achievements in Productive Alliances Projects.** The positive results of Productive Alliances projects have mostly been evident in terms of: (i) scope and geographical coverage, (ii) social inclusion, (iii) socio-economic impacts, (iv) efficiency, and (v) sustainability. Two main examples of achievement corresponding to recent Productive Alliance operations are presented in the following boxes.

Box A2.1: BRAZIL: Sao Paulo Sustainable Rural Development and Access to Markets, 2010-2018.

- Some 13,505 family farmers and 3,117 beneficiaries in Traditional Communities (*quilombolas* and indigenous), comprising 271 organizations, were benefited by investments in 287 Business Initiatives and 87 Community Subprojects.
- Organizations in the Treatment Group (TG) increased their sales value in real terms due to project participation by 87 percent (eleven times higher than the target of 8 percent). The difference in annual sales between the target and the control groups was US$152,000 per organization or US$1,800 per family.
- The overall Economic Rate of Return was 40 percent based on a comparison “with” and “without” project and 28 percent based on differences between target and control groups.
- A total of 672 km of rural roads (102 percent of target) were rehabilitated and gained year-round usability following project interventions, and transit was improved through maintenance on another 605 km (64 percent of target).
- The Rural Environmental Cadaster in the State was improved by developing an integrated, multi-purpose, computerized information system. Some 339,127 family farm properties (100 percent of all such farms state-wide) were registered in the CAR by 2018, covering just under 6.0 million ha.
- The project mobilized around US$19.0 million of private beneficiary financing. It showed organizations’ perception of the opportunity to improve, therefore, their willingness to provide this amount of funds even during an economic crisis with heightened risk to qualify for approval.
- Training of beneficiaries and staff included: (i) 676 producer organizations trained in management and accounting (81.3 percent of target); (ii) 833 producer organizations trained in the operation of their business initiatives (136.7 percent of target); (iii) 1,230 *quilombolas* and 644 Indigenous people trained by the project; (iv) 1,078 rural producers trained (134.7 percent of target); and (v) 1,611 technical staff trained (145 percent of target).

Box A2.2: HONDURAS: Rural Competitiveness Project (COMRURAL), ongoing

- 123 productive alliances under implementation, directly benefitting about 7,200 beneficiaries (almost 30 percent female) with improved financial inclusion, technical capacity and market access.
- US$1 of project funding has leveraged US$1.50 from private financial partners.
- Average increase of 25 percent in gross sales of the rural producer organizations (end-target was 10 percent).
- 100 percent of rural producers’ organizations are still working successfully under an alliance 24 months after subproject implementation.
- 24 percent Increase in land and labor productivity by rural producers participating in the projec.
- 99 percent of rural producer organizations without a commercial loan in arrears.
- 83 percent of investments completed on schedule.
- 83 percent of investments identified in the subprojects have adopted good recommended environmental practices.
- 94 percent of subprojects successfully implement targeting youth and Indigenous Communities.
- An estimated US$14 million of private capital mobilized for co-financing subproject.

Rural Population

9. According to data from the 2012 National Population Census, Paraguay had a population of 6.8 million people, out of which approximately 2.6 million are rural inhabitants (about 38 percent). The table below provides a distribution of the national population according to categories of per capita income:

Table A2.1: Approximate distribution of total rural population based on income levels

	Number of people	Number of households
Extremely poor (under US$1.3 per day per capita or US$474.8 per year).	236,000	59,000
Poor (under US$2.7 per day per capita or US$986.2 per year).	955,000	239,000
Vulnerable (under US$13 per day per capita or US$4,748.25 per year).	700,000	175,000
Other (above US$13 per day per capita or US$4,748.25 per year).	700,000	175,000
Total rural inhabitants	**2,591,000**	**648,000**

Source: National Population Census 2012; Cited by Strategic Country Diagnostic, The World Bank.

10. **Productive Farming Units**. Data from the 2008 National Agricultural Census indicated that there were some 289,649 productive farms in Paraguay in that year, occupying a total area of 23.82 million hectares. Also, based on the Agricultural Census data, it is estimated that there were 271,700 farms with sizes up to 100 ha (representing about 93.8 percent of total number of productive units in the country).

11. Analyzing only the 14 Departments in the Eastern Region (also based on the latest Agricultural Census), the total number of farming units is 265,489 (91.6 percent of the national total), out of which about 253,486 (95.5 percent) are units with sizes below 100 ha. The distribution of these farming units below 100 ha of area, classified by department and farm size is shown in the following table.

Table A2.2: Distribution of Farms in the Eastern Region by Size (below 100 ha of area)

Department	N° of farms	Farm Size (in hectares)				
		1 to 5	5 to 10	10 to 20	20 to 50	50 to 100
Concepción	15,977	4.368	4.753	4.694	1.862	300
San Pedro	43,78	13.661	14.209	11.813	3.023	572
Cordillera	14,276	9.213	2.935	1.452	527	149
Guairá	15,897	8.793	3.556	2.441	931	176
Caaguazú	37,009	12.774	11.760	9.098	2.776	601
Caazapá	21,240	10.331	4.972	4.112	1.499	326
Itapúa	30,590	11.106	8.111	6.906	3.419	1.048
Misiones	7,994	4.088	1.595	1.306	724	281
Paraguarí	21,100	12.712	4.067	2.659	1.277	385
Alto Paraná	17,647	6.058	4.428	3.896	2.311	954
Central	3,876	2.925	572	231	101	47
Ñeembucú	6,488	2.021	1.042	1.449	1.365	611
Amambay	3,914	1.066	845	1.114	687	202
Canindeyú	14,200	1.964	3.273	6.407	1.973	583
Total	**253,486**	**101,080**	**66,118**	**57,578**	**22,475**	**6,235**

Source: based on National Agricultural Census; 2008.

12. Most of these farming units are organized in different types of legally-accepted forms of organizations, inter-alia: (i) less developed groups and associations, boards and communal fields, commissions and local producers' coordination groups, estimated to be 3,600 registered organizations (based on information from the MAG, although not up to date), with an average of about 30 members; (ii) Larger scale associations comprising

settlement associations, extended committees, fair trade associations, district communities, and associations of indigenous people, estimated to be around 300 associations ranking on average about 100 members; and (c) Cooperatives, estimated at around 80 organizations involving an average of about 60 members each one in Paraguay. These total number of organizations (around 4,000) comprise at least around 80 to 100 thousand individual farmers members. This group of organized farmers (less than 100 ha) constitutes the bulk of the units being potentially targeted by the Project (is spite of having additional organizations established of strengthened).

13. **Eligible Beneficiaries**. Given the nature of the project, it is expected it will mainly target two types of Beneficiary Organization:

a. **Agricultural Producer Organizations.** This are organizations of agricultural producers (farmers), where a substantial number of their members are willing to participate in a specific investment subproject. It is expected that the target individual farmers participating will have individual farming units with sizes below 100 ha in the Eastern Region of the Country. These are the project's main potential direct beneficiaries, involving an estimated population of above one million people (based on the average size of the family in rural areas). Of these rural households, the Project expects to benefit those who are engaged in agricultural production as the main activity and depend on income from on-farm production or processing. In addition, beneficiaries must have a minimum of physical resources and adequate skills to be available to prioritize income activities and manage their productive processes. It is expected that the bulk of participating farmers/members of these organizations will be falling into what MAG classifies as "Strengthened or Capitalized", meaning that are able to produce principally marketable items for income, have basic equipment and access to credit, they have secure land tenure and adequate management capacity, reach income levels above the rural minimum wage per capita, and are part of consolidated social organizations and they have access to permanent basic services. Their organizations could be of any legally accepted type, according to local legislation, allowing them to engage in productive commercial activities (with "*personería jurídica*").
b. **Indigenous Communities**. An additional category of beneficiaries is comprised of communities of indigenous people. According to the 2012 National Census of Indigenous Peoples, there are about 117,150 indigenous people in the country. They are distributed in 711 communities, 538 of which in the Eastern Region. Their livelihoods are developed in territories belonging to the community (formally titled and registered or in process), with production of subsistence items and eventually marketable income-generating products. These are groups of indigenous people members of groups with collective titles and engaged in collective productive activities (*Comités, Asociaciones de Base, Asociaciones de Mayor Escala, Precooperativas, Cooperativas*, etc.).

14. **Basic Criteria for selecting Agricultural Producer Organizations and Indigenous Communities.** For organizations and communities to be eligible to participate in an alliance receiving a matching grant under an approved subproject, they must meet the following main criteria (to be fully detailed in the POM):

a. The Agriculture Producer Organization must be formally recognized with at least twelve members, each representing different production units that operate as one private entity under the same household with productive and commercial functions, or collective use of land for productive purposes as in the case of Indigenous Communities.
b. The Indigenous Communities must have the legal possession of their lands, or proof of having initiated the procedures to title their lands before the INDI and INDERT (collective titling) and have legal status before the INDI.

c. The degree of maturity of the organization will have to be found acceptable by applying the methodology defined by the project to classify the organizations and assign the type of subproject (Organizational Maturity Index, included in the Operational Manual).
d. At least 70 percent of its participating individual members (each individual productive unit/farm) will have to meet the main following eligibility criteria [17]:
   i. For Agricultural Producer Organization (excluding Indigenous Communities), the total area under a single production unit (even with more than one production unit) must not exceed 100ha in the Eastern Region;
   ii. Agricultural producers must prove a minimum of physical resources available (such as land, tools and agricultural equipment) and human resources (experience in production and management) that allow them to participate effectively in agricultural activities in a profitable and sustainable way;
   iii. Individual farmers must have a secured land tenure ensuring motivation and commitment to investments that may mature in the medium-term. In the case of Indigenous Communities, the community must have access to land formally titled and registered, or in process of being titled under INDI's policies.
   iv. Must be registered in the National Registry of Beneficiaries (RENABE) created by Decree 2651 of 2014 or with a national identity card in the case of Indigenous communities.

Promising Value Chains and Estimated Demand

15. The Ministry of Agriculture has carried out an analysis of the most promising value chains for small producers. The selection of the main value chains identified as top priority in the short-run, was carried out by considering the following 9 features: (i) potential to benefit a large number of small producers; (ii) limited need for additional agricultural land; (iii) climate resilience; (iv) potentials for financial returns; (v) diversification of the cultivation period; (vi) technological requirements; (vii) perishability of the product; (viii) potential for local value added; (ix) local, national, and international demand. Such analysis identified the following 12 value chains, ranked in terms of decreasing potential: (i) vegetables (tomatoes, onions, potatoes, carrots, beets, peppers, lettuce); (ii) Aromatic and Medicinal Plants; (iii) fruits (citrus fruits, passion fruits, banana, pineapple, etc.); (iv) milk and milk products; (v) small animals (chicken, sheep); (vi) honey production; (vii) yerba mate; (viii) flowers; (ix) cattle; (x) grains (beans, corn, sesame, etc.); (xi) cassava; and (xii) organic sugar cane.

16. In addition, based on data from the National Census (2011), it is estimated that around 4,000 industrial and commercial private firms are currently engaged in the handling, storage, aggregation, processing and marketing of agricultural products in Paraguay. These firms are mainly concentrated in the processing of products in the selected value chains, either for the local as well as the foreign markets, where the main areas are: processing of milk for production of various dairy products (cheese, powder milk, yoghurt, etc.); cereal milling for flours and starches, as well as inputs to various other industries; horticulture and vegetables products for fresh consumption as well as canned foods; Yerba mate; fruits for preparation of dried food, juices, ice-cream, preserves and concentrates; beef and lamb for fresh local consumption and frozen for export; processing of oil crops for oils and meals; sugar cane processing for sugar and several other products; processing of crops for animal feeds; various forms of aggregation and wholesale of agricultural products, etc.

17. A group of 41 indicative models of subprojects for productive alliances in those 12 selected value chains, that could benefit different types of producers´ organizations in several departments, was been pre-identified, based on the real situation of the buyers´ demand levels and the capacity of known organizations. These

[17] In all these groups of potential beneficiaries, participation by women and youth (up to 30 years of age) will also be prioritized.

subprojects could, very conservatively, benefit around 805 existing organizations, with average investments per subproject ranging between US$30,000 and 500,000, depending on the value chain and the extent of the organization's needs. This would require a level of investment by the producers' organizations of around US$41 million (see table below). The exercise gave a reasonable level of assurance as to the existence level of demand for products and the interest in participating in the project. However, international experience on value chains shows that demand is directly dependent to the quality of implementation and the initial results of the program. If the project is able to build credibility during the initial phases of implementation, based on results on the ground, it will certainly increase interest and demand for investments.

Table A2.3: Classification of Main Value Chains.

	Indicator of potential[18]	Promising Value Chains	Main Features	Potential demand (US$ million)
1	25	Vegetables (tomatoes, onions, potatoes, carrots, beets, peppers, lettuce.	There is significant potential for collaboration in marketing and mainly for enhancing import substitution.	9.3
2	25	Aromatic and Medicinal Plants	Large variety of plants. For example: oregano, mint, cedron (*Aloysia citrodora*), burrito (*Aloysia polystachya*),	2.5
3	24	Fruits (citrus fruits, passion fruits, banana, pineapple, etc.)	Specific to some geographical areas, with large potential for exports.	7.8
4	24	Milk and milk products	Major potential to link small producers to processing industry, including large cooperatives such as Friesland (https://friesland.com.py/)	5.6
5	24	Small animals (chicken, sheep)	Significant local demand for chicken and eggs. Potential international markets for lamb and sheep	1.1
6	24	Honey	Significant local and overseas demand	1.1
7	22	Yerba Mate	Historically, Paraguay used to be a large exporter of Yerba Mate. Since global demand for energy drinks is growing, there is export potential (and some positive experience in PRODERS)	2.7
8	22	Flowers	Strong local demand and some potential for regional exports	1.3
9	20	Cattle	High potential at appropriate scale, as recent experience shows	0.7
10	19	Grains (beans, corn, sesame, etc.)	Mostly local markets, with some potential for exports (organic sesame)	5.5
11	19	Cassava	Mostly local markets, with some potential for exports to neighboring countries depending on exchange rate fluctuations. Cassava can be processed into starch and used in the food/beverage industry.	3.5
12	15	Organic Sugar Cane	Paraguay is the largest exporter in the world of organic sugar. Production is done by both large and small producers	0.6
TOTAL				**41.7**

[18] Each feature was rated from 1 (low) to 3 (high). The number results from the total addition for the 11 assessed features. Maximum is 11 x 3=33 while minimum is 11 x 1 = 11.

