

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PARAGUAY

PROJECT TO IMPLEMENT THE CENSUS AND AGRICULTURAL SURVEYS SYSTEM

(PR-L1147)

LOAN PROPOSAL

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ANNEXES	
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ELECTRONIC LINKS
REQUIRED
1. Multiyear execution plan and annual work plan (AWP)
2. Monitoring and evaluation plan
3. Environmental and social management report (ESMR)
4. Procurement plan
OPTIONAL
1. Project economic analysis
2. Institutional Capacity Assessment System (ICAS)
3. Program Operating Regulations
4. Census and surveys technical report
5. Public consultation with data users and producers
6. Public consultation with National Organization of Indigenous Peoples (ONPI)
7. Bibliography
8. Sociocultural analysis

ABBREVIATIONS

AWP	Annual work plan
CAA	Consejo Asesor Agrario [Agricultural Advisory Council]
CAN	Censo Agrario Nacional [National Agricultural Census]
DCEA	Dirección de Censos y Estadísticas Agropecuarias [Office of Agricultural Censuses and Statistics]
DGEEC	Dirección General de Estadística, Encuestas, y Censos [Bureau of Statistics, Surveys, and Censuses]
DGP	Dirección General de Planificación [Bureau of Planning]
DINCAP	Dirección Nacional de Coordinación y Administración de Proyectos [National Office of Project Coordination and Administration]
ESMR	Environmental and social management report
FAO	Food and Agriculture Organization
ICAS	Institutional Capacity Assessment System
MAG	Ministry of Agriculture and Livestock
OC	Ordinary Capital
ONPI	Organización Nacional de los Pueblos Indígenas [National Organization of Indigenous Peoples]
PDA	Personal digital assistant
PEU	Program execution unit
SCSP	Sistema de Contrataciones del Sector Público [Public Sector Procurement System]
SICP	Sistema de Información de Contrataciones Públicas [Public Procurement Information System]
UNFCCC	United Nations Framework Convention on Climate Change
WAL	Weighted average life
WCA	World Programme for the Census of Agriculture

PROJECT SUMMARY

PARAGUAY PROJECT TO IMPLEMENT THE CENSUS AND AGRICULTURAL SURVEYS SYSTEM (PR-L1147)

Financial Terms and Conditions				
Borrower: Republic of Paraguay			Flexible Financing Facility ^(a)	
			Amortization period:	24 years
Executing agency: Republic of Paraguay, acting through the Ministry of Agriculture and Livestock (MAG)			Disbursement period:	5 years
			Grace period:	6 years ^(b)
Source	Amount (US\$)	%	Interest rate:	LIBOR-based
IDB Ordinary Capital (OC):	15 million	100%		Credit fee:
			Inspection and supervision fee:	(c)
			Weighted average life (WAL)	15.25 years ^(d)
Total:	15 million	100%	Currency of approval:	U.S. dollars from the Ordinary Capital
Project at a Glance				
Project objective/description:				
To contribute to improving the availability and quality of agricultural information in the country, to support decision-making by public and private stakeholders.				
Special contractual conditions precedent to the first disbursement of the loan proceeds:				
(i) The program execution unit has been established on the terms agreed upon with the Bank; and (ii) the borrower has provided evidence to the Bank's satisfaction, that the program Operating Regulations have entered into force (see paragraph 3.4).				
Special contractual execution conditions:				
The project will be executed in accordance with the contractual provisions on environmental, social, health, and safety matters identified in the legal requirements section of the environmental and social management report (ESMR), including Annex B.				
Exceptions to Bank policies: None.				
Strategic Alignment				
Challenges: ^(e)	SI	<input type="checkbox"/>	PI	<input type="checkbox"/>
			EI	<input type="checkbox"/>
Crosscutting themes: ^(f)	GD	<input checked="" type="checkbox"/>	CC	<input checked="" type="checkbox"/>
			IC	<input checked="" type="checkbox"/>

^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original WAL of the loan or the last payment date as documented in the loan contract.

^(c) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with applicable policies.

^(d) The original WAL may be shorter, depending on the signature date of the loan contract.

^(e) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(f) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. PROJECT DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 Agriculture is a key sector of the Paraguayan economy. In the period 2004-2016, it generated an annual average of 25% of GDP, and 30% of jobs. The sector has also grown at an average annual rate of 5.7% over that same period. Alongside this growth, agricultural exports have risen significantly over the last decade, representing 60% of the total value of exports in 2016.¹
- 1.2 This solid sector performance has occurred in the context of a dual productive structure. On the one hand, rapid growth can be observed in some areas, especially soybeans, which contributed 57% of agricultural GDP growth between 2004 and 2016. Based on Paraguay's last National Agricultural Census in 2008 (CAN 2008), the production of soybeans and livestock is concentrated on lands larger than 500 hectares. By contrast, survey data show that the average annual farm income of family farms (under 50 hectares, accounting for 96% of all farms, according to CAN 2008) devoted to sesame, cassava, sugarcane, corn, and other crops, fell from US\$3,121 in 1991 to just US\$981 in 2013. ([Willi, P., 1991; A-Fines and GIZ, 2014](#)).² Recent studies indicate that, to maintain this solid aggregate sector performance and improve farming income for rural families living Paraguay, productivity needs to improve through actions to promote the use of better technologies among small-scale farmers, greater diversification of production, and the introduction of production systems that help to better manage climate and other risks ([Nin-Pratt, A. et al., 2016](#)).
- 1.3 These recommendations are the result of an analysis of existing official statistics. However, decision-makers need robust, up-to-date information that allows them to work more precisely when designing and/or implementing instruments for public policy and/or private investment. Furthermore, the impact of different interventions can only be measured and assessed effectively if appropriate statistics are available. For that reason, statistics are needed on land use, agricultural production factors, the predominant economic and social conditions faced by farmers, and other areas. Additionally, much of the income inequality seen in Latin America and the Caribbean can be attributed to factors such as race, place of birth, education level of parents, gender, and sexual orientation. Some case studies suggest that the benefits of having information are much greater than the costs of generating it. For example, Bruce Gardner reviewed the literature that quantifies the value of information on the agricultural market for private decision-makers, as well as for decision-makers in the public sector working on policy reforms relating to trade and investment in research and development in the U.S. ([Gardner, 2004](#)). The study confirms that the availability of this information has net benefits for decision-makers.
- 1.4 Data requirements for the agricultural sector are extensive and include information on the structure and management of agricultural holdings, agricultural production and inputs, food consumption, household income and expenditure, gender equality, the work force, and agricultural prices. There is also a growing demand for basic agroenvironmental data on greenhouse gas and ammonia emissions, to improve national greenhouse gas inventories. All these data could come from agricultural

¹ Source: Central Bank of Paraguay.

² See [optional electronic link 7](#) for a full bibliography.

censuses and sample surveys, population censuses and surveys, administrative records, and other sources.

