

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BOLIVIA

**DIRECT SUPPORTS FOR THE CREATION OF
RURAL AGRIFOOD INITIATIVES II**

(BO-L1096)

LOAN PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
1.	Multiyear execution plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38725283
2.	Work plan for the first 18 months of implementation (AWP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38718579
3.	Monitoring plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38719418
4.	Impact evaluation plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38723707
5.	Procurement plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38718556
OPTIONAL	
1.	Economic appraisal http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38703784
2.	Itemized budget http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38718566
3.	Operating Regulations http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38724853
4.	Institutional capacity assessment (ICAS) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38704081
5.	Initial technology menu – Subcomponent 1 http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38718555
6.	Analysis and design of Subcomponent 2 - Technical assistance http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38721944
7.	Baseline study http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38713551
8.	Environmental and social strategy http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38714002

ABBREVIATIONS

CRIAR	Direct Supports for the Creation of Rural Agrifood Initiatives (Project I)
CUMAT	Capacidad de Uso Mayor de la Tierra [Capacity for Greater Land-use]
FAO	Food and Agriculture Organization of the United Nations
FSO	Fund for Special Operations
GCI-9	Ninth General Increase in the Resources of the Bank
IFPRI	International Food Policy Research Institute
INIAF	Instituto Nacional de Innovación Agropecuaria y Forestal [National Institute for Agricultural and Forestry Innovation]
IPD-SA	Institución Pública Desconcentrada Soberanía Alimentaria [Deconcentrated Public Institution for Food Sovereignty]
IRR	Internal rate of return
LIBOR	London Interbank Offered Rate
MDRyT	Ministry of Rural and Land Development
NPV	Net present value
PCEU	Program coordination and execution unit
PCU	Project coordinating unit
SIGESEVA	Sistema de Gestión, Seguimiento y Evaluación [Management, Monitoring, and Evaluation System] (CRIAR project information system)
SIGMA	Sistema Integrado de Gestión y Modernización Administrativa [Integrated System of Management and Administrative Modernization]
VAM	Vulnerability Analysis and Mapping (food insecurity)

PROJECT SUMMARY

BOLIVIA DIRECT SUPPORTS FOR THE CREATION OF RURAL AGRIFOOD INITIATIVES II (BO-L1096)

Financial Terms and Conditions					
Borrower: The Plurinational State of Bolivia Executing agency: Ministry of Rural and Land Development (MDRyT), through the Deconcentrated Public Institution for Food Sovereignty (IPD-SA)			Financing	Ordinary Capital	Fund for Special Operations
			Amortization period:	30 years	40 years
			Disbursement period:	5 years	5 years
			Grace period:	6 years	40 years
Source	Amount	%	Interest rate:	Single Currency Facility fixed*	0.25%
IDB (Ordinary Capital)	US\$49,600,000	80	Inspection and supervision fee:	**	N/A
IDB (Fund for Special Operations)	US\$12,400,000	20	Credit fee:	**	N/A
Total	US\$62,000,000	100	Currency:	U.S. dollars from the Single Currency Facility of the Ordinary Capital	U.S. dollars
Project at a Glance					
Program objectives: The program's general objective is to raise the income of Bolivia's small-scale farmers by promoting productivity-enhancing technologies, thereby helping to reduce levels of vulnerability to food insecurity. Specifically, increased productivity will lessen vulnerability to food insecurity through increased output, which will result in higher income for participating producers through sales and in the form of food for their own consumption. The specific objective is to boost the adoption of technologies that increase agricultural yields, the value of production, and productive efficiency.					
Special contractual conditions precedent to the first disbursement: (i) evidence that a program coordination and execution unit with sufficient administrative, budgetary, procurement management, technical, operational, legal, and financial capacity has been set up under the IPD-SA, with staff assigned full-time to the program (paragraph 3.1); and (ii) entry into force of the program Operating Regulations, under the terms agreed upon in advance with the Bank (paragraph 3.2).					
Exceptions to Bank policies: None.					
Program qualifies as:			SV [X]	PE [X]	CC [X] CI []

* The borrower will pay interest on the outstanding balance of the Ordinary Capital portion of the loan, at a LIBOR-based rate. Each time the outstanding balance reaches 25% of the net amount approved or US\$3 million, whichever is higher, the base rate will be set on that balance.

** 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 the relevant policies.

*** SV (Small and Vulnerable Countries), PE (Poverty Reduction and Equity Enhancement), CC (Climate Change, Sustainable Energy, and Environmental Sustainability), CI (Regional Cooperation and Integration).