Private Sector Financial Services/Maximizing Finance for Development.

18. The implementation of investment subprojects under Component 2 assumes, in most cases, a cash counterpart contribution from beneficiaries to the total investment required by the subproject. This contribution from beneficiaries could come from their own funds or from resources borrowed from commercial sources. In addition to this contribution to the new investments, the subprojects to be financed will be typically complementing previous investments already done by these beneficiaries. The cooperative sector in Paraguay is fairly strong (mainly the largest cooperatives and with commercial linkages to markets) and it has traditionally been using commercial credit sources frequently; therefore, the project is building on their experience in accessing these sources and on the investments already carried out or to be done in the future. Overall, there appear to be ample opportunities to strengthen the linkages with the financial sector and maximizing the user of available resources within the country.

19. It has become evident that current levels of investment in the agricultural sector are not sufficient to address rural poverty, increase production, reach the markets, and manage climate risks. Recent surveys show that only about 30 percent of SMEs have access to commercial credit, compared with 44.5 percent for the entire Latin America region. There are several constraints that have prevented a more substantive participation of commercial sources of financing, which, if removed, might contribute to increase private investment. The main obstacles for small and medium size farmers, are: (i) unequal levels of profitability; (ii) unsecure land tenure (significant proportion of farmers without land titles and facing difficulties in obtaining one); (iii) limited availability of collateral, mainly because of legal limitations for using other forms of capital (mobile goods) as collateral, rather than only land; (iv) low levels of financial literacy and credit background; (v) common perception in the financial sector that agricultural is too risky and returns are uncertain; (vi) small farm size and low level of organization; (vii) limited experience of the financial sector in lending to organizations/cooperatives (only the largest and strongest cooperatives have received credit consistently); (viii) financial intermediaries normally lend at short-term (due to the structure of their resources) and are extremely reluctant to lend for medium- and long-term investments, which is the key demand from the sector. Private banks's lending portfolios focus mainly on large commercial farmers and, on the other hand, there are public institutions that can serve smaller farms, but with mixed results (*Banco Nacional de Fomento*-BNF; *Crédito Agrícola de Habilitación*- CAH; and *Fondo Ganadero*).

20. There are three main ongoing reforms to the legal framework, already proposed by GoP, that would be highly important for the agricultural sector, mainly for the segment of SMEs: (i) regulate the use of movable goods to enable their use as credit guarantees; (ii) legal framework regulating insolvency of private firms; and (iii) the establishment of a national registry for private firms, regulating the basic requirements needed in accordance with the Commercial Code. In addition, there are several mechanisms to be put in place under the project to contribute to an increased use of financial resources: (i) The project will finance a study (by private consultants) to identify the constraints and limitations to expand financial services to small and medium-sized farmers and their organizations, as well to propose solutions including improving policy and regulatory framework; (ii) based on the results of the studies previously mentioned, the project also intends to promote public-private sector dialogue to decide on the key actions to be supported for leveraging private sector engagement in rural sector finance; (iii) to invite financial institutions to be part of the review of the subproject proposals submitted for review by potential beneficiaries. This mechanism will stimulate the access to financial services that can provide funds for subproject implementation and/or continue supporting the alliances once the externally-funded project ends; and (iv) as part of the strengthening of beneficiaries organizations, an important areas would be focusing on increasing financial literacy of members and managers, to try to contribute to bridge the gap and promote better access to existing financial services. By doing so, these institutions will have a better understanding of type

of organizations presenting these proposals and the investments proposed. This would allow them to provide comments and suggestions from the financial point of view, which would enrich the proposals, making them more attractive as potential clients of the financial institutions.

Project Components

21. The project will contribute to creating long-term economic opportunities principally for the small and medium sized farmers and Indigenous Communities by applying a three-fold approach: (i) supporting farmers' organizations development via training and capacity building; (ii) institutional strengthening of public sector institutions for improving delivery of agricultural key services; and (iii) supporting investment subprojects focused on improving access to markets, based on increasing competitiveness and improved climate change resiliency. In the short and medium term, the project will put into operation an inclusive agribusiness model based on productive alliances to be formed between producers' organizations, aggregators, agribusinesses and buyers. Beneficiary Organizations and their members will enhance their income-generating capacity by becoming more engaged in business activities, in close coordination with the final buyers and able to respond more effectively to market changes, while incorporating more climate resilient technologies and approaches. In the long term the project will spark the creation of both on-farm and off-farms jobs and strengthen sectoral resilience, while contributing more significantly to creation of human capital and fostering economic development.[19]

22. Climate-smart approaches and investments directly supporting efficiency, adaptation and climate change adaptation and mitigation will be prioritized under all project components and activities**.** The selection of subprojects proposals for funding under the financing mechanisms (Component 2) will give priority to the ones that include climate-smart approaches appropriate to the type of beneficiary under each of the four windows. At the same time, other investments (public or private) that include the incorporation of new technologies and approaches for enhancing resilience will be promoted and given priority (e.g., technical specifications for roads and bridges, irrigation schemes, buildings and storage infrastructures; See Table A2. 8).

Component 1: Capacity Building and Institutional Strengthening (Total Cost US$38.37 million; IBRD loan US$33.38 million; GoP Counterpart US$4.99 million).

23. **Subcomponent 1.1: Capacity building of Agricultural Producer Organizations and Indigenous Communities (Total Cost US$22.11 million; IBRD loan US$20.12 million; GoP Counterpart US$1.99 million).** This subcomponent will address the need to build both human capital of targeted Agricultural Producer Organizations and Indigenous Communities designed to address critical factors to facilitate effective access to markets and sustainable integration with formal and lucrative value chains and providing support for preparation of investment subproject proposals. The main goal of this subcomponent is to help remove barriers that prevent potential beneficiaries, in particular organizations of farmers and communities of indigenous peoples, from taking advantage of investment opportunities. It will comprise financing for technical assistance, training and capacity building of beneficiaries and their organizations, as well as services for facilitating to complementary services (financial, specialized technical assistance, inputs, certification services, etc.). Assistance will cover areas such as

[19] Linking producers to markets and strengthening value chains that lead to production intensification will result in increased demand for both skilled and unskilled labor. Productive-alliance projects have traditionally been effective in creating jobs linked to service providers and processors along value chains. Vulnerable rural inhabitants can profit from successful agribusiness in labor-intensive value chains such as the horticulture sector. For instance, the Second Rural Productive Partnerships Project in Colombia created more than 10,000 new jobs —14 full-time jobs on average for each alliance, essentially unskilled labor; and the Rural Alliance Project in Bolivia created more than 1,000 advisory jobs to dairy farmers, as part of its spillover effects.

legal issues during the formalization of land titles in Indigenous Communities or pending formal registration of the organization, technical and operational know-how around select value chains, as well as management capabilities, such as financial literacy, with an emphasis on understanding barriers to credit access notably for women and women's organizations; creating and administering revolving funds; and monitoring and assessing results of investments.

24. In summary, this subcomponent will:

(a) Finance basic studies and activities supporting the identification and definition of promising value chains, as well as the technologies and practices required to comply with market demands, including an increased resiliency to climate change. These will include:
- Sectoral studies to identify value chains where the country/sector have competitiveness and to identify demand that could be satisfied by producers' organizations;
- Review of constraints and limitations perceived by these groups of beneficiaries (definition of the profile of the target audience) and their needs for technical assistance to adopt new technologies;
- Evaluation of the credit profile of key typologies of potential beneficiaries in selected chains (demand) and of the appropriate financial products existing in the market (supply) and elaboration of recommendations to improve the access to commercial credit services;
- Financing of specific actions supporting the structuring of productive value chains (certifications, brands, registrations, cooperation with SENAVE, SENACSA, IPTA, etc.);
- Carry out promotion campaigns for brand and product developed and certification (in collaboration with other institutions and beneficiaries);
- In case of Indigenous Communities, where young people need more training and inclusion opportunities to be able to actively participate in group's decisions, the project will develop and implement courses for young agricultural technicians in key areas for beneficiary communities (for example: improvement and quality control and yerba mate markets, opportunities for differentiation of honey produced in indigenous lands, etc.).

(b) Provide technical assistance and training to organizations of potential beneficiaries, in order to increase their level of understanding and preparedness for the identification and preparation of potential profitable and climate resilient investment subprojects, which will include:
- Support the project's communication strategy to disseminate the project approach and mechanisms for implementation among potential beneficiaries;
- Identify: possible competitiveness and market opportunities, value chains and business opportunities, technologies and climate smart practices appropriate to their situation and target market;
- Assistance to identify and form productive alliances;
- Improve organizations' practical marketing knowledge;
- Strengthen knowledge of and access to climate risk management approaches and smart agricultural practices;
- Provide financial education and help manage financing of productive projects;
- Strengthening capacities for technical and financial administration of subprojects;
- Provision of Scholarships to members of beneficiary organizations, in technical and vocational educational institutes, to broader their skills to manage modern and climate smart productive technologies as well in business management and administration;
- Provision of services to evaluate the feasibility of investments;
- Identify ways to improve the productive processes of small producers and their organizations to comply with market requirements;

- Strengthen organizational arrangements for the formalization of small producers' organizations and the formation of alliances with agents and buyers; and
- Increase the administrative and negotiation capacities of small producers' organizations.
- In coordination with the INDI, the regularization and titling process of Indigenous Communities' lands in areas of the project, in cases of lands already assigned to these communities and in the absence of any conflict.

(c) Disseminate information about the procedures to be established under the project and provide continued technical assistance to beneficiaries for the preparation of final investment subproject proposals. This would include:

- Disseminate compliance requirements according to the eligibility criteria for beneficiaries.
- Socialize the support offered by the project to the beneficiaries and report the administrative and legal procedures for the formalization of the alliances.
- Publicize the monitoring, evaluation and supervision systems that will be carried out to strengthen the beneficiaries' capacities.
- Report on the beneficiaries' responsibilities and the participatory mechanisms established, as well as the administrative management and accountability systems for monitoring the use of resources.
- Mechanisms to be established to monitor and disclose the progress of the project, its achievements and its difficulties, in such a way that the beneficiaries and participants are informed; and
- Assistance and guidance for the preparation of Expressions of Interest and detailed investment subproject proposals to be submitted for financing.

25. **Subcomponent 1.2: Public Sector Institutional Strengthening (Total Cost US$16.26 million; IBRD loan US$13.26 million; GoP Counterpart US$3.0 million).** This subcomponent will focus on strengthening the institutions and systems of public sector agencies (mainly in the orbit of the Ministry of Agriculture) that are pivotal to promoting access to markets, including a risk management and sustainability perspective as well as a gender angle. By doing so, the project will contribute to creating an environment conducive for improving partnerships between organized producers and firms, as well as supporting the implementation of the subprojects and enhancing business climate in the country. MAG and its dependent institutions need to improve their ability to support productive integration in strategic value chains, as well as finding ways to introduce and disseminate new technologies and practices to increase resilience to climate change. For instance, studies and technical assistance will be undertaken to identify key constraints as well as policy and systems reforms and financing requirements to enhance Paraguay's capabilities in terms of strengthened traceability systems and food quality governance for select (prioritized) value chains. Attention will also be paid to improving the capabilities of MAG to provide the sector with updated risk-related information and services that mitigate and/or transfer risk. This includes existing climate information services, forecast models, and weather insurance. Support to the generation and dissemination of new agricultural technologies and practices to increase competitiveness and enhance resiliency to climate change will receive priority, as a mechanism to ensure long-term sustainability of the subprojects. In addition, it includes the provision of scholarships to government's staff to carry out graduate and post-graduate studies in institutions and universities to increase their knowledge in modern and climate smart productive technologies and business administration.

26. In summary, the subcomponent will include strengthening to the following institutions:

(a) Strengthening the DGP through technical assistance, training and the establishment of a monitoring and supervision system and an integrated management system (management by results).

(b) Capacity building of DEAg, by provision of technical assistance and training, as well as equipment, vehicles and incremental operational costs to allow DEAg's staff to increase its presence in the Project areas and provide effective extension services and technical assistance to beneficiaries;
(c) Capacity building of MAG's Marketing Directorate (*Dirección de Comercialización*) to be able to provide market intelligence and a continued support to the productive alliances to be implemented;
(d) Capacity building of MAG's Risk Management Unit (Unidad de Gestión de Riesgo – UGR), to strengthen the agrometeorological systems and to develop and generate risk management tools;
(e) Strengthening of the DINCAP, based on lessons learned from PRODERS to enhance its efficiency in project coordination, administration and management, supervision and ongoing evaluation. A new computerized monitoring system will be developed and operated by DINCAP to improve project information in real time;
(f) Office construction or rehabilitation when existing facilities are not suitable;
(g) In addition, an interconnectivity system will be designed and implemented to improve data collection, analysis and processing and, more importantly, continue sharing of information among governmental agencies in the rural sector (within and outside MAG)

27. **Agricultural Extension Directorate (DEAg) of MAG.** DEAg needs to be strengthened for responding more effectively to the current technical assistance needs of the sector. For this purpose, its internal structure, profile of its technicians, its staff training program, as well as its evaluation structure and incentives for good performance must be improved. The summary of the main aspect to be considered is the following:

(a) Diagnosis of the profile of technical staff, existing equipment and the strategy of operation of the institution (objective, target audience, services, processes);
(b) Review/updating of hiring procedures, career progression rules, flowchart of procedures and functions, continuous training and evaluation of personnel performance;
(c) Curricula and / or protocols of the services to be offered by the DEAg (considering functions shared with other national institutions and with the private sector), work tools and evaluation tools (including ICT);
(d) Support / Training for the application of procedures to officials/staff of the central level, territories and customers;
(e) Support/Training for the implementation of the curricula/protocols and the services to be offered;
(f) Identification of needs and design of improvements to the information system of the DEAg (which should integrate the new MAG system);
(g) Professional training with emphasis on preparation for project support and scholarships in graduate and post-graduate institutions and universities to increase their knowledge in modern and climate smart productive technologies;
(h) Retrofit CDAs and technicians in departments of the key performance area.
(i) Improvement of facilities, computer equipment, office and vehicles, computer platform (fiber optic, servers, etc.

28. **Directorate of Commercialization (DC: *Dirección de Comercialización*) of MAG.** It is necessary to evaluate the demand for their services and propose adjustments to its area of coverage, strategy and form of action. Its services should give priority the actions of government and increase the value addition and inclusion in selected production chains. The key services are information on production and price forecasts, but also analysis of market inefficiencies. For example, how the lack of traceability prevents the differentiation (and adding a competitive advantage) of domestic products from imported ones. Consequently, the main initial activities could be:

(a) Demand assessment consultancy and proposal of a new information system.
(b) Technicians trained in the design of market information systems.
(c) New information system and respective manual of functions of personnel in use.