- 1.5 An agricultural census is a statistical operation focused on collecting, processing, and disseminating data on the structure of the agricultural sector of an entire country, or a significant part of one. The basic objectives of agricultural censuses according to the World Programme for the Census of Agriculture (WCA 2020) ([FAO 2015](#)) are: (i) to provide data on the structure of agriculture, especially for small administrative units, and to enable detailed cross-tabulations; (ii) to provide data to use as benchmarks for, and reconciliation of, current agricultural statistics; and (iii) to provide frames for agricultural sample surveys.
- 1.6 In an integrated agricultural statistics system, an agricultural census provides: (i) an integrated set of data on food and agriculture, necessary for decision-making related to food, agriculture, and rural development; and (ii) sampling frames for the surveys, which are conducted more frequently to collect more detailed and timely data. It should also be based on the necessary quality standards and include the dissemination of the information, so as to meet the information demand of the public and private sectors.
- 1.7 The “Global Strategy to Improve Agricultural and Rural Statistics” ([World Bank, UNSD, FAO 2010](#)) published after a consultation process that included national statistical institutes, agriculture ministries, recommendations from the United Nations Security Council, experts and academics, and online forums. In its recommendations, the strategy identifies and highlights limitations in the production of statistical data for the agricultural sector and suggests that the conceptual framework for agricultural and rural statistics needs be expanded, and that the scope and coverage of such statistics should be broadened to include, for example, aspects of rural populations and households, fisheries, forestry, and other dimensions.
- 1.8 Some countries of the region, including Paraguay, therefore implemented technical cooperation operation ATN/OC-14750-RG, to develop a consensus-based shared conceptual and methodological framework for the IDB’s Regional Public Goods Initiative based on technical and practical criteria, to promote the production of agricultural and rural statistics sustainably over time. This regional public good, named “Development of Methodology for the Implementation of Agricultural Statistics Systems in Latin America and the Caribbean,” began with a diagnostic assessment³ of the capacity to produce and disseminate agricultural and rural statistics, looking at the legal framework, coordination within the national statistical system, financial and human resources, available infrastructure and equipment, and the type and quality of data. It also identified national needs, along with procedures for generating and/or compiling data and dissemination methods.

³ This assessment was based on responses to a self-administered standard questionnaire sent to the countries. The questionnaire had 233 items grouped into 23 categories under four dimensions, which were used to prepare a baseline country profile.

- 1.9 The findings of the regional public good assessment put Paraguay⁴ in Group 2 out of four groups, with Group 1 being the “weakest countries,” and Group 4 being the “strongest countries.” Group 2, “intermediate to weak countries,” also includes El Salvador, Belize, the Dominican Republic, and St. Lucia. According to this diagnostic assessment, the main limiting factors for agricultural statistics in Paraguay are institutional weakness due to a scarcity of resources, both human (core training) and material (physical infrastructure), and weak methods and practices. Added to these are poor coordination within the national statistical system and unawareness of data quality⁵ (see details in Table 1).

Table 1. Limiting Factors for Agricultural Statistics in Paraguay

Dominant limitations	<ul style="list-style-type: none"> • Transportation equipment for field activities • Sound methodology implemented for agricultural surveys • Development and updating of sampling frames
Significant limitations	<ul style="list-style-type: none"> • Number of professional staff for statistical activities in the main offices • Number of professional staff for statistical activities in the field • Technical skills of available statistical personnel • Up-to-date information technology hardware • Up-to-date information technology software • Lack of available funds for planned statistical field activities • Interagency coordination
Relevant limitations	<ul style="list-style-type: none"> • Number of support staff in the field for statistical activities • Office equipment (phone, Internet, office furniture) • Turnover of professional staff • Information sources exhausted

- 1.10 Paraguay’s current regulatory framework puts responsibility for producing agricultural statistics on the Ministry of Agriculture,⁶ as is the case in other countries inside and outside the region such as France, Uruguay, India, and the U.S. The legal foundation for statistical activities is based on two main laws: Executive Order 11126 of 1942, which reorganizes the Bureau of Statistics, Surveys, and Censuses (DGEEC) and gives it the authority for “technical direction of all statistical work;” and Law 81 of 1992, which designates the Office of Agricultural Censuses and Statistics (DCEA) as the executing agency responsible for preparing agricultural statistics and keeping them up to date by regularly conducting the CAN. Paraguay has also developed the National Strategy for Statistical Development, based on the principles

⁴ On a scale of 0 to 100, Paraguay received 28 points, ahead of only Argentina (21) and Venezuela (14) in a group of 13 Latin American and Caribbean countries that averaged 45. The best score was obtained by Mexico (82), followed by Brazil (71). Among the items with the lowest score were: (i) coordination within the statistical system, strategic vision and planning, and trained human resources, with a score of 0; (ii) data collection technologies, with 9; and (iii) awareness of quality, with 23.

⁵ “Diagnóstico sobre las capacidades instaladas en los países de ALC para la producción y difusión de estadísticas agropecuarias rurales” [Diagnostic assessment of installed capacities in the LAC countries for the production and dissemination of rural agricultural statistics], Miguel Galmés, technical cooperation operation ATN/OC-14750-RG IDB.

⁶ Law 81/92 of 22 December 1992 establishing the organizational and functional structure of the Ministry of Agricultural and Livestock (MAG).

of the PARIS 21 initiative.⁷ Nevertheless, the statistical sector is not coordinated as a whole, nor is there one institution with the legal mandate to lead and coordinate the process of preparing statistics across sectors and institutions.

- 1.11 Paraguay's most recent agricultural census was performed in 2008 and was the fifth in the country's history since 1944. A decade has passed since that census (CAN 2008), and the information from it no longer reflects the current conditions in the country. It lacks the data to assess quality (omission and nonresponse rates), nor is there data on information requests classified by type of user or how that information is used. Some users have questioned the reliability of the data, because of the way the field work was done, and the data processed. The data are also not broken down by thematic area: gender and indigenous peoples. Paraguay does not have a system of regular, reliable surveys to monitor and follow up on trends occurring after the previous intercensal period (1981-2008). Data need to be quantified on the expansion of the land area devoted to annual crops, deforestation, new operators and the development of technology-based business production models, new ways of organizing production, and other developments.
- 1.12 The Office of Agricultural Censuses and Statistics (DCEA) is the unit of the Ministry of Agriculture and Livestock (MAG) responsible for "preparing and updating agricultural statistics, for which it regularly conducts the National Agricultural Census."⁸ A preliminary assessment of the current organizational and financial structure of the DCEA reveals weaknesses in: (i) technical human resources, in terms of both number and knowledge that is sufficiently up to date to work using advanced technologies and statistical methods (out of 39 DCEA employees, only 15 have university degrees, and 50% of those have low levels of training or outdated knowledge of census procedures); (ii) equipment and materials (100% of computer hardware is obsolete, and the vehicle fleet has been reduced by 80% over the last five years); and (iii) strategic planning for data collection based on statistical methods. Annual DCEA estimates of agricultural output are derived from data provided by authorized data reporters, which is an imprecise and unreliable type of information. Consequently, strengthening the DCEA both technically and administratively would benefit the decision-making and policy formulation process of the MAG, and particularly its Bureau of Planning (DGP)⁹ responsible for planning, monitoring, coordination, and assessment, as well as other public and private entities.
- 1.13 The assessments mentioned above clearly underscore the need to strengthen country systems for agricultural statistics. This means not only having more information available, but improving the timeliness and quality of that information in a cost-effective manner. Adopting modern information technologies is a key factor in meeting these objectives, as their benefits in quality and economic efficiency have been proven in other countries. An example is the use of personal digital assistants (PDAs) to conduct surveys and censuses, known as computer-assisted personal interviewing (CAPI), instead of pen-and-paper interviewing (PAPI). Reliability, accuracy, timeliness, accessibility, and consistency are all quality indicators for

⁷ The Partnership in Statistics for Development in the Twenty-first Century (PARIS 21), established in 1999, promotes the better use and production of statistics throughout the developing world.