I. BACKGROUND AND KEY ISSUES

A. Background, problems to be addressed, and conceptual design

- 1.1 **General context.** Agriculture is one of Bolivia's most important economic activities, accounting for about 13% of gross domestic product and employing approximately 30% of the total workforce (62% in rural areas). Its main agricultural products include soybeans, sorghum, corn, wheat, sugarcane, quinoa, and potatoes. Sector exports represent 16% of the total value of exports. The most important agricultural export products are soybeans (30%), nuts (27%), quinoa (15%), beans (8%), fruit (5%), coffee (4%), and corn (3%).¹ Bolivia has 37 million hectares of agricultural land, of which approximately 3.5 million are arable, representing 4% of its total area. The area of cultivated land has been expanding significantly, growing by more than 20% since 2005.²
- 1.2 Despite this expansion and the agricultural sector's high potential, Bolivia is one of the countries with the lowest productivity in the region. According to the Food and Agriculture Organization of the United Nations (FAO), agricultural yields are approximately 43% of the South American average for the production of grains and tubers. Additionally, it was the only country in this region to experience negative growth in total productivity of the factors of production in the 2006-2011 period (IFPRI, 2013).³ Low productivity weighs directly on the low income of the rural population and, consequently, on the country's high levels of food insecurity. Bolivia is one of the region's lowest-income countries, with 45% of its population under the poverty line—a number that swells to 61% in rural areas (INE, 2011). In terms of food security, Bolivia has the second-highest malnutrition rate in South America (21% of the population), and 89% of its municipios are categorized as having high or medium vulnerability to food insecurity.⁴
- 1.3 Among the reasons for low sector productivity are a lack of market information, little investment in productive infrastructure, scant access to rural financing mechanisms, and insufficient levels of innovation and technology transfer.⁵ There is also a wide gap between the farming systems used in Bolivian agriculture. On the one hand are modern, commercial agriculture systems where production is typically intensive, mechanized, and export-oriented, with access to financing and cutting-edge technologies. These farms are located primarily in eastern Bolivia and produce mainly soybeans, rice, sugarcane, and beef. In subsistence agriculture, in contrast, small family farms are devoted mainly to producing food for their own consumption and have limited access to financing and productive technologies. These farms are found chiefly in the valleys and high plateau, and

¹ World Trade Organization (2013) and National Statistics Institute (INE, 2012).

² World Bank and Ministry of Economy and Finance (2012).

³ International Food Policy Research Institute. Statistics Division of the FAO (2012): faostat.fao.org.

⁴ Food insecurity Vulnerability Analysis and Mapping (VAM) is a methodology developed by the United Nations World Food Programme to establish the degree of vulnerability of a given population and/or geographical area to food insecurity. It places municipios into three food security categories: (VAM=1: low; VAM=2: medium; VAM=3: high).

⁵ [Plan del Sector Desarrollo Agrícola \(2014-2018\)](#); [Kay, C. \(2011\)](#); and [Hameleers, Antezana and Paz \(2011\)](#).

mainly grow traditional crops such as potatoes, corn, and grains. An estimated 83% of rural households engage in subsistence farming.⁶

- 1.4 With the Bank's support, Bolivia has made considerable efforts to boost sector competitiveness by providing more public goods. Since the year 2000, loan operations have been executed in the areas of innovation and agricultural health (loans 1057/SF-BO and 2061/BL-BO), land regularization and management (loan 1512/SF-BO), and irrigation (loans 964/SF-BO, 2057/BL-BO, and 3060/BL-BO). The proposed program complements these interventions in that it channels government spending to direct supports to promote the adoption of technologies to boost small producers' agricultural productivity.
- 1.5 The proposed program is based on the operation financed with loan 2223/BL-BO, which is in its final stage of implementation. It was approved in 2009 for US\$25 million, of which the Bank financed US\$20 million and the remaining US\$5 million was financed with local counterpart resources. The objective of that operation is to help raise the income of small-scale farmers through two components: (i) direct supports for the adoption of agrifood technologies; and (ii) support for agrifood enterprises. To date, the operation has distributed 20,269 nonreimbursable vouchers to an equal number of small producers, to finance six types of agricultural technologies,⁷ exceeding the target by 49%. Of the target of having 80 productive enterprises in operation, to date there are 36. This is due to the difficulty of forming associations that meet the project eligibility criteria, which included having at least 30 beneficiary producers and being legally formalized. Some of the resources under Component 2 were therefore reallocated to Component 1. The original closing date for the operation was 24 May 2015. However, an extension was granted for fulfillment of the execution commitments until 24 December 2015. The operation has disbursed 99% of the financing.
- 1.6 The midterm evaluation for loan 2223/BL-BO conducted in 2013 highlighted the following strengths: (i) the types of technologies, which are well-suited to the production conditions of the target population, in addition to being low-cost and user friendly; (ii) the training of local technicians to resolve issues relating to using the technologies; (iii) the socialization of environmental practices among producers; (iv) the monitoring system; and (v) the rural technology fairs, which serve to bring together the demand for technology among small producers and the supply from private vendors. Areas needing improvement were: (i) the lag between technology delivery and technical assistance; (ii) the beneficiary registration systems; and (iii) the communications and socialization strategy. The evaluation also noted the limited progress on implementation of Component 2, identifying as execution difficulties producers' liquidity constraints for financing a productive enterprise, a lack of incentives to form associations, and lack of knowledge as to how to formalize an organization (see [Midterm evaluation](#)).