29. **National Institute of Indigenous Peoples (INDI:** *Instituto Nacional del Indígena*). The project will support INDI to improve the opportunities for productive inclusion of the Indigenous Communities, as well as to support these communities and their members in the formalization of the possession of the land and civil registration (identification, birth registration, etc.). The project will finance consulting services for carrying out an institutional diagnosis of the INDI in terms of the definition of its mandate, functions and form of coordination with other instances of government that act or influence the development of indigenous lands and to define the needs in terms of information management systems that corresponds to the needs identified. In addition, the project will also finance the participation of the INDI in consultations with Indigenous Communities to formulate their community plans and subprojects, as well as to develop a system of complaints and questioning for the beneficiaries of the subcomponent 2 (b) supporting Indigenous Communities' investment subprojects.

Component 2: Enhancing Market Access through Productive Alliances (Total cost US$61.22 million; IBRD loan US$57.1 million; Beneficiaries' Counterpart Funding US$4.12 million).

30. The objective of this component is to promote the development of organizations of small and medium-sized agricultural producers and Indigenous Communities participating in "Productive Alliances". These Alliances will operate competitively in selected value chains, with strengthened and more reliable linkages with buyers and markets and increased capacity to manage climate risks.

31. This component will finance consulting and non-consulting services, goods, works, and operating costs (through matching grants) for demand-driven and competitively selected community/agriculture subprojects implemented by selected alliances to increase their production and to capture and/or increase their market share and level of profits. Financed activities will support the implementation of competitive and climate-resilient investment subprojects for business investments and ventures established by Beneficiary Organizations, agents and buyers. In addition, the project will stimulate the access to financial services (though studies to identify constraints, training on financial literacy and inviting financial institutions to participate in subproject assessments) that can provide funds for subproject implementation and/or continue supporting the alliances once the externally-funded project ends. To narrow the gender gap regarding access to credit for women, the project will include tailored training for women and provide additional support for women-led businesses. Similar attention will also be paid to youth participation.

32. The basic approach is to promote collective actions, with the aim of gaining economies of scale, enhancing bargaining power, facilitating knowledge sharing, and reducing costs of production and service delivery. The activities included in these subprojects could comprise eligible works, goods, and services required by different partners participating in the subproject to achieve measurable targets in terms of product/service specifications (such as quality, quantity, and delivery conditions) agreed with their respective prospective buyer or customers, within the framework of a joint business plan. Each subproject will be required to be supported by a marketing agreement between the supplying producers' organizations, the other partners participating in the alliance and the final buyer (details and guidelines to be included in the POM).

33. **Call for Proposals**. In order to improve sustainability, the selection of beneficiaries should take into consideration their productive potential, level of organization and beneficiaries' commitment. The project implementation strategy will include carrying out open and widely disseminated "Calls for Proposals", either at national or regional levels, requesting prospective Beneficiary Organizations to present their proposals demonstrating their commitment and competitive advantages to be selected as beneficiaries. For the

competitively selected subprojects, investment support will be granted for the implementation of the approved investment subprojects. Clear beneficiary profiles and categories, as well as the criteria and process for selection will be elaborated and detailed in the POM. Key priority groups will be the organizations benefitting under Component 1 in terms of capacity building and technical assistance who would be better placed to apply for investments under Component 2. Different levels of counterpart contribution will be established based on categories of beneficiaries (also included in the POM).

34. The public call for proposals will specify the eligibility and selection criteria to be applied for that particular call, including, among others: (i) territory covered and priority value chains (if specific value chains are targeted); (ii) Beneficiary Organizations targeted and windows of financing to be used; (iii) particular targeted beneficiaries (participation of women and youth); (iv) adoption of climate risk mitigation practices and technologies to be adopted to increase resilience and reducing greenhouse gas emissions; (v) amounts to be considered for cost of subproject and counterpart contributions; (vi) the process to be followed for receiving, evaluating, selecting and executing the proposals. Each public call for proposals will define the criteria that can classify a subproject as being innovative (criteria for adopting new risk and climate management practices or emission mitigation should be considered). Innovative subprojects have to meet the same criteria as the rest, but they will compete in a special window (separate quota).

35. This component will directly contribute to the national priorities for climate change adaptation and mitigation. Under the framework of climate smart agriculture, the project will provide enhanced access to relevant approaches for increased efficiency, resilience and GHG mitigation. Examples of these approaches are: risk reduction technologies and practices, based on improved services (information systems, financing, technical assistance, advanced weather forecast, risk management mechanisms, etc.); sustainable land management (including sustainable forest management and agro-silvo-pastoral systems); increased use of greenhouse production of high value crops (with controlled environment and high efficient application of water and fertilizers/agrochemicals); carbon sequestration from afforestation and/or restauration of degraded areas and the transition from set aside or degraded lands to perennials (agro-forestry, orchards, gardens, tree crops, leguminous species, etc.); and through low carbon technologies and related emissions' reduction practices. The climate vulnerability analysis is the basis for the initial identification of climate smart technologies and practices that will be supported by the project. The supported Climate Smart practices will be further detailed in the POM (see examples in Table A2.8).

36. **Selection of subproject proposals to be financed**. Final selection of investment subprojects will be carried out based on the responses to calls for proposals, which will contain specific instructions for each "windows", in order to handle the proposals without competing between different types of beneficiaries and with attention to their specific needs. The public call for proposal will be divided in two phases: (i) ***first***, a public call for expressions of interest will be made, through a public notice; (ii) ***second***, after the selection of the expressions of interest showing higher potential, selected proponents will be asked to submit a detailed investment subproject proposal. Several calls for proposals are expected during the project life, and each call will be adjusted based on the experience of the previous calls.

37. **Review of Subproject Proposals.** MAG, through DINCAP, will set up a **Technical Review Committee (TRC)** to review and assess the expressions of interest and investment subproject proposals, giving them relative scores in support of the final selection on a competitive basis, and advise DINCAP on the final selection. The TRC will be formed by representative of key relevant agencies and will also comprise specialists and experts on various topics (either from other governmental institutions/agencies, academia or independent consultants hired for this

purpose) to permanently contribute to the evaluation and selection process. The TRC will also have funds available to hire specific consultants to obtain additional technical expertise to be able to address an issue arising on a particular value chain or when a particular subproject proposal contains a technology not widely known and requiring very special technical qualifications. The implementation flow for productive investment Subprojects is presented below and in Figure A2.6 (further details will be defined in the POM).

38. **Subproject Cycle**. The main steps to be followed for the selection of subprojects to be financed will be the following (see Figure A2.7 and to be further complemented in detail in the POM):

(a) **Preparation of Call for Expressions of Interest.** The first step will be to request of expression of interest from prospective beneficiaries interested in participating in alliances under the project. The TRC will review Terms of Reference will to set up the eligibility criteria, defining clear requirements and a negative list of non-eligible activities that cause significant environmental impacts (among others) to be agreed as minimum eligibility and selection criteria in the POM. Each call for proposal could be targeting specific regions, value chains or different groups of intended beneficiaries. The TRC will prepare the text of the Call and guide in the implementation of all the activities leading to the final selection of subprojects to be financed.

(b) **Support for the preparation of the Expressions of Interest by potential beneficiaries.** After the announcement of the call for expression of interest, the interested organizations can seek support from the project's field technical assistance staff for the preparation and elaboration of their EI, either from DEAg or private consultants hired.

(c) **Reception and review of the Expressions of Interest by DINCAP**. The TRC will review the expression of interest presented as result of the Call for Proposal against the terms of the call for proposals. Once these have been reviewed, the results will be communicated to all institutions that were directly involved or targeted in the initial communication events, as well as widely disseminated to increase transparency.

(d) **Subproject preparation.** Once their EIs have been approved, the potential beneficiary organizations could benefit from project-financed technical assistance services (either public or private sources financed by the project). The technical assistance agents will first conduct a diagnosis of the situation: (i) characterization of primary production potentials and market opportunities, (ii) entrepreneurship and organization's management capacity, (iii) existing market outlets, etc. The diagnosis will be used as a tool to inform the preparation of subproject proposals. During this process the rationale and the feasibility of the proposal presented, as well as the compliance with the eligibility criteria and consistency with the negative list of activities, must be verified and the necessary improvements agreed with the proponents.

(e) **Reception and review of Investment Subproject proposals**. Subproject proposals will be received by DINCAP, where the TRC, integrated with professionals with the necessary skills for technical, economic, social and environmental assessment of proposals, will review and analyze them. The members of the TRC will be trained on methodologies for assessment, in accordance with project guidelines and the specific criteria for selection. A detailed system for evaluating subproject proposals will be included in the Project Operational Manual (POM).

(f) **Approval and signature of Subproject Agreements (Matching Grants).** For each subproject approved, a formal contract, the "Subproject Agreement": will be signed between DINCAP and the representatives of the Beneficiary Organizations and other partners in the alliance. This includes all technical, financial and managerial details, together with a procurement plan, financial management arrangements, and a safeguard management program (environmental and social).

(g) **Financing and Implementation**. Subprojects will be implemented by the Beneficiary Organizations supported by other partners in the alliance under community procurement and commercial practice rules. DINCAP will ensure implementation support and close monitoring during the investment phase and one year after completion, either directly or by using another participating agency or private sector consultants hired by the Project. Alternatively, the subproject financing could include funds for the beneficiaries to hire their own technical assistance during implementation. The implementation process will be closely monitored by DINCAP, to provide support and assistance, but also to collect valuable data for the impact evaluation. Exceptionally, DINCAP, through the PMU, may carry out centralized procurement of goods, works and/or services to consolidate the demand from two or more investment subprojects or for complex procurement processes.

(h) **Disbursement of funds to Beneficiary Organizations.** The funds will be disbursed directly to the organizations and other members of the alliance in accordance with the specifications and investment plans included in the Subproject Agreement, with the exception of when a centralized procurement by the PMU is undertaken. Beneficiaries will receive technical and managerial advice regarding the administrative procedures regarding the reception, use and accountability of the financial received form the project. These administrative procedures will be detailed in the POM.

(i) **Assurance of technical, financial and environmental accountability**. DINCAP will also perform (directly or through consultants/technical auditors) verification of compliance of all financial transactions and respective statements against project guidelines; verification of work and equipment purchase and installation according to technical specifications in the corresponding Subproject Agreement, as well as checking the implementation of environmental mitigation measures and issuance of environmental licenses.

(j) **Monitoring and reporting of key indicators.** Every six months after subproject inception, the beneficiaries' groups and entities must systematically report on technical issues, financial management and business performance to DINCAP, as well as monitoring implementation of environmental safeguards. The project will develop a monitoring dashboard for subprojects with indicators to be defined in the POM.

(k) **Evaluation.** Each Subproject will be evaluated to assess whether it achieved its own objectives, to measure its contribution to expected overall project results, and to assess compliance with environmental safeguards and conditionalities established at the environmental licensing. An impact evaluation will be conducted on a sample of subprojects after their completion.

39. The procedures for the evaluation and scoring of the expressions of interest and the final Subproject proposals will be detailed in the POM (building on the experience from PRODERS as well as other projects in the country) and adjusted for each call for proposals. Selection criteria must include, among others: (i) technical, economic and environmental feasibility; (ii) alignment with set priority value-chain development (competitiveness); (iii) number of participant family farmers and special groups of interest; (iv)adoption of best agricultural practices in soil and water management; (v) proposed adoption of smart agricultural practices and climate chance mitigation and adaptation (increasing resiliency to climate change); (vi) environmental sustainability (reduced negative impact, recovery of degraded areas, environmental suitability of proposed solutions) and enhanced natural resources management; (vii) compatibility with project objectives and integration with other related initiatives in the state; and (viii) participation of young people and women.

40. All proposals, regardless of their specificities, should provide solid feasibility arguments concerning a number of aspects: (i) the market demand for the supported products; (ii) the supply (volume, quality and pattern or timing) of raw materials; (iii) technical, financial and environmental feasibility; (iv) organizational and

administrative capacity of the proponent organizations; (v) proposed logistics and marketing strategy; (vi) technical specifications and detailed for required works and equipment; (vii) compliance with environmental safeguards and specific measures to prevent or minimize environmental impacts; (viii) management and operations plans; (ix) financial management and accounting/transparency rules; and (x) the availability of water and description of water source (for investments comprising irrigation). The subproject proposal will follow a template (to be elaborated and included in the POM) that will comprise the main elements for a full assessment of its technical feasibility, financial viability and economic profitability.

41. As key elements of these subprojects, the adoption of technologies and climate smart practices contributing to enhancing climate resilience and the expected adoption of these technologies will be prioritized when assessing the proposals for selection of the ones to be financed. In addition, this component will contribute to the project's net carbon balance through: sequestration from afforestation and/or restoration of degraded areas and the transition from degraded lands to perennials (agro-forestry, orchards, gardens, tree crops, etc.); and through emission reductions from improved management of agro-forestry, livestock and improved cropping systems.

42. **Climate Change and Enhancing Resilience**. Climate-smart approaches and practices will be promoted to support resilience under all aspects of Component 2 and for all four windows (Table A2.8). Some of the main examples are:

(a) Soil and water conservation management practices, including recuperation of degraded areas, restoration and management of river banks, reforestation and promotion of agro-forestry and agro-silvo-pastoral systems.
(b) Crop rotation, pasture management, and fodder production.
(c) Improved livestock management (health, genetics, feeding).
(d) Improved water harvesting and storage in ponds.
(e) On-farm drip and sprinkler irrigation technologies.
(f) Promotion of precision irrigation systems in greenhouses with controlled environment (micro-irrigation, precision fertilization, etc.).
(g) Low-cost, energy-efficient water pumping systems (including solar), based on improved knowledge and management capacities of water resources (considering environmental and water catchment regulatory/planning instruments available in the areas of intervention).
(h) Biodigesters (with livestock manure) for renewable energy.
(i) Energy-efficient agro-logistics infrastructure such as (cold) storage, transportation, handling, and processing facilities.

Types of Investment Subprojects

43. For the implementation of this Component 2, the Project will establish the following four separate mechanisms, or "windows", for disbursing funds to four "subproject types" designed to provide support to different groups of targeted beneficiaries by paying attention to their specific characteristics and needs.