⁸ Law 81/92, Article 8.

⁹ A MAG unit: <http://www.mag.gov.py/index.php/institucion/dependencias>.

censuses that show improvements with the use of these new technologies ([Baker et al, 1995](#); [Caeyers et al., 2011](#); [Seligson and Moreno Morales, 2015](#); [Benstead et al., 2017](#)).

- 1.14 **The Bank's experience.** Since 2007, the Bank has approved a series of investment loans to help support censuses and strengthen statistical systems. These include: the Program to Support the Economic Census (loan 1918/BL-PR); Program to Develop the National Statistical System through the 2012 Population and Housing Census (loan 2542/BL-PR); Project to Improve the Agricultural Statistical Information System and the Agricultural Information Service for Rural Development in Peru (loan 3272/OC-PE); and the Sustainable Agricultural Development Program (loan 3798/BL-GY). Public good ATN/OC-14750-RG, Development of a Methodology for the Implementation of Agricultural Statistics Systems in Latin America and the Caribbean, is also now in execution.
- 1.15 Based on these operations, as well as the recommendations of the FAO's World Programme for the Census of Agriculture (WCA 2020) and IDB technical note "Experiencias en el diseño estadístico y realización de censos nacionales del sector agropecuario y rural" [Experiences in the statistical design and implementation of national censuses of the agricultural and rural sector] (document IDB-TN-366), Table 2 presents the main lessons learned and the how these have been incorporated into the design of the proposed operation.

Table 2. Lesson Learned

Recommendations	Incorporation into program design
1. The National Agricultural Census (CAN) must be considered part of an integrated national statistical system.	The program includes the generation of integrated information (census and surveys) of the national agricultural statistics system, as input for the national statistical system.
2. Pilot testing is necessary to prepare a high quality census questionnaire.	The program calls for a pilot to review and adjust critical parameters, such as the duration of surveys and the data collection and analysis method.
3. As a project activity, it is important to make respondents, producers, and users aware of the value of accurate statistical information and utilizing that information to improve the quality of public policy and decision-making.	The program will finance a communication and dissemination plan to raise awareness in the target population prior to collecting information, along with widespread dissemination of findings through various sources.
4. The extensive involvement of public and private sector users in designing the census questionnaire ensures that useful information is collected.	To design the census questionnaire, the program calls for workshops with the participation of public and private sector users.
5. Political commitment to the census at the highest level is important.	The program includes joint activities with Agricultural Advisory Council (CAA) to ensure that it is a political priority.
6. Include the gender perspective in the design of the questionnaires.	The program supports the incorporation of questions that will generate information on gender and diversity in census and survey forms, following the guidelines of the FAO's WCA 2020.

Recommendations	Incorporation into program design
7. Work with advanced technologies for data collection.	The program incorporates the use of PDAs for personal interviews and a Web-based data transmission system to enhance data quality and reduce the time required for collection and analysis. It also includes the use of satellite imagery to make land-use and production estimates. The use of PDAs will also facilitate the implementation and quality control of the census.
8. Institution-strengthening must be prioritized to ensure census continuity and the ongoing quality and dissemination of statistical information.	The program includes investments to help strengthen the DCEA, so that data collection, analysis, and dissemination actions are sustainable. A cooperation agreement with the DGEEC is also planned.
9. Synchronized administrative management is necessary when executing a mass data collection operation.	The program calls for a company or international agency with experience in human resource management to be engaged for the selection and hiring of census takers.

- 1.16 **The country's sector strategy.** The project is linked primarily to the principal points and objectives of the National Development Plan 2030, as well as the MAG's Agricultural Strategic Framework 2014-2018 and Institutional Strategic Plan 2014-2018. In terms of the National Development Plan 2030 and its major areas of strategic focus—poverty reduction and social development, inclusive economic growth, and positioning Paraguay as a global player—the project will provide essential input to identify evidence-based actions to support farming families and rural populations. The program will also contribute to the MAG's Agricultural Strategic Framework 2014-2018 by supporting public policy design and the adoption of sector development measures, as one of the objectives is to make information available for such purposes. The program also fits into the MAG's Institutional Strategic Plan 2014-2018 by supporting the establishment of an agricultural information system that integrates information on climate, economics, and technology, as well as statistical synthesis and studies of current economic conditions and sector performance, to provide the different users with data for decision-making.
- 1.17 **The Bank's country strategy.** This operation is aligned with the Bank's country strategy with Paraguay 2014-2018 (document GN-2769), since it contributes to the strategic objective to "Increase the supply of agricultural public goods and services."
- 1.18 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008), specifically the crosscutting themes of: (i) institutional capacity and rule of law, as it seeks to strengthening the institutions that generate agricultural statistics; (ii) gender equality and diversity, as it generates differentiated information by thematic area: gender and indigenous peoples; and (iii) climate change and environmental sustainability, as it provides reliable information for building a national emissions inventory. The program is also aligned the Corporate Results Framework 2016-2019 (document GN-2727-6) under the indicator, "Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery," through the outcome indicator "Improvement in institutional capacity to collect and process agricultural statistics" in the program's Results Matrix. It is consistent with the Dimension of

Success 1 of the Agriculture and Natural Resources Management Sector Framework Document (document GN-2709-5), which advocates that agriculture in the region achieve high levels of productivity and proposes the modernization of statistics systems as an activity under its second line of action. Lastly, it is consistent with the Sector Strategy on Institutions for Growth and Social Welfare (document GN-2587-2) through support for public sector management through integrated information systems.

- 1.19 Approximately 6% of the resources of this operation will be invested in climate change adaptation activities, based on the [joint methodology of the multilateral development banks for estimating climate finance](#). These resources contribute to the IDB Group's goal to increase the financing of climate change-related projects to 30% of total approvals by the end of 2020.