44. **Window A: Agricultural Producer Organizations for Agri-businesses Development.** This window, which is intended to be the one with larger target population and with the largest proportion of resources allocated, will provide matching grants to co-finance the implementation of technically feasible, financially viable, economically profitable, socially responsible, climate resilient and environmentally sustainable investment subprojects, which will help producing a consistent and timely supply of significant quantities of quality produce to buyers, while helping to provide a reliable income to allied producers' organizations and other participating partners. The

implementation of these investment subprojects will make possible sustainable increases in productivity and improvements in quality of the products offered, as well as reducing dependency on climatic factors and decreasing vulnerability to climate variability. These investment subprojects will be formulated and presented together by potential farmers' organizations and their allied partners (potentially including other partners, such as aggregators, processors, technical service providers, lenders and final buyers) with technical support under the component to ensure consistency in the methodology applied and high quality in the proposals. Investment subprojects will qualify for project support (matching grants) on a competitive basis and could include activities to be implemented by any of the partners in the Alliance, as well as investments and operational expenditures, training, TA, and the development of managerial skills. The component directly addresses the following main binding constraints:

(a) Limited aggregation of smallholder producers and lack of coordination among stakeholders along the various value chains. This bottleneck would be overcome by developing aggregation schemes and improve their backward linkages (farmers' production, input providers) as well as their forward linkages (to markets), while assuring compliance with quality and food safety standards;
(b) Low productivity and limited market integration. This would be addressed by promoting adoption of new technologies and new business approaches to agricultural production (including organizational and managerial development, post-harvest handling, marketing support and value adding alternatives, as well as climate smart practices). The incorporation of IT technologies and approaches to the management of these organizations would contribute to attract more youth to take up modern forms of farming and broadening their horizons by linking them to broader markets; and
(c) High exposure and sensitivity to climatic change and weather hazards due to a limited access to climate risk management approaches and climate resilience enhancement technologies.

45. **Window B: Agricultural Producer Organizations for Agri-businesses Development and with Innovative Technologies.** This window will provide assistance and investment to producers' organizations in partnerships with public or private institutions similar to Window A, but more specifically to the alliances proposing to carry out investment subprojects that aim to pilot, disseminate and adopt more innovative and not widely-known technologies, to develop new processing technologies for new product development or for value adding (e.g., agro-food logistics and technologies, food safety requirements and quality standards, and exploratory pilot supplies of products to new overseas markets), information and communication technologies, new (green) business models and potential integration into regional market agreements, as well as innovations in strengthening resiliency to climate change. These investments seek to stimulate the sector to go beyond traditional agricultural schemes and introduce new products, concepts and activities that can translate into better access to lucrative markets and higher economic benefits in the medium term. Alliances supported under this window will be exposed to a relatively higher level of risk, due to their innovative approaches, and thus eligible to an additional support to expand the adoption of technologies. In order to making these initiatives more attractive (given a potentially higher risk), the Project will provide an additional level of financing support (a "bonus" financing).

46. **Window C: Organizations of Agricultural Family Producers.** The main objective of this window is to support selected organizations of relatively more vulnerable groups, mainly formed by small family farmers which may not be fully ready for a full-fledged alliance capable of reaching highly demanding markets. Therefore, their target will include activities for increasing food security and income generation through improved productivity, greater efficiency in water use, and increased resiliency to climate change. This type of subproject will finance: (i) technical assistance, capacity-building activities and preparation of development plans; and (ii) the provision of matching grants to these vulnerable groups for carrying out selected development plans ("subprojects"). These subprojects should be based on best available practices and sustainable systems and seek to increase productivity, rationale

water use; reuse practices and increase resilience to climate change. The window will also pay special attention to increasing the capacity to manage potential impacts of climate change to agro-ecosystems, by promoting technologies and agricultural and resource management practices that have demonstrated highest effects on farm suitability and effectiveness in rural areas and are well adapted to agro-climatic conditions in the country. Even though enhancing market access will be a goal since the beginning, their linkages to markets may be not so close or the markets accessed may not be as strict and sophisticated as in the rest of the windows. However, the longer-term objective is to help them to strengthen and develop as to become capable to participate in a full-fledge productive alliance in the future.

47. These subprojects will determine the investments needed either on-farm or off-farm as collective assets, as well as the technical or administrative assistance. Beneficiaries will be encouraged to incorporate climate risk management practices, such as small-scale water harvesting and irrigation schemes, soil management or other improved on- and off-farm practices into their subprojects, and adopt technologies that, besides boosting yields, are climate-smart and environmentally sound to enhance their resilience to natural disasters and climate change.

48. **Window D: Indigenous Communities.** This window for investment subprojects will be targeted to Indigenous Communities to be able to pay attention to their cultural characteristics and traditions, as well as to their special needs derived from economic, social, environmental or logistic issues. Due to cultural considerations, Indigenous Communities have different ways to structure their investment plans, in terms of land ownership, ways of managing land and productive assets, distribution of benefits, structure of management systems and handling of conflicts, specific training and capacity building requirements, education issues among its membership, as well as special demands in terms of food security and social issues.

49. Normally, the most urgent needs expressed by these communities is reaching food security and achieve a basic standard of living satisfying their needs in terms of security of land tenure, housing, and access to water, sanitation and education, as well as long-term preservation of their natural resources, therefore, requiring higher resiliency to climate change to minimize the risks associated with severe weather events. Once these needs are satisfied, the production of production surpluses for the market and increasing incomes come next. Therefore, the configuration of the subprojects should be more flexible and its contents more comprehensive, accepting the notion that not necessarily all proposals may be able to reach the goals of establishing a true productive alliance and achieving a sustainable linkage to a formal market. At the same time, the selection criteria should be adapted to this type of subproject.

50. **Summary of Beneficiaries under Component 2.** The breakdown of beneficiaries under each window, supporting the implementation of different types of subprojects, are presented in the following table.

Table A2.4: Investment Subprojects: Estimates of Beneficiaries and Costs

Window	Number Subprojects	Average Households per Subproject	Total Households Benefitted	People Benefitted	Investments					Limit Per window (US$ million)
					Average Matching Grant per Subproject (US$)	IBRD (US$ million)	Counterpart Contribution (in cash)[20]		TOTAL (US$ million)	
							(%)	(US$ million)		
A. Agribusiness	130	60	7,800	31,200	200,000	26.00	10	2.89	28.89	0.4
B. Agribusiness with Innovation	100	60	6,000	24,000	91,000	9.10	5	0.48	9.58	0.2
C. Family Farmers	130	60	7,800	31,200	110,000	14.30	5	0.75	15.05	0.2
D. Indigenous Communities	70	60	4,200	21,000	110,000	7.70	0	0	7.70	0.2
Totals	430	60	25,800	107,400	132,791	57.10	6.8	4.12	61.22	

Component 3: Project Coordination, Management and Monitoring and Evaluation (Total Cost US$10.16 million; IBRD loan US$9.27 million; GoP Counterpart funding US$0.89 million).

51. This component will provide support to DINCAP and PMU for project coordination and management; monitoring, results evaluation, and assessment of project activities; project fiduciary administration, internal controls and audits; project environmental and social risk management following the new Environment and Social Framework; a citizen engagement mechanism and a grievance redress mechanism; and project-related studies. In addition, this component will finance the strengthening of cross-cutting areas in MAG, such as financial management and results-based monitoring. It will fund consultants, goods and services need to perform the activities, as well as to carry out other studies addressing new issues identified during implementation, as well as to analyze and prepare possible future interventions to strengthen community organizations, reduce poverty, stimulate agricultural growth and facilitate market access for agricultural products.

52. The objective of this component is to facilitate the effective implementation of all the actions considered in the project, including: (i) inter-institutional coordination with other sustainable rural development programs or projects that are being implemented in the territories; (ii) monitoring and evaluation of results (including mid-term and final impact assessment); (iii) administrative management, management control and audits; (iv) supervision and control of environmental and social safeguards application; (v) Claims and Suggestions Attention system; and (vi) Communication Strategy implementation.

Estimate of Total Project Beneficiaries.

53. An estimate of total project beneficiaries, disaggregated by direct and indirect beneficiaries by subcomponent, is presented in Table A2.5.

[20] Although not reflected in this table, in-kind contribution and/or the provision of labor are also considered as counterpart contributions.

Table A2.5: Project Total Beneficiaries per Component.

Component	Individual Beneficiaries (people)	Beneficiaries Farming Units/Households (number)	Type of Beneficiary	Comment	Assumptions[1]
Component 1	**138,000**				
Subcomponent 1.1.	40,800	10,200	Direct	Number of people from beneficiary organization that receive capacitation, but do not present subprojects	170 beneficiary organization strengthened but with no subproject (60 families per organization and average 4 people per family).
	76,000	19,000	Indirect	Number of people that receive improved services from DEAg, in spite of not being assisted by the project.	From 55,000 families that are the focus of DEAg at national level, there are about 19,000 that are not receiving direct assistance under the project, but they indirectly benefit by receiving improved services. (19,000 households; 4 people per household).
Subcomponent 1.2.	2,000	500	Direct	DEAg staff trained by the project	
	19,200	3,840	Direct	Number of people that receive support to regularize land tenure (Indigenous people)	
Component 2	**107,400**	**25,800**	Direct	Number of people from beneficiary organizations that implement subprojects	430 beneficiary organization with subprojects (60 families per producer organization; 4 people per family)
Direct beneficiaries	**169,400**	**40,340**			
Indirect beneficiaries	**76,000**	**19,000**			
Total (direct and indirect beneficiaries)	**245,400**	**59,340**			

Figure A2. 6: The Subproject cycle

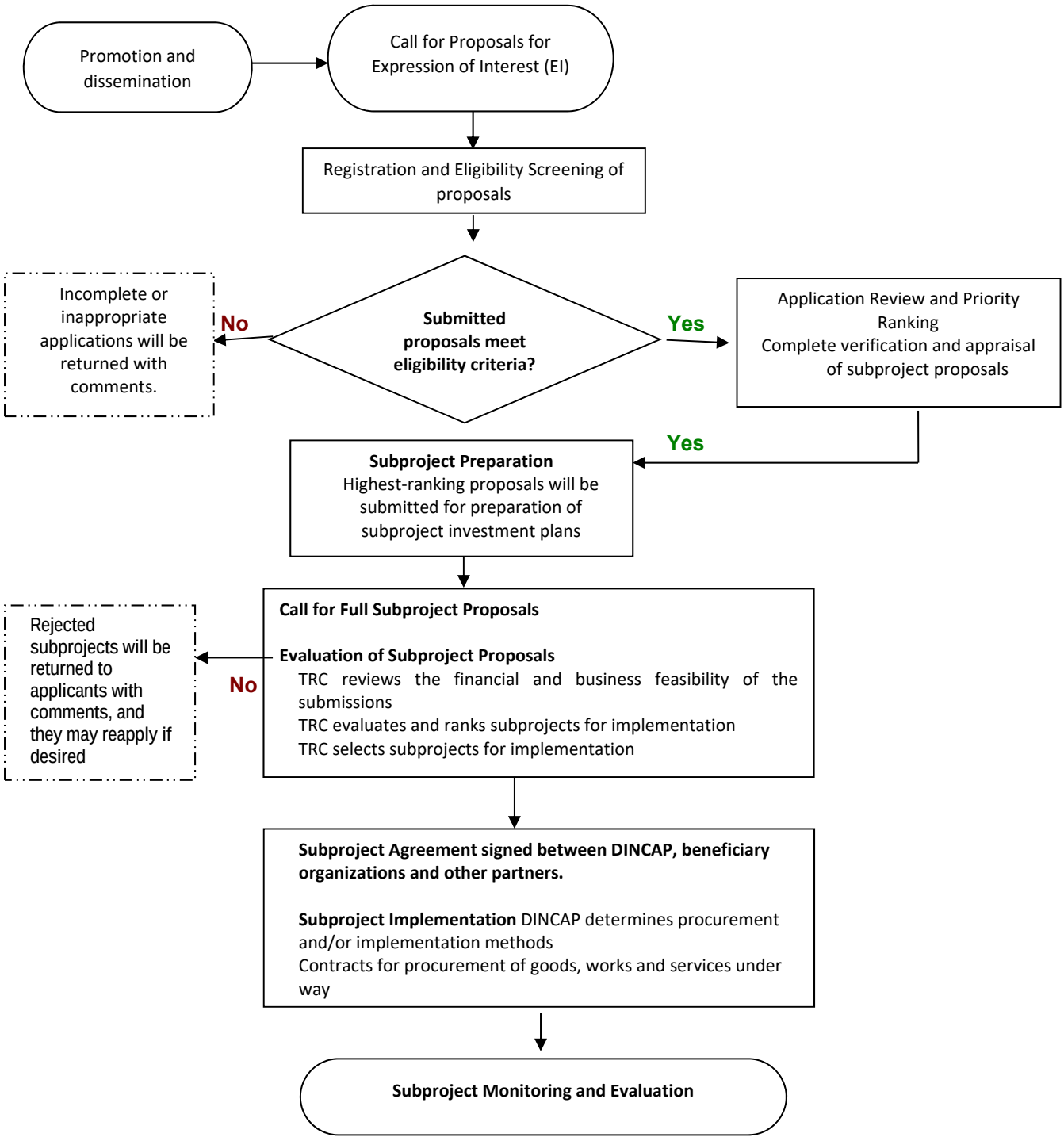


Table A2. 7: Agricultural practices contributing to climate change adaptation/mitigation/resiliency

Agricultural Practices supported by the Project
Agriculture/Crops
Soil management improved practices (reduced-tillage, direct planting, green manure, crop rotation, scarification, contour lines, cover crops).
Planting of species supporting animal feed and contributing to rational and more sustainable use of soils (e.g., perennials, forage palm, sorghum, permanent pastures, permanent green fences, grasslands, etc.)
Introduction of species or varieties adapted to water constraints and higher temperature (stress resistant varieties)
Application of slow/controlled-release fertilizers; partial substitution by organic fertilizers and green manure
Management of by-products through composting, animal feed, organic fertilizer production.
Use of high-efficiency, low-toxicity and low-risk chemical pesticides and partial substitution by biopesticides
Fertilizer synergists (biological nitrogen fixation with symbiotic plants such as soy or other leguminous species).
Training in the use of pesticides and banning the use of high-risk pesticides
Greenhouse production, with controlled environment and precision water/fertilizer applications.
Livestock
Rotational pasture, water availability, improved soil management, introduction of improved forage species, silage and hay production.
Biogas, wind and solar power generation for energy conservation in precision feeding and water supply. Water saving drinkers.
Enrichment of pastures, recovering degraded areas with forages in grazing areas.
Green permanent fences
Waste water treatment and manure management.
Health/genetic improvement of herds, through continuous vaccinations, artificial insemination/transfer of ovules.
Forests
Reforestation with native species or agro-forestry. ▪Regeneration of vegetative cover by means of replanting/enrichment with native species of economic potential. ▪ Agro-Silvo-Pastoral systems: (picket/block division, water availability, improved soil management, introduction of improved forage species).
Aquiculture
Water reuse of production/processing systems, composting of waste / debris, for example: extraction of oil from viscera.
Diversification of fish species.
Agro-industries
Processing, sorting, processing and extraction units by means of treatment/reuse of effluents, use of waste by-products.
Land use
Diversification of the agricultural productive unit, considering grazing pressure to avoid erosive processes, as well as species that adapt to environmental stress.
Rotation of plots, availability of water, improvement of soil management, introduction of improved species and crop diversification.
Recovery of degraded areas through no-tillage, green manuring, crop rotation, scarification, contour lines, contour cords, use of correctives, permanent coverage with leguminous species or perennials.
Water management
Efficient use of water (reuse, efficient irrigation systems). Micro-irrigation with off-grid solar panels
Use of rainwater (cisterns for storage and rational use).
Energy
Renewable energies, both in agricultural production systems and processing, through the installation of solar panels or other sources of energy generation.