B. Objectives, components, and cost

- 1.20 The general objective of this project is to contribute to improving the availability and quality of agricultural information in the country, to support decision-making by public and private stakeholders. The program has the following components:
- 1.21 **Component 1: Design and implementation of the agricultural census (US\$10.32 million).** This component will finance the implementation of the agricultural census with emphasis on guaranteeing quality, proper thematic coverage, and the timely and wide dissemination of the information generated. As an innovation, this census will adopt the use of an electronic questionnaire and data capture using mobile devices in the field. The census will have a crosscutting gender approach, to get women more involved and increase their visibility in their role as both producers and workers. All relevant information will also be disaggregated by indigenous community and will address issues of environmental conservation. The agricultural census process to be financed will have the following stages: (i) pre-census: cartographic updates and georeferencing of farms, pre-census survey, and development of the data capture system; (ii) census: data collection pilot test and field operation; and (iii) post-census: data quality analysis, post-census survey, and dissemination of results. To promote the quality of data collection, this component also envisages: (i) validations and controls in the electronic form that assist census takers in their work; (ii) a pilot test in the field to validate the electronic forms; and (iii) dissemination actions to inform and motivate the respondent population. An information processing and analysis system will be developed that encompasses everything from database consolidation and quality control to the generation of the primary tabulations and making the information (including microdata) available to users online, in as much detail as permitted by laws and regulations on the confidentiality of the information. As an additional layer of quality control for the information generated, a post-census survey is planned to validate the accuracy of the census itself.
- 1.22 **Component 2: Institutional strengthening of the entities in the agricultural statistics system (US\$3.67 million).** This component will strengthen the capacity of the Office of Agricultural Censuses and Statistics (DCEA) to generate reliable and up-to-date agricultural statistics. The strengthening process includes: (i) developing IT tools to support the adoption of best practices for agricultural censuses; (ii) updating knowledge of census processes in the region by sending DCEA technical staff abroad and hiring experts to bring DCEA technical staff up to date on

practices used; (iii) renovating buildings; (iv) purchasing computer hardware; (v) purchasing vehicles to ensure that the DCEA can operate throughout rural areas; (vi) developing a model for the use of satellite imagery to produce agricultural statistics that can be validated with census information; (vii) conducting thematic studies with the census information; and (viii) conducting two surveys built on the census sampling frame to update relevant information on the sector. The topics of these surveys will depend on the studies and policy priorities, but may include agriculture, livestock, production costs, and family farming. Agricultural statistics are also expected to be incorporated into the national statistical system under an agreement with the DGEEC.

C. Key results indicators

- 1.23 The program Results Matrix has been agreed upon with the borrower (Annex II) and contains impact, outcome, and output indicators for the program, as well as its baselines and targets. In keeping with the program objective, the impact indicators also seek to capture the two dimensions of availability and quality of agricultural information. As a substitute for availability, the number of census information requests is used as an indicator. The indicator to evaluate the expected changes in the quality of information will be user ratings. At the outcome level, indicators are included for three different dimensions: (i) the quality of the census will be assessed by comparing the census results to the results of the post-census survey, omission rate, and nonresponse rate; (ii) the improvement in the timeliness and availability of agricultural information will be verified through a shorter time lag between the conclusion of field work and publication of the final results, as well as through a shorter time devoted to data collection in the field; and (iii) the improvement in agricultural statistical capacity will be assessed through the rating of installed capacities for the production and dissemination of agricultural and rural statistics.
- 1.24 As an added benefit, strengthening the agricultural census makes the source of information used to build Paraguay's national emissions inventory more reliable, enabling Paraguay to comply with current requirements under the United Nations Framework Convention on Climate Change (UNFCCC) and transparency guidelines under the Paris Agreement.¹⁰ It also generates information on land use (pastures, forests, crops), livestock, etc., that can be used to assess resilience, design public policies on adaptation, and makes it possible to pose specific questions on mitigation and/or adaptation. The program will also benefit Paraguayan farmers and ranchers (currently estimated at 300,000), public and private institutions, and other links in the agrifood chain.
- 1.25 The use of mobile devices for data capture and satellite imagery are technological innovations that will benefit the country's statistical capacity in the context of the agreement signed with the DGEEC. The program will also receive advisory support from the National Secretariat for Information and Communication Technologies (SENATICs) on the technical specifications of computer hardware and connectivity. These interagency agreements, along with efforts to strengthen the MAG/DCEA, aim to make the generation of agricultural statistics sustainable.

¹⁰ The Paris Agreement (2015) is part of the UNFCCC, which establishes measures to reduce greenhouse gas emissions through mitigation, adaptation, and resilience of ecosystems to the effects of global warming.

- 1.26 **Economic viability.** The economic analysis of the program was based on the economic viability of the 2018 National Agricultural Census (CAN 2018), the costs of which represent nearly 80% of total program resources. The analysis of the economic viability of the census employed the least-cost methodology (a specific instance of cost-effectiveness analysis). This methodology is commonly used in interventions of this nature, when it is recognized that the benefits (statistical information, in this case) have a very high value, but one that is difficult to quantify.
- 1.27 The anticipated costs of the agricultural census indicate that it will be cost-effective (See optional electronic link 1). The estimated total cost of CAN 2018 is US\$11,627,262,¹¹ including all aspects of the preparation, survey, processing, and dissemination phases. The estimated number of productive units to be enumerated will be around 300,000, yielding a cost per productive unit of US\$39.¹² This figure is higher than was budgeted for the agricultural censuses in Nicaragua (2011, US\$23) and Honduras (2008, US\$27), but lower than was budgeted in Brazil (2018, US\$47) or the actual figure in Uruguay (2011, US\$73). Factoring in the land area (which affects the cost of field work), the cost per square kilometer of CAN 2018 in Paraguay will be US\$29, which is higher than in Uruguay (2011, US\$18.5) and similar to Brazil (2018, US\$29), but lower than in Nicaragua (2011, US\$49) and Honduras (2008, US\$71). The cost of the agricultural census will therefore be within the range of costs of other recent agricultural censuses performed in countries of the region.
- 1.28 Another relevant comparison is the costs budgeted for the census using computer-assisted personal interviewing (CAPI) (US\$11,627,262) versus the costs that would be expected using pen-and-paper interviewing (PAPI) (US\$12,330,855). The use of PDAs instead of paper questionnaires will save approximately US\$700,000. This figure does not reflect the fact that CAPI offers better quality control than PAPI, so the financial gains of adopting CAPI are even greater.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 This project is designed as a specific investment loan under the Flexible Financing Facility (document FN-655-1) and the specific investment modality. Its total cost is US\$15 million, to be financed totally by the Bank from the Ordinary Capital resources.

¹¹ This figure includes the amount of Component 1, plus an amount corresponding to equipment and management and evaluation costs for the project.

¹² All figures presented in the economic viability analysis are expressed in 2016 U.S. dollars. The sources of this data are the FAO, Uruguay's Office of Agricultural Statistics (DIEA), and the DCEA (Paraguay).

Table 3. Program Cost and Financing (in US\$000)

WBS	Components	IDB	%
1	Component 1: Design and implementation of the agricultural census	10,320	69%
2	Component 2: Institutional strengthening of the entities in the agricultural statistics system	3,670	24%
3	Administration, audit, and evaluation	710	5%
4	Contingencies	300	2%
	Total:	15,000	100%

* These amounts include local taxes.

- 2.2 The program disbursement period will be five years, running from the effective date of the loan contract. Disbursements will be made in the form of advances of funds (see paragraph 3.7).