Annex 3: FIDUCIARY ASPECTS

PARAGUAY
Market Access for Agricultural Products Project

A. Financial Management

1. The first section of this annex documents the results of the Financial Management Assessment (FMA) of the Paraguay Public Market Access for Agriculture Products Project (the Project) as conducted by Bank staff in accordance with the World Bank Policy and Bank Directive on Investment Project Financing and the Financial Management Manual for World Bank-Financed Investment Operations[21].

2. The objective of the FMA, is to determine whether the entity proposed to implement the Project has acceptable Financial Management (FM) arrangements in place including budgeting, accounting, internal controls, funds flow, financial reporting, and auditing. The entity's arrangements are acceptable, if they are capable of recording correctly all budget operations, transactions and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entity's assets, and are subject to auditing arrangements acceptable to the Bank. See also Annex for the experience of PRODERS on fiduciary arrangements.

Summary of Assessment

3. The FMA conclusion is that the FM arrangements for the proposed Project meet Bank requirements. The FM arrangements will mostly remain the same as for the ongoing Sustainable Agriculture and Rural Development Project (PRODERS; P088799)[22] which FM performance rating has ranged from Moderately Satisfactory to Satisfactory since 2015 as evidenced by Bank FM Implementation Support and Supervision Reports (ISSR).

4. The new project will build up on existing FM capacity and experience of DINCAP. DINCAP will retain overall responsibility for project coordination including financial management and procurement. DINCAP continues to have qualified FM professional staff who are widely experienced in Bank-financed projects implementation.

5. Despite these capabilities, there is still room for DINCAP to improve its FM function by increasing the use of IT for transactions processing, thereby reducing cumbersome operational procedures that are carried out manually. Besides, Component 2 will transfer funds on a grant basis to small-size and medium-scale organizations of agricultural producers and Indigenous Communities geographically spread in 14 departments across Paraguay Eastern Region. These features pose am additional element of FM risk which is assessed substantial after mitigation measures.

6. The following measures will be implemented to mitigate project's identified risks:
   (a) Preparation of a project operational manual (POM) including; (i) Chart of Accounts for the project; (ii) format and contents of the annual financial statements and Interim Financial Reports (IFRs) format for monitoring and evaluation purposes; (iii) terms of reference for the external independent auditing;

[21] Effective March 1, 2010 and revised February 10, 2017.
[22] Known as PRODERS for its acronym in Spanish. Loan 7503-PY 37 million, closed December 31, 2015. Loan 8316-PY 100 million, closing date November 30, 2020

(iv) terms of reference for subprojects semiannual concurrent audit; and (v) specific section for Component 2 implementation process;

(b) Projects funds release will be conditioned to the contracting of a concurrent auditor acceptable to the Bank;

(c) Strengthening DINCAP capacity through governance and transparency workshops and capacity building activities during project implementation; and

(d) Continued FM close support and supervision.

Description and Assessment of Project FM arrangements

7. **Budgeting.** The Head of DINCAP Administration & Finance Team in consultation with other MAG units will prepare the budget annually according to (i) Bank Format and (ii) National Budget format. The project annual budget is submitted to the Ministry for approval. The national Financial Management Information System (SIAF, for its acronym in Spanish) shall include specific lines for the project budget, the budget items shall be maintained throughout the entire implementation period. The project's budget process is acceptable and SIAF is reliable tool to support the Project's budgeting requirements[23]. The POM will clearly define the planning mechanisms, functions and responsibilities.

8. **Accounting and financial reporting.** DINCAP will use the Government financial management system (SIAF-SICO) to record project transactions in local currency. In addition, DINCAP will make use of accounting information software which allows for multi-currency entries (in dollars and local currency) to record project transactions on a cash basis. The project chart of accounts will reflect disbursement categories, project components, and sources of financing. DINCAP will be responsible for project financial reporting, including semiannual financial reports and annual financial statements including information by project component and source of financing in a format acceptable to the Bank. DINCAP will ultimately prepare the following annual financial statements in line with the Bank's requirements: (i) Statement of Cash Receipts and Payments by Funding Source (expenditures classified by disbursement category); (ii) Statement of Requests for Reimbursement; and (iii) the Special Account Statement.

9. **Internal Control and Internal Auditing.** The process for recording project transactions is partially manual and lacks flexibility to provide automatically reports required by the Bank. MAG's Information Technology Department will be supporting DINCAP to enhance its accounting module and set a monitoring system. As in PRODERS, the project's POM shall include specific internal control procedures for transfers of funds to organizations under Component 2 acceptable to the Bank. Furthermore, project payments requests will be channeled to the mainstream of the Government budget execution processes and thereby subject to government-wide budget implementation controls. The Team will initiate dialogue with MAG internal audit department to seek opportunities to strengthen the audit function as a means to support project internal control framework. Potential areas of strengthening are: move towards risk-adjusted audit approach and provision of technical training to internal audit staff to prepare annual audit planning.

10. **External Audit Arrangements[24]. Financial Statements audit.** Project annual financial statements will be audited following Terms of Reference (ToR) and by auditors acceptable to the Bank. The audit will be conducted following International Standards on Auditing issued by The International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC). The audited financial statements shall be submitted

[23] According to the latest Public Expenditure and Financial Accountability (PEFA) Report issued in 2016.

[24] Most of the ongoing project (P088799) audits have been unqualified and minor internal control weaknesses were reported by the auditors.

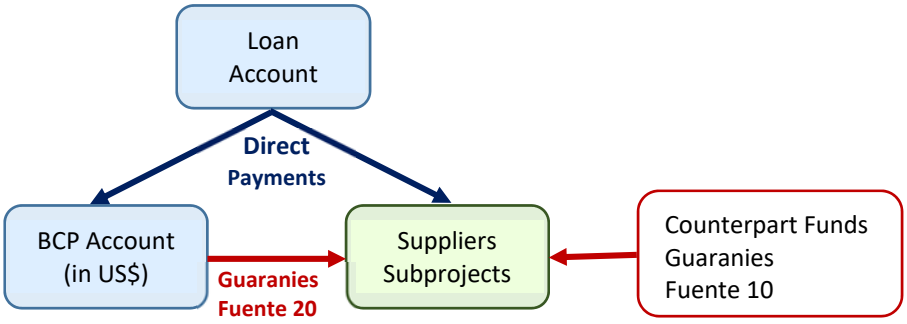
to the Bank no later than six months after the end of the report period or another period agreed upon with the Bank (not exceeding 18 months)—when, due to project circumstances, it is more cost effective to join periods to be audited. Upon the Bank's receipt of the project statements from DINCAP, the Bank will make them available to the public. The borrower agrees to disclose the audited financial statements to the public on time. The cost of the financial statements audit is expected to be financed from the Loan proceeds.

11. **Subprojects concurrent audit**. A financial concurrent audit of subproject execution will be carried out on a bi-annual basis to ensure proper use of funds and adequate reporting. This concurrent audit will include a random selection of beneficiaries for physical output control. The Terms of Reference of the concurrent audit will have to comply with the Bank guidelines and the scope acceptable to the Bank. This concurrent audit has proven efficient to mitigate fiduciary risks and deter potential misappropriation during implementation of the ongoing project. Under the matching grants scheme, the beneficiaries of subprojects will provide cash contributions (see Table A2.4 for details), except for Indigenous Communities who will be excluded. In-cash contributions by beneficiaries should be deposited in each subproject bank account in advance of MAG's transfers to fund eligible expenditures as defined in the respective subproject agreement. The Project Operational Manual will include specific procedures for beneficiaries' contributions.

12. **Flow of Funds and Disbursement Arrangements**[25]. The Project will use the traditional method for disbursements. The primary mechanisms will be to disburse loan proceeds as advances into segregated Designated Account (DA) in US dollars to be opened at the Central Bank of Paraguay (BCP) under control of the Treasury Directorate of the MOF. Other disbursement mechanisms that may be used are Direct Payments and Reimbursement. Funds deposited into the DA will follow the Bank's disbursement operating policies and procedures that will be described in the Disbursement and Financial Information Letter. Withdrawals from the DA will be solely made for payments of eligible expenditures incurred.

13. Project payments requests are channeled to the Government mainstream of the budget execution processes. As in previous projects under implementation, DINCAP will prepare Request for Transfer (STR, for its acronym in Spanish) forms which are directed to the Treasury Directorate for processing payments of eligible expenditures incurred. DA funds will be transferred electronically to suppliers, vendors, subprojects and consultants accounts afterwards. The ceiling for advances to this DA will be a variable ceiling with forecasts every three (3) months. The following chart reflects the project's follow of funds.

Project Flow of Funds



[25] Disbursements arrangements will be defined in the Disbursement and Financial Information Letter

14. **Financial Covenant.** (i) Standard wording for project audits: the annual audited financial statements will be furnished to the Bank not later than six months after the end of each year; (ii) Standard wording for Interim Financial Reports (IFRs): the semi-annual IFRs will be submitted to the Bank not later than 45 days after the end of each calendar semester; (iii) Special provision for concurrent bi-annual audit on Component 2 subprojects audit.

B. Procurement

15. Procurement for the supply of goods, works, non-consulting services and consulting services will be conducted according to the World Bank's Procurement Regulations for IPF Borrowers, issued in July 2016, and revised in November 2017 y August 2018. The World Bank's Standard Procurement Documents will govern the procurement of World Bank-financed Open International Competitive Procurement. For procurement involving National Open Competitive Procurement, the Borrower will use Standard Procurement Documents acceptable to the World Bank that will be included in the Operational Manual. In these cases, local procedures will be accordingly adapted to comply with Bank's Procurement Regulations requirements.

16. A procurement capacity assessment of the PMU and DINCAP's Procurement Sub-Unit (Sub-UOC, *Sub-unidad Operativa de Contrataciones*) was realized on November 21, 2019. The Sub-UOC depends on DINCAP and was created opportunely to manage PRODERS, the project which is currently on going. The PMU's and Sub-UOC's structures count with experienced procurement specialists who have been working under old Bank's procurement Guidelines and applying national procedures too. The assessment concludes that the capacity for contract administration and for monitoring procurement in IBRD-financed Projects should be strengthened. Capacity building on Bank's new Procurement Framework is also recommended for all the actors that take part of the Procurement Processes (MAG's UOC, Sub-UOC of DINCAP and staff). Finally, it was detected that duplicate procedures among the DINCAP and other MAG's authorities (for instance, to approve procurement documents and recommendations to award) produce delays in procurement processes without an evident value added. It should be noted that there is a minor restructuring plan to adjust DINCAP's structure, by which the existing Sub-UOC will be absorbed by the Sub-UAF, as part of this administrative unit, keeping its staff and functions. It will not mean any significative departure and will contribute to maintain DINCAP's ability to control better all activities under the new operation.

17. The Sub-UOC, with Bank's support, has developed a Project Procurement Strategy for Development (PPSD), identifying the procurement arrangements that will ensure the delivery of value for money while efficiently achieving the PDOs. The PPSD focused on main contracts included under all components. In case of Component 2, procurement will be implemented by beneficiaries of the approved investment subprojects, according to the rules set up in the Operational Manual. It is expected that Component 1 will finance logistic for capacity building events, learning and dissemination materials (printed and audiovisual), technical assistance, goods and other non-consultant services for the strengthening and capacity building of the producer's organizations and public institution involved in the implementation of the Project. In addition, this component could finance civil works, goods, and consulting services for priority investments in public infrastructure (new or rehabilitated) needed for improving the efficiency and climate resilience of targeted agri-food value chains. Finally, component 3 would include goods, consultant and non-consultant services to support the coordination, monitoring an evaluation of the Project. Based on the results of the PPSD, the procurement arrangements for these and the rest of the activities expected to be carried out during the first 18 months will be detailed in the Procurement Plan.

18. In addition to the prior review supervision to be carried out from Bank offices, and subject to the formal confirmation of the PMU assessed, at this point it is recommended to (i) to reinforce the contract administration

function, assigned clear roles and responsibilities under the PMU's structure, (ii) capacity building will be delivered by the Bank's procurement team on Bank's Procurement Framework through workshops; (iii) at least annual supervision missions in the field to carry out the post review of procurement actions; and (iv) to include in the Monitoring System to be implemented a module to collect key information that allows a close monitoring on the procurement processes under the investment Sub-projects to be financed under Component 2 to assure an appropriate governance control; and (v) review procurement procedures within MAG in order to simplify them and remove bottlenecks.

19. Based on the above, the overall project risk for procurement is Substantial.

Annex 4: ECONOMIC AND FINANCIAL ANALYSIS

PARAGUAY
Market Access for Agricultural Products Project

1. This annex presents the Economic and Financial Analysis (EFA) of the project's interventions. The project is expected to generate substantial net incremental benefits for target groups of Agricultural Producer Organizations, Indigenous Communities and agro-enterprises, as well as for the country based on multiple co-benefits contributing to higher level objectives (i.e. adaptation and mitigation co-benefits).