Table 4. Disbursement Schedule (in US\$)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total	1,559,201	11,117,339	895,705	803,553	624,202	15,000,000
%	10%	74%	6%	6%	4%	100%

B. Environmental and social safeguard risks

- 2.3 In accordance with the Environment and Safeguards Compliance Policy (Operational Policy OP-703), the Bank has analyzed the potential environmental and social risks of this operation and classified it as category “B,” with a moderate level of risk. No significant environmental or social risks have been identified in the [sociocultural analysis](#) prepared for this project. The identified environmental and social risks relate primarily to interactions between census takers and the indigenous population, risks faced by census takers when travelling to socially complex areas, and the risk that the census questionnaire may not be sensitive enough to the sociocultural complexity of indigenous peoples and gender issues in agriculture. The sociocultural analysis includes recommendations on these issues to promote the inclusion of vulnerable population groups like indigenous peoples and small family farmers, with a gender approach.
- 2.4 In accordance with Operational Policy OP-703, Directive B.6, this project requires at least one public consultation. This requirement was met with two consultations conducted with key stakeholders: (i) one with [public and private sector](#) data users, and (ii) another with the National Organization of Indigenous Peoples ([ONPI](#)). Additional consultations with other social actors are also planned as part of the census preparation process, especially, once a draft census form is ready. More information on this matter is included in the annex, Environmental and social management report ([ESMR](#)).

C. Fiduciary risks

- 2.5 The fiduciary risk is low, so no special mitigation actions are planned.

D. Other project risks

- 2.6 The following was identified as high risk: a government changeover would affect priority or execution time. The planned mitigation measure is to rely on political consensus and the sectoral private sector, as well as the mandate contained in

Article 8 of Law 81 of 1992, and international commitments (the 2030 Agenda for Sustainable Development). The following were identified as medium risks: (i) public administration fails to keep pace with census operation needs; (ii) no decree issued to conduct the census; (iii) refusal to provide information to census takers; (iv) political decisions not to disseminate census results; and (v) loan contract fails to enter into effect in 2018. The following mitigation activities were identified and agreed upon, supported particularly by the Agricultural Advisory Council (CAA) for the census, made up of prominent individuals from the public and private sector, to back up policy-level actions at the key entities identified: (i) the CAA will take steps to comply with administrative time frames; (ii) work will be done directly with the Office of the President; (iii) an efficient communication campaign will be launched (local authorities and civil society); (iv) the CAA will take steps to raise awareness among public sector stakeholders, with IDB support; and (v) the MAG, CAA, and project team will work with Congress for it to take up this law for consideration.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 The borrower will be the Republic of Paraguay, and the executing agency will be the borrower, acting through the Ministry of Agriculture and Livestock (MAG), which will be fully responsible for administration and supervision of the program.
- 3.2 The program will be implemented under the direct supervision of the MAG, acting through the Office of Agricultural Censuses and Statistics (DCEA) and the National Office of Project Coordination and Administration (DINCAP). The DCEA, supported by a program execution unit (PEU) reporting directly to the DCEA director, will provide general coordination of program execution, programming, and monitoring, ensuring that the conditions and targets set in the loan contract are met, and serving as principal liaison between the IDB and the borrower during execution. DINCAP will perform administration and finance activities, as well as procurement and contracting, in coordination with the PEU.
- 3.3 The key positions identified for the PEU for program execution are: (i) general coordinator; (ii) Component 1 coordinator; (iii) Component 2 coordinator; (iv) financial and administrative specialist; (v) procurement specialist; and (vi) planning and monitoring specialist.
- 3.4 **Special contractual conditions precedent to the first disbursement of the loan proceeds: (i) the program execution unit has been established on the terms agreed upon with the Bank; and (ii) the borrower has provided evidence, to the Bank's satisfaction, that the program Operating Regulations have entered into force.** These conditions must be satisfied for implementation to begin. The program Operating Regulations establish the basic rules for the execution of the loan (e.g., field work, supervision, and regional coordination, information processing and analysis, and fiduciary considerations), as well as the responsibilities of PEU members.
- 3.5 **Procurement of works, goods, and nonconsulting services.** Procurements financed in whole or part with IDB funds will be conducted pursuant to the Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and

Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9). The [procurement plan](#) contains detailed information on the procurements to be implemented during execution, as well as the procedures followed by the Bank for their review. Numerous low- and medium-skilled operational staff will be hired (approximately 5,300 people) to collect CAN information in the field. To do so, an international competitive bidding process will be held to engage a firm with experience in human resources management, or an international agency with such experience will be contracted. No selection processes involving single-source selection are planned, with the exception of fuel purchases, since this product can be obtained from only one source¹³ under the fuel provision agreement between Petróleos Paraguayos (PETROPAR) and the executing agency,¹⁴ and other cases where it is justified under policy documents GN-2349-9 and GN-2350-9.

- 3.6 The Fiduciary Agreements and Requirements (Annex III) establish the framework applicable to program execution for financial management and planning, as well as procurement supervision and execution. An intervention of this nature entails significant travel expenditures and an additional time commitment from employees of the MAG or other government agencies called upon to prepare and implement of the census, as well as process and disseminate the information generated. The estimated expenditure for these tasks is approximately US\$1.3 million, broken down as follows: per diems (per MAG regulations) (33%), gas (21%), and additional compensation (45%). This last item must be justified by the Budget Act and in line with expense items 123, 125, and 137, depending on the different cases of employees that take on additional work.¹⁵
- 3.7 **Disbursements.** The disbursement modality will be as established in the Financial Management Guidelines for IDB-financed Projects (document OP-273-6). Advances will be made preferably on a six-monthly basis, once justification has been provided for at least 80% of the advanced amount. Accountability forms and the financial planning spreadsheet must be submitted as documentation.
- 3.8 **Audits.** The PEU will deliver the audited financial statements for the program on an annual basis during execution on the terms required by the Bank. The project will require the selection of a Plus-level independent auditing firm. The audited financial statements will be delivered within 120 days after the close of each fiscal year, and the closing final statement will be delivered within 120 days following the scheduled date for the last disbursement.

B. Summary of arrangements for monitoring results

- 3.9 The project has a detailed [monitoring and evaluation plan](#) agreed upon with the MAG. The DCEA, acting through the PEU, will be responsible for generating and sharing the necessary information with the Bank to track the Results Matrix indicators.
- 3.10 **Monitoring.** Throughout project execution, the PEU will prepare and deliver status reports to the Bank within 60 days after the end of each six-month period. These

¹³ Document GN-2349-9, paragraph 3.6(c).

¹⁴ Based on Article 316 of Decree 176 implementing Articles 128 and 129 of Law 5554/2016.

¹⁵ The program does not call for counterpart support to be factored into the calculation.

reports will provide a detailed account of physical and financial execution of the project, as well as progress on all Results Matrix indicators. The reports will also provide a detailed account of issues encountered during project execution, and corrective measures taken, as well as explain any deviation from the project management instruments (multiyear execution plan, annual work plan (AWP), and procurement plan). No later than the last quarter of each year of project execution, the PEU will deliver the AWP for the following year, to the Bank's satisfaction, as well as the maintenance plan for equipment purchased with the loan proceeds and the plan for meeting the environmental and social requirements established in the environmental and social management plan (ESMP). Bank staff will conduct regular inspection missions and meet with PEU personnel to discuss the progress of activities identified in the AWP, compliance with the Results Matrix indicators, the AWP for the following year, and the procurement plan for the next 12 months.