2. The economic and financial analysis (EFA) of a project is an ex ante evaluation of the expected future performance of the project, taking into account the estimated incremental benefits and costs of the investments supported by the project. The financial evaluation is integrated from models of investment subprojects that represent an expected representative sample of investments pf the project and estimates the financial impact of the project from the point of view of the beneficiaries. These models are used to estimate the economic evaluation of the whole project. The economic evaluation is carried out to measure the economic value of the project from the perspective of society.

Justification of the provision / financing of the public sector

3. Public support for small farmers and aggregation entities is justified on the basis of market failure arguments related to access to resources, information asymmetries, risk aversion, and economies of scale. Indigenous groups, producer organizations, and also small-scale agribusinesses, in Paraguay often face barriers to participating in commercially demanding value chains. Some of the specific challenges faced by these groups are: land tenure problems; lack of appropriate and affordable inputs for production; poor access to basic and productive infrastructure; limited access to technical assistance, weak financial services and information systems that support their production and marketing decisions; variable quality and limited production volumes; poorly defined production, management and marketing structures; scarce aggregation of value; lack of business vision; and, limited risk management options. The disconnection between production and demand, as well as the lack of strategic allies, keeps incomes low for indigenous groups and small-scale farmers. The risk is particularly significant for these highly vulnerable groups.

4. The experience in productive alliances in Latin America shows that aggregation schemes aimed at linking farmers to markets require initial public support to offset part of the initial costs and reduce risks for private actors. PRODERS has also provided information on the relevance and possible approaches that facilitate the environment for innovation, productivity, competitiveness and sustainability in the agricultural sector.

5. Added value of World Bank support. The World Bank has extensive knowledge and experience related to the design and financing of projects aimed at improving the capacities of small-scale producers and their links to markets, including specific learning to Latin American countries. The principles and experience gained in other regions and countries can be applied in a useful way and adapted to the context, needs and priorities of Paraguay. The World Bank also has extensive knowledge about approaches to risk management, which is relevant given the vulnerability of potential beneficiaries. The World Bank will provide technical and strategic knowledge transfer through the participation of specialists with extensive experience in these areas.

Financial Analysis

6. The analysis applies financial models of representative investments subprojects, based on the priority value chains identified by MAG and investment subprojects' support windows – family farmers, Indigenous Communities, innovation and agribusinesses. Table A4.1 presents the main characteristics of the financial models selected for the analysis.

Table A4.1: Financial models selected for the analysis

Business Models	Window	Estimated Number of subprojects	Number of families per subproject
Maize and sesame seed production and commercialization	Family Farming	35	60
Maize and beans production and commercialization	Indigenous Community	20	60
Cassava production, processing and commercialization	Innovation	30	60
Sugar cane production, processing and commercialization	Innovation	20	60
Milk collection and commercialization	Agribusiness	30	60
Dairy production and commercialization	Agribusiness	20	60
Cattle production and commercialization	Family Farming	35	60
Pig farming and commercialization	Indigenous Community	20	60
Poultry production and commercialization	Agribusiness	20	60
Sheep farming and commercialization	Family Farming	20	60
Vegetable production and commercialization	Agribusiness	20	60
Vegetable processing and commercialization	Innovation	20	60
Watermelon production and commercialization	Agribusiness	20	60
Citrus fruits production and commercialization	Family Farming	20	60
Fruit jam production and commercialization	Innovation	20	60
Yerba Mate production and commercialization	Indigenous Community	20	60
Aromatic and medicinal plants production and commercialization	Family Farming	20	60
Flowers production and commercialization	Agribusiness	10	60
Honey production and commercialization	Agribusiness (AG)	10	60
Wood pole production and commercialization	Indigenous Community	10	60
Aquaculture	Innovation	10	60
Total		**430**	

7. The primary objective of the financial analysis is to determine the financial viability and incentives for the target group generated by their participation in project activities. For each financial model the Net Present Value (NPV), the Internal Rate of Return (IRR), the benefit-cost ratio (B/C) and other indicators of sensitivity analysis

are calculated, on a discount rate of 9 percent (as per the national investment project preparation guidelines). Switching values with respect to benefits and costs were also calculated to test the robustness of the financial indicators against volatility in revenues and costs. These indicators help us determine the viability of the proposed models (of investment subprojects) from the private point of view. Table A4.2 shows the financial viability indicators of the models selected for the analysis, considering (a) the 'with project' situation; and (b) the incremental flow of benefits and costs (considering the 'with project' and the 'without project' situation). Both scenarios, show positive financial indicators.

Table A4.2: Summary of financial models based on incremental benefits and costs streams (US$)

Financial models (incremental)	Investment	NPV	FIRR	B/C	SV Costs	SV Benefits	Invest. (USD) / ben	VPN (USD)/ ben
Maize and sesame seed production and commercialization	120,052	123,959	25%	1.19	19%	-16%	2,001	2,066
Maize and beans production and commercialization	109,148	110,463	24%	1.14	14%	-12%	1,819	1,841
Cassava production, processing and commercialization	96,256	135,884	29%	1.25	25%	-20%	1,604	2,265
Sugar cane production, processing and commercialization	92,743	146,594	32%	1.23	23%	-18%	1,546	2,443
Milk collection and commercialization	221,382	215,550	17%	1.44	44%	-30%	3,690	3,593
Dairy production and commercialization	242,720	251,445	24%	2.46	146%	-59%	4,045	4,191
Cattle production and commercialization	136,200	194,401	22%	1.34	34%	-25%	2,270	3,240
Pig farming and commercialization	81,788	28,680	13%	1.05	5%	-5%	1,363	478
Poultry production and commercialization	175,849	190,493	22%	1.39	39%	-28%	2,931	3,175
Sheep farming and commercialization	109,118	66,436	14%	1.54	54%	-35%	1,819	1,107
Vegetable production and commercialization	197,000	162,279	21%	1.15	15%	-13%	3,283	2,705
Vegetable processing and commercialization	86,374	125,411	28%	1.07	7%	-6%	1,440	2,090
Watermelon production and commercialization	200,716	156,177	21%	1.13	13%	-12%	3,345	2,603
Citrus fruit production and commercialization	120,300	384,763	20%	1.41	41%	-29%	2,005	6,413
Fruit jam production and commercialization	91,374	86,364	22%	1.09	9%	-8%	1,523	1,439
Yerba Mate production and commercialization	83,500	217,650	28%	1.99	99%	-50%	1,392	3,628
Aromatic and medicinal plants production and commercialization	105,750	231,886	37%	1.29	29%	-22%	1,763	3,865
Flowers production and commercialization	197,000	83,104	16%	1.26	26%	-21%	3,283	1,385
Honey production and commercialization	199,844	235,795	19%	1.41	41%	-29%	3,331	3,930
Wood pole production and commercialization	112,500	67,993	17%	1.10	10%	-9%	1,875	1,133
Aquaculture	89,000	128,305	32%	1.31	31%	-23%	1,483	2,138
Average	**136,601**	**159,221**	**23%**	**1.34**	**34%**	**-22%**	**2,277**	**2,654**

Economic Analysis

8. The economic analysis estimates the relevance of the project from the perspective of society as a whole.

9. **Key Assumptions**. The investment subproject models considered in the financial analysis are used as building blocks for determining the viability of the whole Project, once addressing for market distortion and opportunity costs for inputs and outputs.

Table A4.3: Overview of key assumptions

Item	Assumption
Project Life	Project life has been set at 20 years, considering investments lifecycles.
Discount Rate	An economic discount rate of 9 percent has been used.
Conversion Factor	Average Standard Conversion Factor estimated using time series of trade information.
Opportunity Cost of inputs and outputs	The opportunity cost represents the benefits an individual miss when choosing one alternative over another. In the case of labor, it expresses any potential losses and costs that a beneficiary may incur by diverting time to the new project. The Ministry of Finance in Paraguay has estimated the opportunity cost of labor by category: Qualified labor: 0.91; semi-qualified: 0.88; and, not qualified: 0.78.

10. **Project Economic Costs**. The economic analysis includes the investment and incremental recurrent costs of all project components. Project financial costs have been converted to economic values by removing taxes, duties and subsidies. In order to avoid double counting, the final aggregation considered only those costs that were not included in the financial models (investment values in selected productive chains).

11. **Benefits Estimation**. The incremental benefits stream comprises the economic net values of all the models developed in the financial analysis (with project scenario minus without project scenario). This includes using economic prices, rather than financial (or market) prices, and involves identifying and accounting for price subsidies when present (institutional markets). These economic benefits are aggregated following the implementation phasing foreseen by the government of Paraguay.

12. The investment subprojects seek to improve the productive, managerial, commercial and climate resilient capacities of target groups. Some of the benefits generated through project are: reduction of production and marketing costs, due to the efficient access and use of inputs, as well as the improvement of logistics services; higher yields and/or quality; aggregation of value; risk reduction through informed decisions, improved technology and a wider range of risk management options; and, in general, better marketing conditions. In addition, the project also seeks to maximize the potential co-benefits of interventions, including climate co-benefits - including the reduction of Greenhouse Gas (GHG) emissions - and increased resilience.

13. **Economic Viability**. The economic analysis shows that the project is an economically viable investment for the economy. The Project economic NPV of the net benefit stream, discounted at 9 percent, is US$21.6 million, with an Economic Internal Rate of Return (EIRR) of 15 percent for the base case scenario.

14. Following the most recent World Bank guidelines[26], the project's economic analysis indicators were estimated using a higher carbon price (US$40 per ton of CO2e) assumption and a lower carbon price (US$80n per ton of CO2e) assumption to estimate economic benefits from reducing GHG. Under the HCP scenario, the EIRR for the entire Project is 134 percent and the net present value (NPV) is approximately US$310.4 million. Under the LCP scenario, the EIRR was 58 percent and the NPV was approximately US$165.8 million.

15. **Sensitivity Analysis**. The robustness of these indicators was tested and confirmed with a sensitivity analysis that resulted in a switching value for cost increments of 432 percent, 231 percent and 30 percent under the HCP, LCP and baseline scenarios, respectively, and of 81 percent, 70 percent and 23 percent for reductions

[26] Guidance note on shadow price of carbon in economic analysis. World Bank, September 2017

to economic benefits under the HCP, LCP and baseline scenarios, respectively. These indicators strongly suggest that the Project represents an economically worthwhile investment from the perspective of society (see Table below).

Table A4.4: Summary of Economic Analysis

Indicator	Baseline[27] (excludes Carbon benefits)	Lower Carbon Value of US$40/ton	Higher Carbon Value of US$80/ton
EIRR (%)	15%	58%	134%
NPV (US$)	21,637,075	165,778,865	310,435,240
Switching value for costs (%)	30%	231%	432%
Switching value for benefits (%)	-23%	-70%	-81%

16. **Cost-efficiency**. Taking into account the total cost of project implementation of US$110 million, the aggregate indicators of cost-efficiency could be seen in the table below (Table A4.5). If we consider an implementation period of only 5 years (most probably between effectiveness and closing), as a conservative assumption, this exercise show us an average total cost per implementation per year per household or per person that are quite reasonable and show a higher level of cost-efficiency when compared with other similar operations.

Table A4.5: Cost Efficiency

Costs (Total Project Cost, US$110 million)	**Direct Beneficiaries** (169,400 people; 39,010 Households)	**Total Beneficiaries** Direct and indirect (245,400 people; 57,280 households)
Average Total Cost per household (US$)	2,819.8	1,920.4
Average Total Cost per person (US$)	649.3	448.2
Average Total Cost per household per year (US$)	563.9	384.0
Average Total Cost per person per year (US$)	129.9	89.65

17. In addition, it is important to highlight that the enhancement of market access for agricultural projects will generate effects on the general economy of the country, due to forward linkages of agriculture (agribusiness, transportation, etc.) and backward linkages (services, input suppliers, etc.). The effect of expanded agricultural activities on the rest of the economy is larger in those countries where agriculture is a major net exporter, as is the case of Paraguay. However, due to lack of accurate information, this effect could not be estimated. Furthermore, the model to be put in place by the project will certainly have ample possibilities for expansion: (i) the same POs participating will find themselves with technical, organizational, managerial and financial capacity to expand their operations with identical or diversificating the target markets; (ii) other POs in similar position could be incentivized by the results achieved and willing to follow the example; and (iii) the private sector will also be encouraged to continue with similar approaches and willing to expand their operations involving larger number of farmers.

[27] Baseline is the net incremental economic benefits, derived from the financial streams of the investment subprojects, but valued at economic prices. It does not include expected economic benefits from GHG sequestration.

Annex 5: GREENHOUSE GAS ACCOUNTING

PARAGUAY
Market Access for Agricultural Products Project

1. The project impact on Greenhouse Gas (GHG) was estimated utilizing the Ex-Ante Carbon-balance Tool (EX-ACT). This toiol was developed by the Food and Agriculture Organization of the United Nations (FAO) in 2010 to assess the impact of agricultural and rural development investment lending on GHG emission and carbon sequestration. EX-ACT allows the ex-ante assessment of a project's net carbon-balance, defined as the net balance of CO2 equivalent GHG that would be emitted or sequestered as a result of project implementation compared to a without project scenario. EX-ACT estimates the carbon stock changes (emissions or sinks), expressed in equivalent tons of CO2 per hectare and year.

2. The models are used to estimate the expected incremental net benefits (financial and also economic) under Component 2, which are also linked to the public services improved through Component 1 activities. The project models that were applied to the GHG Analysis are the same that were applied to the Economic and Financial Analysis. For subprojects under Component 2, the following table summarizes the characteristics of the business models and its corresponding investment window (Component 2).

Table A5.1: Farming Models

	Business Models	Window	Number of subprojects	Families per subproject	Hectares per family	Hectares per subproject	Hectares all subprojects
1a	Maize and sesame seed production and commercialization	Family Farming	35	60	2	132	4,620
1b	Maize and beans production and commercialization	Indigenous Community	20	60	1	72	1,440
2	Cassava production, processing and commercialization	Innovation	30	60	1	66	1,980
3	Sugar cane production, processing and commercialization	Innovation	20	60	1	66	1,320
4a	Milk collection and commercialization	Agribusiness	30	60	5	300	9,000
4b	Dairy production and commercialization	Agribusiness	20	60	5	300	6,000
5a	Cattle production and commercialization	Family Farming	35	60	5	300	10,500
5b	Pig farming and commercialization	Indigenous Community	20	60	1	60	1,200
5c	Poultry production and commercialization	Agribusiness	20	60	1	60	1,200
5d	Sheep farming and commercialization	Family Farming	20	60	1	60	1,200
6a	Vegetable production and	Agribusiness	20	60	1	66	1,320

	Business Models	Window	Number of subprojects	Families per subproject	Hectares per family	Hectares per subproject	Hectares all subprojects
	commercialization						
6b	Vegetable processing and commercialization	Innovation	20	60	1	66	1,320
7a	Watermelon production and commercialization	Agribusiness	20	60	1	66	1,320
7b	Mango, citrus and guanabana production and commercialization	Family Farming	20	60	5	300	6,000
7c	Fruit jam production and commercialization	Innovation	20	60	5	300	6,000
8	Yerba Mate production and commercialization	Indigenous Community	20	60	2	120	2,400
9	Aromatic and medicinal plants production and commercialization	Family Farming	20	60	1	66	1,320
10	Flowers production and commercialization	Agribusiness	10	60	1	66	660
11	Honey production and commercialization	Agribusiness	10	60	5	300	3,000
12	Wood pole production and commercialization	Indigenous Community	10	60	5	300	3,000
13	Aquaculture	Innovation	10	60	1	60	600
	Total:		**430**				**65,400**

3. It is expected that subprojects will be designed and selected based on the application of eligible technologies and practices contributing to mitigation of GHG, which at the same time increase the beneficiaries' climate resilience.

4. The GHG accounting considers the following projected interventions with implications on GHG fluxes:
   - the transition from business as usual to climate resilient and sustainable systems of Agricultural Producer Organizations, Indigenous Communities and agro-enterprises. The approximate area and dynamics (initial, without project and with project) of diverse land uses is detailed in the following sections and summarized in the section on 'Land Use Changes'.
   - the likely trends of inputs utilization (fertilizers and pesticides), energy consumption and construction of new investments based on the changes in scale of production but taking into consideration the technical guidelines and improvements from climate resilient technologies and practices.

5. The technical capacities and enabling environment to attain the projected climate co-benefits is also considered in the institutional strengthening and TA activities under Component 1 and Component 2.

6. **Data source.** The main sources of data used to carry out the analysis include information generated in the Ministry of Agriculture, as well as technical guidelines generated by cooperation development partners and

research institutions, such as JICA and the Universidad Nacional de Asunción. These inputs provide, amongst others, a detailed assessment on the technical packages on crops, agroforestry, forest restoration and livestock production systems that will be supported by the project.

7. **Basic assumptions**. Paraguay has a sub-tropical climate and moist regime. There is no dominant soil type but for the purposes of the assessment, High Activity Clay (HAC) soil has been selected as the dominant soil type. The timeframe of Project implementation is 6 years and the capitalization phase is 14 years, thus the analysis period is set for a total of 20 years. Dynamics of evolution are assumed to be linear for most of the variables. Default "Tier 1[28]" coefficients for the EX-ACT estimation were used. The construction of 'with-out project situation' and 'with project situation' trajectories is based on average technical references taken from the experience of previous and ongoing research and investment projects in Paraguay.

8. **Annual and perennial crops production.** The technical guidelines proposed for both annual and perennial systems incorporate "improved agricultural technologies and practices" that contribute to GHG mitigation, while supporting climate resilience building.

9. T**he EX-ACT basic frame for accounting the improved agricultural technologies and practices** for annual crops production include: improved agronomic practices, nutrient management, no till & residue retention, manure application as well as water management (see Table A5.2 below). It is estimated that at least 21,540 hectares of annual crops will be subject to improved agricultural technologies and practices (this area might seem limited as in most of the models used for the analysis it comprises the production of high value crops in greenhouses).

Table A5.2: Management options for annual crops.

System	Management options				
	Improved agronomic practices	Nutrient Management	No till & residue retention	Water Management	Manure application
Climate resilient systems	Yes	Yes	Yes	Yes	Yes
Business as usual systems	No	Yes	No	No	No

10. The EX-ACT also considers improved perennial systems (agro-forestry, orchards, tree crops, live fences, etc.) but the fundamental element in the GHG calculations is the type of residue/biomass management. In the case of perennials, the project would support an estimated area of 12,924 hectares, which mainly correspond to fruit tree plantations and live fences. This estimate also includes a reasonable proportion of land use change from degraded lands to perennials. The project also considers other technologies and practices that are framed within the climate smart agriculture and sustainable landscape management approaches.

11. **Livestock.** The project will support sustainable livestock systems, combining agriculture and silvopastoral systems for dairy, cattle, swine, poultry and sheep farming. The project is expected to introduce improved breeding and feeding (See Table A5.3). It will also promote other management practices contributing to climate change mitigation and adaptation (improved manure management, assisted natural regeneration, increased tree coverage and use of live fences, etc.). The estimated grassland area covered by the project is 3,270 hectares in total.

[28] Not specific to the country

Table A5.3: Livestock and manure management.

Livestock categories	Head number (mean per year)			Technical mitigation option (%)								
	Start	Without project	With project	Feeding practices*			Specific Agents*			Breeding*		
				Start	With out	With	Start	With out	With	Start	With out	With
Dairy	12,500	12,500	18,000	0	0	100	0	0	100	0	0	100
Cattle	8,750	8,750	12,600	0	0	100	0	0	100	0	0	100
Sheep	12,000	12,000	12,000	0	0	100	0	0	100	0	0	100
Swine (Market)	3,024	4,536	6,210	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,… Specific agents: specific agents and dietary additives to reduce CH4 emissions (Ionophores, vaccines, bST…) Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)								
Poultry	2,100	2,273	3,605									

12. **Land use change.** The evolution of land use per category is summarized in the table below.

Table A5.4. Evolutions of land use /category (hectares)

System		Initial State	Without project	With project
Forest/Plantation		0	0	27,666
Agriculture	Annual	15,000	15,000	21,540
	Perennial	840	840	12,924
	Rice	0	0	0
Grassland		24,006	24,006	3,270
Other lands	Degraded	25,554	25,554	0
	Other	0	0	0
Wetlands		0	0	0
Total area (ha)		65,400	65,400	65,400

13. **Inputs**. The main inputs considered in this GHG analysis are agricultural inputs (such as seeds, fertilizers and others) as well as energy consumption (electricity and fuel) and infrastructure (irrigation systems and agricultural buildings for agricultural investment subprojects and housing/offices/shops for community tourism investment subprojects).

14. **Agricultural inputs**. The available technical guidelines in crop production include the use of improved seeds, fertilizers and pest control management. The amounts (tons per year) of fertilizers (Nitrogen, Phosphorus and Potassium), herbicides, insecticides and fungicides were calculated based on data from the Ministry of Agriculture. Data is available per hectare for a number of annual and perennial crops. The average amounts of inputs (in tons per year) for annuals and perennials were multiplied by the projected area for every category. The project provides

technical support to make a more efficient use of inputs and apply alternative methods to reduce the need for agrochemicals (green manure, production and use of compost, etc.). As mentioned above, there are a number of highly effective and applicable practices in the frame of the climate smart agriculture approach.

15. **Energy consumption.** The estimates of energy consumption for all subproject investments consider the increased scale of production supported through project interventions. It also considers improvements in terms of the use of renewable energy technologies and other investments (in infrastructure, machinery and equipment) foreseen to make a more efficient use of resources (soil, water, inputs, etc.) and reduce losses of produce along the production system.

16. **Productive infrastructure**. The project would support the construction and/or improvement of water reservoirs and irrigation systems. The total area of annual crops covered by the project will be mainly covered by drip irrigation systems. It is expected that the project would also provide some efficiency improvements to irrigation systems for perennials. The project would support construction of agricultural buildings (metal and concrete) and other types of buildings used for offices, shops, training / gathering centers, etc. Under Component 1, there are some infrastructure investments to improve the national wholesale market and government buildings.

17. **Net carbon balance.** A GHG appraisal of the Project was carried out using the EX-ACT, which quantifies the net carbon balance resulting from GHGs emitted or sequestered during the project implementation and capitalization period (20 yeas) compared to the without-project scenario. The project leads to estimated annual climate change mitigation benefits of 430,992 tCO2e, when compared to a business-as-usual baseline scenario. This is equivalent to annually reduced GHG emissions per hectare of 2 tCO2e. After 20 years, GHG mitigation benefits amounting to a reduction of 8,619,840 tCO2e will be generated. In addition to the achievement of the PDO, the Project also provides intermediate GHG emission reductions as a co-benefit of the project implementation. The main results of this GHG analysis are summarized in Table A5.5.

18. **Carbon sources and sinks**. The main carbon source as expected come from livestock as well as inputs and infrastructure. The sequestration benefits come principally from afforestation and/or restauration of degraded areas, followed by the transition from set aside / degraded lands / other lands to perennials (agro-forestry, orchards, gardens, tree crops, etc.) and the improved management of agro-forestry, livestock and crop systems.

19. **Sensitivity analysis**. The uncertainty, as calculated by EX-ACT, is 40.6 percent. This analysis was run using mostly tier 1 coefficients, which in some cases may provide over or underestimated values. It is a relevant source of uncertainty in the estimation of GHG emission/sequestration scenarios for the Project.

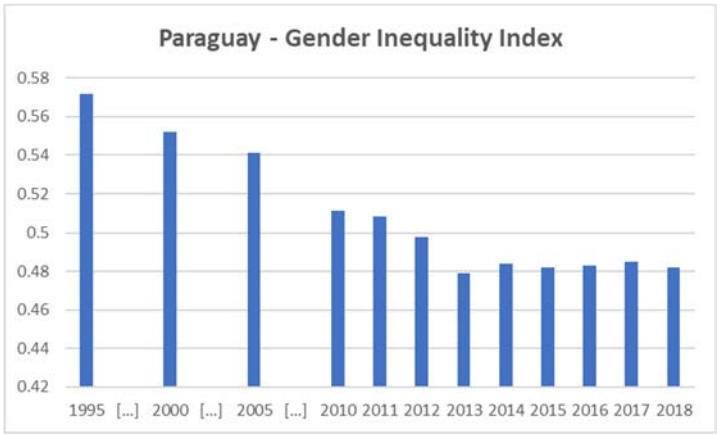
Table A5.5: Results of the ex-ante GHG analysis in tCO_2-eq

Components of the project	Gross fluxes			Share per GHG of the Balance					Result per year		
	Without	With	Balance	All GHG in tCO2eq					Without	With	Balance
	All GHG in tCO2eq			CO_2			N_2O	CH_4			
	Positive = source / negative = sink			Biomass	Soil	Other					
Land use changes											
Deforestation	0	0	0	0	0	0	0	0	0	0	0
Afforestation	0	-7,518,515	-7,518,515	-6,577,900	-940,615	0	0	0	0	-375,926	-375,926
Other LUC	0	517,237	517,237	-95,920	609,111	4,046	0	0	0	25,862	25,862
Agriculture											
Annual	0	-688,506	-688,506	0	-711,450	0	22,944	0	0	-34,425	-34,425
Perennial	-243,992	-348,522	-104,530	39,270	-143,800	39,270	0	0	-12,200	-17,426	-5,226
Grassland & Livestocks											
Grassland	1,457,177	-56,150	-1,513,328	0	-1,513,328	0	0	0	72,859	-2,808	-75,666
Livestocks	1,238,973	1,585,162	346,189	0	0	0	113,209	232,980	61,949	79,258	17,309
Inputs & Inv.	8,300	349,912	341,612	0	0	0	0	0	415	17496	17081
Total	2,460,458	-6,159,382	-8,619,840	-6,634,550	-2,700,080	341,612	140,199	232,980	123,023	-307,969	-430,992
Per hectare	37.6	-94.2	-131.8	-96.2	-41.3	5.2	2.1	3.6			
Per hectare per year	1.9	-4.7	-6.6	-4.8	-2.1	0.3	0.1	0.2	1.9	-4.7	-2.0

Annex 6: GENDER ANALYSIS AND ACTION PLAN

PARAGUAY
Market Access for Agricultural Products Project

1. **Gender indicators in Paraguay lag behind other South American countries.** In the 2018 "Gender Equality Index" (GEI, part of the UNDP Human Development Index), which measures women's disadvantage in reproductive health, empowerment and the labor market, Paraguay ranked 10 among the 11 South American countries listed, and 126 out of 177 worldwide. The 2010 Global Gender Gap Index—the World Economic Forum index which assesses gender-based disparities based on economic, political, education, and health criteria--ranked Paraguay 9th (out of 12) among South American countries and 69th in the world (down from 66th in 2009). Indeed, according to the Gender Inequality Index, gender inequalities have been reducing since 1995[29], even if they plateaued since 2013, as visible in the graph below.



Source: Author's analysis from http://hdr.undp.org/en/data#

2. **Access to economic opportunities is a key gender gap in Paraguay**. Gender gaps are most evident in patterns of employment and incomes, access to resources, control over assets and decision-making, access to justice and freedom from violence, particularly in rural areas. While 16.7 percent of man above 15 years of age have no income, this increases to 34.7 percent in the case of women[30]. This disparity increases even more in rural area, where 15.9 percent of men have no income versus 39 percent of women. 41.5 percent of women are inactive because they work in the house or for family reasons, versus only 2.35 percent of men. When they have an income, the average income for women is 30 percent less than for men in urban areas, and the disparity increases to 42 percent in rural areas. Women are over-represented in unskilled and informal employment, with 27 percent concentrated in unskilled occupations (as opposed to 17 percent of men) – many of whom work as domestic workers.

3. **Access to economic opportunities presents a larger gap than access to education and health**. Years of education are similar across gender, while illiteracy rates are 20 percent higher for women, with much more rural-urban difference (urban illiteracy rates are 2 percent for male and 4 percent for female in urban areas, while in

[29] A reduction of inequality is positive, since the objective is to reduce inequalities.
[30] The statistics of these two paragraphs are from this paper: *https://www2.unwomen.org/-/media/field%20office%20americas/documentos/publicaciones/igualdad%20de%20ge%CC%81nero%20y%20principales%20brechas%20en%20paraguay.pdf?la=en&vs=1954*

rural areas they are 8 percent for men and 10 percent for women). Access to health services are slightly higher for women than men (71 percent for men versus 76 percent for women), even if this may not be enough to compensate for higher reproductive and maternal needs. Maternal mortality rates continue to be high, with Paraguay 7 out of 10 among South American countries with 150 per 100,000 live births.

4. **Access to agricultural land**. The concentration of agricultural land ownership in Paraguay is one of the highest in the world. Yet, due to changes in the Agricultural Statute in 2002 the number of farms headed by women increased from 9 percent in 1991 to 22 percent in 2008 (data from agricultural census). In 2018, according to the RENAF (*Registro Nacional de Agricultura Familiar*), farms headed by women raised to 39.4%, but represented only 30.4 percent of the surface. The smaller the farm size, the higher the probability that the farm is headed by a woman: 44.8 percent of farms below 5 ha are headed by women, versus 26.2 percent of farms over 50 ha. According to INDERT (*Instituto Nacional de Desarrollo Rural y de la Tierra*) 86.3 percent of the beneficiaries of land reform programs are men.