- 3.11 In addition to overall monitoring of execution, the project will incorporate several different measures to oversee data gathering and ensure the quality of information in CAN 2018 and the agricultural surveys in the two subsequent years. Firstly, a cartographic update will be done, to minimize the likelihood of omissions or duplications during data collection. Secondly, the PDAs used to collect information will have a built-in, automatic verification program. This way, any inconsistency in responses, whether contradictions or mistakes on the part of the respondent or errors on the part of the census taker when entering the information into the PDA, will be detected and corrected immediately. Thirdly, CAN 2018 will have a Web-based data transmission system for the immediate and simultaneous application of controls on progress and coverage in the field, and the data registered by census takers.
- 3.12 As established in the [monitoring and evaluation plan](#), the project will have a midterm and a final evaluation. The midterm evaluation will be conducted 90 days after the date on which 50% of the loan proceeds have been committed, or 50% of the execution period has elapsed, whichever occurs first. The objective of the midterm evaluation will be to review the progress of all activities, examine the causes of any potential deviation from the planned progress, and propose corrective measures. The final evaluation will be conducted 90 days after the date on which 95% of the loan proceeds have been disbursed. These reports will include: (i) financial execution by subcomponent and the source of financing; (ii) progress on outputs, outcomes, and impacts included in the Results Matrix; (iii) compliance with the ESMP; (iv) summary of financial statements, procurements, disbursements, and internal control; (v) review of implementation; and (vi) lessons learned. Both the midterm and final evaluation will be conducted by external consultants independent of the PEU.
- 3.13 **Impact assessment.** The project will have a “before and after” evaluation of the impact indicators included in the Results Matrix, conducted as part of the final evaluation described above and the project completion report (PCR).
- 3.14 Additionally, CAN 2018 will include a post-census survey to measure omission and nonresponse rates, as well as the accuracy of certain key variables included in the census. This will make it possible to get an exact final value for the outcome indicators included in the Results Matrix. Significantly, there is no known experience with post-census surveys in the case of agricultural censuses, so this will be the only

census in the region to conduct such a survey. For that reason, CAN 2018 will not only yield benefits for Paraguay, but serve as an international benchmark.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Gender Equality and Diversity -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators		
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2769	Increase the provision of agricultural public goods and services.
Country Program Results Matrix		The intervention is not included in the 2017 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability	Evaluable	
3. Evidence-based Assessment & Solution	9.3	
3.1 Program Diagnosis	3.0	
3.2 Proposed Interventions or Solutions	3.6	
3.3 Results Matrix Quality	2.7	
4. Ex ante Economic Analysis	10.0	
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0	
4.2 Identified and Quantified Benefits	2.4	
4.3 Identified and Quantified Costs	1.2	
4.4 Reasonable Assumptions	1.2	
4.5 Sensitivity Analysis	1.2	
5. Monitoring and Evaluation	6.9	
5.1 Monitoring Mechanisms	2.3	
5.2 Evaluation Plan	4.7	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Low	
Identified risks have been rated for magnitude and likelihood	Yes	
Mitigation measures have been identified for major risks	Yes	
Mitigation measures have indicators for tracking their implementation	Yes	
Environmental & social risk classification	B	
IV. IDB´s Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System, Price Comparison.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Gender Equality		
Labor		
Environment		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The objective of the project is to contribute to improving the availability and quality of agricultural information in the country to support the decision-making of public and private agents. To achieve this objective, the project will implement two components: 1) Design and implementation of the Agricultural Census; and 2) Institutional strengthening of the entities in charge of the agricultural statistics system.

The documentation is well structured, with a good diagnosis of the problems and main weaknesses faced by the national agricultural statistics system, including institutional weaknesses, inadequate methods and statistical practices used, and lack of coordination in the national statistical system. Likewise, aspects of the previous agricultural census are identified that can be improved upon in terms of data quality, and the dissemination and use of these data.

The proposed solution is in line with the problems identified. The results matrix (RM) reflects the objectives of the program and shows a clear vertical logic. Higher-level indicators reflect benchmarks established in other censuses to measure data quality. The lower level indicators reflect the design of each component. The RM includes SMART indicators at the levels of impacts, results and outputs with their respective baseline values, targets, and means to collect information. Empirical evidence is provided on the utility and effectiveness of implementing surveys using the Computer Assisted Personal Interviewing (CAPI) method; however, the external validity of this evidence is not alluded to.

The economic analysis is based on a cost-effectiveness analysis. The cost per survey, and per square kilometer, is compared between this and other censuses in the region. The census cost is identified using the CAPI method and it is compared to the cost of the counterfactual if the PAPI (Pen-And-Paper Interviewing) method was used. The results indicate that the CAPI method will provide a census of better quality and at a lower cost. A sensitivity analysis is performed based on the main costs. The results indicate that the CAPI method will allow the country to save a significant amount of resources, which is in contrast if the census was done using the PAPI method.

The monitoring and evaluation plan proposes an evaluation using two methods: 1) reflexive evaluation; and 2) ex post cost-effectiveness assessment. The reflexive evaluation will use the results of the census and a post-census survey to measure the quality of the data in terms of omission and non-response rates. These results will provide important information, since there is no evidence from another agricultural census carried out in the region that undertakes a post-census survey to verify the quality of the data

The risks identified in the risk matrix seem reasonable. Risks include mitigation actions and compliance indicators.

RESULTS MATRIX

Project objective:	To contribute to improving the availability and quality of agricultural information in the country, to support decision-making by public and private stakeholders.
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EXPECTED IMPACT

Indicators	Unit of measure	Baseline	Base year	Final target	Means of verification	Comments
Impact: Improve the utilization and value of agricultural statistical information.						
Requests and downloads of information generated from the agricultural census	Information requests and downloads	110	2009	200	DCEA reports	No systematic record of consultations is available for the 2008 agricultural census. There are records of information requests that serve as a basis to estimate the quantity.
Quality rating of census data based on user perceptions	Score (1-5)	To be determined	2017	BL * 1.25	Survey of public sector users of agricultural information	Create a list of users of agricultural information. Determine consultation methodology and content of the rating form. Construct baseline with opinions on the 2008 census. For the new census, consider one year after the census is published to allow for dissemination.

EXPECTED OUTCOMES

Indicators	Unit of measure	Baseline	Base	Indicators	Unit of measure	Comments
Outcome 1: Improvement in the quality of the country's agricultural statistics						
Difference between the results of the post-census survey and the census	%	N/A	N/A	<5%	Publication of the census and results of the post census survey	For the main variables: land area, land use, and others to be determined when the census form is designed.
Overall omission rate	%	N/A	N/A	<5%	Agricultural census fact sheet	Comparison between the agricultural census and the post-census survey.
Nonresponse rate	%	N/A	N/A	1%	Agricultural census fact sheet and database	Comparison between the agricultural census and the post-census survey.
FAO Gender Index	Index	0	2009	1	The FAO Gender Index is calculated using items 1001-1005 of the FAO publication "World Programme of the Census of Agriculture 2020," dividing the number of responses that can be obtained based on census information by the total number of items (5)	Gender monitoring.
Indigenous population index	Index	0	2009	1	The indigenous population index has a value of 1 if the main census variables can be stratified based on the producer's ethnic origin, and 0 if the census data cannot be broken down by this criterion	Ethnic monitoring.