5. **Access to technical assistance/extension and finance is a key gap, particularly in rural areas**. In 2018, 44.7 percent of the beneficiaries of DEAg technical assistance were women, but they were only 12.4 percent of the beneficiaries of commercial system assistance and 22.6 percent of the beneficiaries of technology assistance for productivity enhancement. Regarding credit access, 27 percent of the beneficiaries of credits from CAH (*Crédito Rural de Habilitación*) were women. Yet women play a key role in the production and marketing of important agricultural products, like corn, cassava, horticulture, milk, small animals like poultry etc. Woman do play a central role particularly in the marketing of some products, those typically sold in “ferias”. These are informal fairs where producers make available for the market a variety of agricultural products: fruits and horticulture, cheese, eggs and poultry, etc. Often, women are leading this type of marketing initiative.

6. MAG developed a Policy on Gender Equality and Interculturality for Rural Areas. Such policy identifies the following main causes of such gender gap in access to technical assistance/extension and finance: (i) limited understanding and institutionalization of the gender perspective in MAG; (ii) limited access to information and training; (iii) weakness of women’s organizations; (iv) more attention on conventional assistance than on innovation, access to markets and micro-entrepreneurship (the areas where women have an advantage); and (v) constraints on women participation on assistance programs due traditional structure of family roles and domestic violence.

7. **The PRODERS experience**. PRODERS proved that with adopting matching grants rather than credit contributes to reducing gender inequalities. That is how the project was able to benefit more women than men: 52.7 percent of the project direct beneficiaries have been women. Particularly successful was the experience with agricultural fairs, which are often led by women. To note that the project has supported the sale of around US$42 million dollars of sales by its beneficiaries since the project started to measure such indicator in 2015. A significant share of these sales were though agricultural fairs, mostly led by women.

8. **Consultations**. The consultations carried out in October/November 2019 for the preparation of the proposed project confirmed the significant role of women. Many women participated actively in the project consultations, presenting concerns and proposing solutions. For instance, cultural obstacles may still be significant: at times husbands may not allow their wives to participate in project meetings. Other obstacles may be practical solutions, such as availability of child care during the meeting, proper selection of meetings times and similar. The consultations also confirmed the value of fairs as a space for women empowerment.

9. **The proposed project is addressing two of the key gender gaps in Paraguay**. By providing technical assistance and matching grants for investments, and by focusing on innovation and access to markets, the project would address two key gaps with potentially significant benefits in term of gender equality. One of the challenges is to properly measure such benefits. The project will address gender gaps in several ways.

10. To build organizational capacity among women, the project will take five specific actions. First, pre-investment activities will provide support to form groups, understand group dynamics, and learn about the benefits of working collectively to increase production volumes and sales capacity. Second, women will be supported to form common interest groups along selected value chains. Third, during implementation, women with high leadership potential will be selected and trained to be coaches who can lead efforts to organize and act as resource persons to transfer skills. Fourth, targeted assessments, organizational strengthening, and business development will be supported to strengthen women's organizations. Finally, the project will also support peer mentorship and exchange visits to demonstrate success and what is possible through better organization. When possible, all trainings will be provided in the afternoon, when women are more flexible, and a service to look after children will be provided by the project,

11. To increase women's productivity and access to markets, the project will take three specific actions. First, it will focus on pre-investment activities, by providing technical support for women to develop sound business proposals for growing their agribusinesses and acquiring the soft skills that can empower them to embrace risk and use their new knowledge. Second, the project will register organizations. It will educate women about the benefits of registering their enterprises and assist them to register their businesses and associations and/or become members in cooperatives. Third, during implementation the project will provide targeted training, mentoring, and workshops for women on business planning, marketing, digital skills, and financial literacy to help women gain an appreciation of how to make a profit from their agriculture and tourism-related services and products. Trainings will also include sessions on gender rights and available channels to report gender-based violence.

12. To enhance institutionalization of gender perspective within MAG, the Project will provide training to extension agents and government officials working in the Project.

13. **Indicators**. The following first two indicators will capture two specific action designed to address the above described gaps. In addition, all indicators where possible will be disaggregated by gender.

#	Indicator	Target	Comment
1	Public sector staff taking gender trainings provided by the project (Number)	1,000	A total of 1,000 staff of the Ministry of Agriculture (and INDI) are expected to be trained in gender training, including how to address gender-based violence. The objective is that all staff trained receive also training on gender.
2	Women-tailored trainings to provide additional support for women-led businesses	20%	At least 20 percent of the proposed trainings will be targeted to women led business with topics of their specific interest such as accounting, micro-entrepreneurship, market information, etc.
Disaggregated indictors			
3	Number of individuals directly benefitting from the Project, disaggretated by gender	Males: 60% Females: 40%	PRODERS has benefitted 52 percent of families headed by women. The highest share of women was in the Family by Family approach, that targeted extreme poverty, where it is common that women are head of family. The proposed project will not be able to achieve the same target because the increased capacity of beneficiaries has a lower number of women as heads of family.
4	Farmers reached with agricultural assets or services (CRI)	Males: 60% Female 40%	It is expected that 40 percent of farmers head of household will be women.
5	Farmers adopting improved agricultural technology (CRI, Number) disaggregated by gender.	Males: 60% Females: 40%	This is a corporate indicator (CRI).
6	Members of producers' organizations trained by the project (Number) disaggregated by gender	Males: 60% Females: 40%	
7	Public sector staff trained by the project (Number) disaggregated by gender	Males: 60% Females: 40%	This indicator is different from the previous one. The objective this disaggregation is that all the 30 percent female staff will receive training of any type.
8	Beneficiaries satisfied with technical assistance received (Percentage)	80% (both genders)	Disaggregated by gender
9	Farmers adopting improved agricultural technology (CRI, Number)	Males: 15,000 Females: 10,000	Disaggregated by gender
10	Gender disaggregation of the number of extension agents and field technicians	35%	Current baseline is 30 percent in DEAg (32 percent in PRODERS). Since the project will not hire a significant number of agents, it may be difficult to significantly increase this ratio.

Annex 7: THE PRODERS EXPERIENCE

PARAGUAY
Market Access for Agricultural Products Project

The experience of PRODERS

1. The Sustainable Agriculture and Rural Development Project (PRODERS, P088799) is a project funded by two World Bank Loans (plus Government and Beneficiary Counterparts):

- the original Loan of $37.5 million approved on January 29, 2008, that became effective on June 30, 2009; and
- an Additional Financing (AF) of US$100 million (Loan 8316), which was approved on December 5, 2013 and became effective on September 25, 2014.[31]

2. Original PDO: "*To improve the quality of life of Small-Scale Farmers and Indigenous Communities in the Project Area in a sustainable manner, through the support of actions to strengthen community organization and self-governance, improve natural resources management and enhance the socio-economic condition of said farmers and communities*", later revised "To improve in a sustainable way the socio-economic condition of Small-Scale Farmers and Indigenous Communities in the Project Area, through the support of actions to strengthen their community organization, self-governance, and access to markets and value chains".

3. The project is a "Community-Driven" operation, where beneficiary small farmers receive a combination of technical assistance and investments with an average composition of around 35-65 ratio. Beneficiary organizations of small farmers and Indigenous Communities were selected based on poverty levels (poverty maps and other poverty information derived from the various statistical systems). This assured that the project targeted the poorest areas and communities in the project areas. The technical assistance provided by the project helped small farmers and Indigenous Communities to (i) carry out a participatory planning exercise to decide what are the community's needs and the priority investments required to solve its limitations; (ii) prepare a community development plan; (iii) procure the goods to carry out the development plan; (iv) implement the actions included in the development plan; and (v) provide supporting documentation to account how resources were used. The whole process, including procurement and accounting, is key to increase beneficiaries' ownership and to strengthen their skills to contribute to sustainability.

4. Beneficiaries have a key role in selecting and deciding how to carry out the investments, in the selection of suppliers/providers, controlling the quality of delivered good, and in accounting. Accounting was a challenging activity: once beneficiaries had received the investments, providing accounting was not their priority. Besides, some local providers did not provide fiscally valid receipts, and this created significant implementation challenges. The administrative effort of the project was substantial, with around 30 percent of the coordinating unit's team dedicated to administrative issues (accountants, *fiscalizadores*, procurement specialists, etc.). Additionally, even technical staff had to dedicate part of their time to administrative issues. Yet this effort was key to build administrative capacity among Beneficiary Organizations, all of whom opened a bank account and learned how to use it, thus increasing their knowledge of financial issues and credit procedures.

[31] A common feature to both, original loan and AF, was the long period required to reach effectiveness (17 and 9 months respectively). This is due to the national requirement to obtain parliamentary ratification from both chambers of congress and it is an important fact to be taken into consideration in future operations.

5. In more than 10 years of implementation, the project went through various phases, with periods of rapid implementation (such as during 2016 and 2017, when around $25 million per year were disbursed). On average the project implemented an average of $12 million per year.

6. PRODERS reached around 285,000 individual beneficiaries, including 50,000 indigenous people, building significant capacity in 1,360 decentralized community organizations to plan and execute local development interventions. The targets of all 6 PDO indicators (Number of beneficiaries, Number of families that pass above the poverty line, Land productivity, Agricultural income and Associative Capacity) have been already exceeded, at times significantly. The project took longer than expected to be implemented and had serious implementation challenges due to capacity constraints.

7. PRODERS has had a significant impact on the socio-economic condition of small-scale Farmers and Indigenous Communities financing key local investments and supporting their technical and administrative capacity to use these investments to increase agricultural production and incomes. According the IICA independent evaluation, the project helped lifting almost 19,000 household above the poverty line (roughly, 75,000 people) while improving nutrition of a large number of beneficiaries. In addition, the project helped beneficiary to sell around $41 million of agricultural products from 2015 to 2019, an average of around $8.2 million per year, even though increasing sales was not the main project objective. This represents a significant element to for the sustainability of project investments.

8. A challenge that the project faced at local level was to work with extremely weak organizations and/or extremely poor farmers. Most of the Beneficiary Organizations, at the beginning, had only a vague idea of the quantities produced by their members, their sales, and therefore could not estimate their profitability (or lack of). Subsistence beneficiaries improved nutrition rather than increased profitability. Even if the impact on nutrition on health on health is significant, the project did not monitor health impact.

9. Project impact was particularly visible with Indigenous Communities, which represented around 23 percent of the beneficiaries and received around 18 percent of the World Bank Loans. This was the first time that a significant amount of resources (around $22 million) was invested in supporting Indigenous Communities in Paraguay. Notwithstanding the limited initial experience to work with this target group, and the difficulty to measure impact when the community structure is more important than household32, the benefits produced by the indigenous strategy of the project have been impressive, with recognition at various level (see FAO 2017 evaluation and IICA 2019 evaluation). There are two key reasons for the positive experience with Indigenous Communities: (i) Inputs and knowledge provided by the project together with a demand-driven approach were key to ease the transition from nomadic life to settled agriculture; and (ii) supporting the existing organizational structure of Indigenous Communities, increased the efficiency of the inputs provided.

10. The project faced major difficulty to develop a proper monitoring system, particularly since it started with paper data collection that was transferred in electronic database only years after their collection. Yet, after a long learning curve, and thanks to a continuous support by the World Bank and FAO, the project is now able to produce significant evidence of the benefits it has generated.

11. A project weakness was in its implementation arrangements. Given the limited capacity of DEAg of MAG, the project had to rely on the establishment of a team of field technical consultants who worked in parallel to

[32] Most poverty analysis are based on the household

DEAg providing support to beneficiaries. In addition to challenge project sustainability, this also generated frictions among various departments of the Ministry of Agriculture that caused internal conflicts and eroded the already limited implementation capacity.

12. **Fiduciary arrangements**. The community investments of PRODERS were implemented by the 1,364 beneficiary organizations and Indigenous Communities. This contributed to generate capacity and empower beneficiaries, but it also created a huge implementation challenge. On procurement, the communities carried out around 2,728 community procurement processes. It was challenging to implement and supervise such a huge number of community processes, where each process generated at least one delivery (and sometimes more than one), each of them with a separate payment. Each payment had to be justified with a fiscally valid receipt, something not common in remote rural areas. Therefore, also the accounting effort has been significant, particularly given frequent initial mistakes. The new project will continue to carry out community procurement, but it will adopt the following improvements: (i) the number of subprojects is reduced by two thirds, with the average size increased: 430 subprojects versus 1,364; (ii) informatization of the whole process will be required from the beginning of the process (condition for disbursement for subprojects); and (ii) the proposed project will use electronic receipts and processes as much as the Paraguayan law allows.

Table A7.1 – Comparison between PRODERS and the proposed project

	PRODERS	Access to Markets for Agricultural Products
Access to markets	Not an explicit objective	Enhanced access to markets and increased value of sales of the Beneficiary Organization are key project objectives
Implementation arrangements	DINCAP was in charge of overall administration, technical implementation, and M&E. It had to rely on a technical field structure that worked independently and on parallel to DEAg.	a) Technical field structure under DEAg (overall administration, coordination and M&E will remain with DINCAP); b) Institutional development support to various departments of MAG (DEAg, DC, DGP, UGR, etc.) for progressive enhancement of skills and capacities; c) Option to contract out field technical assistance to the private sector
Project area	Five departments of the Oriental Region of Paraguay	All 14 departments in the Oriental Region of Paraguay, with possible expansion to the Chaco Region after mid-term review
Target population	Organizations of small farmers or Indigenous Communities with high poverty levels.	Agricultural Producer Organizations or Indigenous Communities with agricultural potential as to allow them to establish sustainable linkages with markets (productive alliances)
Mechanism for beneficiary selection	Selection by MAG based on poverty indicators (top-down approach).	Calls for Proposal will require an active participation to present a subproject application by the Agricultural Producer Organization or indigenous community committing to counterpart funding, thus increasing the likelihood of beneficiary commitment
Access to Credit	The project did not support access to credit	The project will support enhancing financial literacy and training to facilitate access to financial services and existing lines of credit.
Family by Family	The project carried out a pilot to reach individual farmer in extreme poverty	No benefits for individual beneficiaries

Annex 8: PROJECT MAP

PARAGUAY
Market Access for Agricultural Products Project