Indicators	Unit of measure	Baseline	Base	Indicators	Unit of measure	Comments
Outcome 2: Improvement in the timeliness and availability of agricultural information						
Time lag between the end of field work and publication of results	Months	12	2009	6	Presentation of final results	Construct baseline using the 2008 census.
Time taken for field work	Months	9	2008	4	Agricultural census fact sheet	DCEA report on 2008 census as baseline.
Outcome 3: Improvement in institutional capacity for the collection and processing of agricultural statistics						
Rating of agricultural statistical capacity	Score	To be determined	2017	To be determined	Report with baseline and final scores	Score applied using the FAO methodology ("Assessing Country Capacity to Produce Agricultural and Rural Statistics," June 2014), surveyed by an external consultant, rather than self-rating. Use the score directly and not "Class."

OUTPUTS

Outputs	Unit of measure	Baseline	Base year	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Means of verification	Comments
Component 1: Design and implementation of the agricultural census											
Cartographic update	Cartographic maps of departments	0	2017		17				17	Department maps, DCEA technical report, and GIS content. With technical support from the DGEEC.	
Census conducted	Census	0	2017		1				1	Preliminary results published.	
Post-census evaluation survey conducted	Survey	0	2017			1			1	Report on post-census survey results. Within six months following census field work.	
Results disseminated	Publication	N/A	N/A			1			1	Dissemination includes publication of results with a methodological note and the primary tabulations, as well as Web-based microdata consultation system.	
Component 2: Institutional strengthening of the entities in the agricultural statistics system											
Agricultural surveys	Surveys	0	2017				1	1	2	Publication of survey results within three years following the census.	
Technical staff trained in generating statistical information	Number of technical staff	0	2017		15				15	DCEA report identifying technical staff and areas in which they received training.	
Model developed for the use of satellite imagery	Model	0	2017				1		1	DCEA report on the results achieved in using satellite imagery to generate agricultural statistics.	

Thematic studies performed with census information	Number of studies	0	2017				1	2	3	Documents with the results of the studies performed within 24 months following publication of the census results.	
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FIDUCIARY AGREEMENTS AND REQUIREMENT

Country:	Republic of Paraguay
Project name:	Project to Implement the Census and Agricultural Surveys System
Project number:	PR-L1147
Executing agency	Republic of Paraguay, acting through the Ministry of Agriculture and Livestock (MAG)
Prepared by:	Fernando Glasman, Bruno Candia, and Jorge Luis Gonzalez (Fiduciary Specialists)

I. EXECUTIVE SUMMARY

- 1.1 The institutional evaluation for the project's fiduciary management was based on: (i) the fiduciary context of the country; (ii) the findings of the fiduciary risk assessment and project risk management workshop; and (iii) the September 2017 report on findings using the Institutional Capacity Assessment System (ICAS) on the National Office of Project Coordination and Administration (DINCAP). The fiduciary agreements applicable in project execution have been prepared as a result of this evaluation.

II. FIDUCIARY CONTEXT OF THE COUNTRY

- 2.1 In general terms, the country systems for financial management have a medium level of development; nevertheless, these systems need to be supplemented for the execution of Bank-financed projects. Specific financial reports are prepared through auxiliary accounting systems. Financial control tools such as the Integrated Financial Administration System (SIAF), the Integrated Accounting Subsystem (SICO), and other subsystems allow the executing agency to manage payment transfers to vendors under acceptable conditions through the Central Bank of Paraguay. The integration of these tools will allow audited financial statements for a program or project to be prepared in the SIAF in the future; in the meantime, parallel systems are used. External control is currently performed through private audit firms.
- 2.2 In terms of the country's Public Sector Procurement System (SCSP), the Bank makes full use of the Public Procurement Information System (SICP), as well as the country subsystems electronic for reverse auction and competitive bidding, for the amounts and categories established in the agreement for the use of these subsystems signed between Paraguay and the Bank on 17 June 2014.

III. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 3.1 The executing agency will be the Republic of Paraguay, acting through the Ministry of Agriculture and Livestock (MAG), with the support of the Office of Agricultural Censuses and Statistics (DCEA) and DINCAP. The DCEA, supported by a program execution unit (PEU) reporting directly to the DCEA director, will provide general coordination of program execution, programming, and monitoring, ensuring that the conditions and targets set in the loan contract are met, and serving as principal liaison between the IDB and the borrower during execution. DINCAP will perform administration and finance activities, as well as procurement and contracting, in coordination with the PEU.
- 3.2 Considering the MAG's satisfactory fiduciary performance in the execution of prior operations (loans 1255/OC-PR and 1800/OC-PR), acting through DINCAP, no fiduciary risks are anticipated that could affect meeting the program objectives. Nonetheless, the institutional capacity assessment of the MAG was updated during the preparation phase of the operation in the following areas: planning and organization, capacity to execute the activities programmed and organized (administration of personnel, goods, and services, and financial management), and control. The consolidated result for the MEG capabilities evaluated using the ICAS exhibits a medium level of development, which is associated with medium risk.

IV. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 4.1 Based on the evaluations of the MAG and our experience to date, the opportunities for improvement are concentrated in the strengthening of accounting and internal control.
- 4.2 **Procurement management.** The fiduciary risk is low, so no special mitigation actions are envisaged.
- 4.3 **Financial management.** The internal control unit lacks formal procedures for the monitoring of project-related activities. For that reason, the DCEA will prepare a procedures manual for the PEU that will be approved by MAG authorities.

V. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACT

- 5.1 The following agreements and requirements should be included in the special provisions:
- a. A special bank account to be opened for the exclusive use of the program.
 - b. The executing agency will deliver the audited annual and final financial statements for the project, with specific terms of reference acceptable to the Bank, within 120 days after the close of each fiscal year of the executing agency during the original disbursement period or its extensions. The final audit report will be delivered within 120 days after the close of the original disbursement period or its extensions.

VI. FIDUCIARY AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 6.1 The applicable procurement policies for this loan are documents GN-2349-9 and GN-2350-9. The Bank's Board of Executive Directors also approved the use of the electronic reverse auction and competitive bidding subsystems (document GN-2538-11) of the SCSP (Law 2051/03). The use of other country systems accepted subsequent to approval of the project will be implemented automatically, and so stated in the procurement plan.
- 6.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services¹ subject to international competitive bidding (ICB) will be executed using the standard bidding documents issued by the Bank. Bidding processes subject to national competitive bidding will be conducted using national bidding documents agreed upon with the Bank. The project sector specialist will be responsible for reviewing the technical specifications of procurements during the preparation of selection processes. No selection processes involving single-source selection are planned initially, with the exception of fuel purchases under the fuel provision agreement between Petróleos Paraguayos (PETROPAR) and the executing agency,² and other cases where it is justified under policy documents GN-2349-9 and GN-2350-9.
- 6.3 Numerous low- and medium skilled operational staff will be hired (approximately 5,300 people) to collect information in the field. To do so, an international competitive bidding process will be held to engage a firm with experience in human resources management, or an international agency with such experience will be contracted. The estimated budget to engage this firm is US\$335,895, and the estimated personnel expenditure is US\$7,028,731.
- 6.4 **Selection and contracting of consultants.** Consulting service contracts generated under the project will be executed using the standard request for proposals issued or agreed upon with the Bank. The project sector specialist will be responsible for reviewing the terms of reference for the contracting consulting services.
- a. **Selection of individual consultants.** Pursuant to the procurement policies contained in document GN-2350-9.
 - b. **Training.** A procurement workshop will be held.
 - c. **Use of country system.** Pursuant to document GN-2538 of October 2013, the use of the SCSP electronic reverse auction and competitive bidding subsystems in Bank-financed operations will apply:
 - (i) To all contracts for goods and nonconsulting services subject to the use of the electronic reverse auction procedure under the SCSP and involving amounts below the Bank's established threshold for the shopping method for off-the-shelf goods (for reference, US\$250,000)..
 - (ii) To all contracts for works involving amounts below the Bank's established threshold for use of the competitive bidding (shopping)

¹ Document GN-2349-9, paragraph 1.1: Nonconsulting services are treated as goods.

² Based on Article 316 of Decree 176 implementing Articles 128 and 129 of Law 5554/2016.

method for complex works (for reference, US\$250,000), and for contracts for goods and nonconsulting services up to the amount established by the Bank for use of the shopping method for complex goods and services (for reference, US\$50,000)

- (iii) Contracts for amounts equal to or greater than the aforementioned amounts will be governed by Bank policies (document GN-2349-9).

- 6.5 Section 1 of the Bank policies (document GN-2349-9) will continue to be applicable to all executed contracts, regardless of amount or procurement method. Any system or subsystem approved subsequently will be applicable to this operation. The operation's procurement plan and its updates will indicate what contracts are to be executed through the approved country systems.³
- 6.6 **Recurring expenditures.** An intervention of this nature entails significant travel expenditures and an additional time commitment from employees of the MAG or other government agencies called upon to prepare and implement of the census, as well as process and disseminate the information generated. The estimated expenditure for these tasks is approximately US\$1.3 million, broken down as follows: per diems (per MAG regulations) (33%), gas (21%), and additional compensation (45%). This last item must be justified by the Budget Act and in line with expense items 123, 125, and 137, depending on the different cases of employees that take on additional work.
- 6.7 **Advance procurement/retroactive financing.** None for this operation.
- 6.8 **Domestic preference.** None for this operation.

Table 1. Thresholds for ICB and International Shortlist (US\$)

Method	ICB works	ICB goods and nonconsulting services	International shortlist in consulting services
Threshold	3,000,000	250,000	200,000

³ If the Bank approves another system or subsystem, it will be applicable to the operation, in accordance with the loan contract.

Table 2. Main Procurements

Activity	Method	Estimated date	Estimated amount (US\$)
Goods			
Computer hardware and tablets	ICB	Year 1	1,382,014
Procurement of vehicles	ICB	Year 1	617,500
Procurement of fuel	SSS	Year 1	283,353
Nonconsulting services			
Firm to contract and manage personnel for field work	ICB	Year 1	335,895
Consulting firms			
Evaluation of data quality by sampling	QCBS	Year 2	315,857
Field operation (7,500 surveys in two waves)	QCBS	Year 4	758,981

* Link to [procurement plan](#).

Table 3. Amounts by Category

Categories	Total amounts (US\$)
Works	35,588
Goods	2,578,683
Nonconsulting services	1,339,537
Consulting firms	1,280,965
Individual consultants	1,349,647
Total, procurement plan	6,584,420

Note: Does not include the US\$7,028,731 corresponding to the operational staff expense for collection of information in the field, described in paragraph 6.3, as it is not a procurement.

- 6.9 **Procurement supervision.** All procurement processes governed by policy documents GN-2349-9 and GN-2350-9 will be subject to ex ante review by the Bank, considering the position of the Ministry of Finance on the matter. Supervision of all procurement processes governed by the SCSP electronic reverse auction and competitive bidding subsystems (document GN- 2538-11) will be conducted through the country's system.⁴
- 6.10 **Special provisions.** No special provisions are anticipated, beyond those specified in paragraph 5.1.
- 6.11 **Records and files.** The agreed formats and procedures to be described in the project's Fiduciary Manual of Functions and Procedures should be used for the preparation and filing of project reports.

VII. FINANCIAL MANAGEMENT

- 7.1 **Programming and budget.** (a) The PEU, reporting to the DCEA and in coordination with DINCAP, will centralize the coordination of execution, supported by other departments and units of the MAG, as necessary; and (b) the MAG will be responsible for budget programming, administration, and execution, under the zero-based budget system.

⁴ Depending on the scope of use of the system, supervision may be supplemented by project audits. If so, it should be mentioned in this Annex.

7.2 Accounting and information systems. The country uses the modified cash basis of accounting; however, cash basis accounting is used for the accountability process of IDB-financed projects.

- a. **Information systems.** The PEU will have access to the SIAF through DINCAP. The country systems do not issue the reports necessary for the Bank. These reports are prepared using different systems, which creates additional work for the PEU.
- b. **Disbursements and cash flow.** Program disbursements will be made through advances of funds, which must be corroborated through the monthly submission of a detailed financial plan for up to six months, and another for a longer period, which can be used to determine the program's actual demand inferred from the multiyear execution plan, annual work plan, and procurement plan. The second and subsequent disbursements will be subject to the justification of 80% of the previous advance.
- c. **Exchange rate.** The exchange rate agreed upon with the executing agency for accountability will be decided by the borrower and executing agency during the loan negotiation process.
- d. **Internal control and internal audit.** The ICAS establishes an improvement plan for internal control. Additionally, the MAG internal audit unit does not include Bank-financed projects in its audit plan.
- e. **External control and reports.** The executing agency must deliver annual program audit reports prepared by an independent audit firm accepted by the Bank, on terms of reference previously approved by the Bank. The project's financial statements include a cash flow statement, statement of accrued investment income, the notes to these financial statements, and the statement from the project management team. The audit report will include evaluation of the internal control system. The project will require the selection of a Plus-level independent audit firm. External audits will be covered with loan proceeds, estimated at US\$260,000 over the planned five years of execution of the loan.
- f. **Financial supervision plan.** Financial supervision may be adjusted based on project execution and internal audit reports.

Table 4. Financial Supervision Plan

Nature/Scope	Frequency
Ex post review of disbursements	1 per year
Financial audit and delivery of financial statements	Annual
Review of disbursement requests and attached reports	2/3 per year
Inspection visit/analysis of internal controls and control environment at the executing agency	Annual

7.3 Execution mechanism. As described in Section III.A. of the loan proposal.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/17

Paraguay. Loan ____/OC-PR to the Republic of Paraguay
Project to Implement the Agricultural Survey
and Census System

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Paraguay, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Project to Implement the Agricultural Survey and Census System. Such financing will be for an amount of up to US\$15,000,000 from the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2017)

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