⁶ <http://bolivia.um.dk/es/danida-es/programas-sectoriales/agricultura/>.

⁷ These technologies include packages for crops (modern irrigation, traditional irrigation, dehydrators, mills, pulpers, weeders, shellers, electric fencing, greenhouses) and for livestock (poultry and beekeeping technologies and electric fences) in four departments. Irrigation equipment accounted for 60% of demand.

- 1.7 The evaluation to measure the impacts of loan 2223/BL-BO, based on a representative sample of 1,287 participating and control producers in five departments, showed the operation's positive impacts. Utilizing a quasi-experimental instrumental variable methodology (see [Impact evaluation](#)),⁸ the analysis showed that, in comparison to nonbeneficiaries, beneficiary producers saw increased in agricultural productivity (92%) and higher household income from agricultural activities (36%). The study also found evidence that the program reduced vulnerability to food insecurity (32%).

B. Conceptual design

- 1.8 The program's intervention strategy centers on addressing the problems of low productivity and high vulnerability to food insecurity by targeting public agriculture expenditure to facilitating access to agricultural technologies and technical assistance. The literature on agricultural technology adoption suggests several reasons (market failures) to economically justify the public provision of technology transfer services. In the context of this operation, the following apply: (i) constraints on liquidity and access to credit; (ii) problems with information access and/or asymmetries; and (iii) aversion to risk. Liquidity constraints refer to credit market imperfections that limit the financial capacity of small producers to purchase and implement productivity-enhancing technologies.⁹ Lack of and/or asymmetrical information affects both producers and suppliers. Producers mainly lack knowledge as to the proper use of technologies and the existence of suppliers' offerings. Suppliers lack knowledge about potential demand.¹⁰ These information asymmetries interact to preclude the existence of a marketplace. Lastly, risk aversion curbs technology adoption because of producers' uncertainty regarding the returns associated with each technology.¹¹ Amongst the program's target population, only 7% of producers have access to credit and 4% report having savings. In addition, 30% of producers mentioned problems with information on how to use technology and 13% gave lack of training as their main reasons for not doing so.¹²
- 1.9 Empirical evidence shows that massive technology transfer interventions produce direct and indirect positive impacts. The direct impacts are those affecting beneficiaries who adopt technology, through improvements to productivity and income. The indirect impacts are those affecting nonparticipants: adoption by imitation, lower food prices, and/or job creation.¹³ Quasi-experimental impact evaluations conducted by the Bank's Office of Evaluation and Oversight for two technology adoption programs for small-scale farmers in the Dominican Republic (loan [1397/OC-DR](#)) and Uruguay (loan [1299/OC-UR](#)) yielded evidence of the positive impact of this type of intervention in the region.

⁸ The impact evaluation was published as an IDB Working Paper for which there was a peer review process with external revisers.

⁹ [Navajas and Tejerina \(2007\)](#); [Salazar and Winters \(2012\)](#), and the [CRIAR impact evaluation \(2014\)](#).

¹⁰ [Bentley, et al. \(2011\)](#), [Thiele and Barber \(1998\)](#), and the [CRIAR midterm evaluation \(2013\)](#).

¹¹ [Feder et al. \(1985\)](#), [Abadí et al. \(2005\)](#), and [Monge, Hartwich and Halgin \(2008\)](#).

¹² CIES Internacional data (2014) for the impact evaluation of loan 2223/BL-BO (see [Baseline study](#)).

¹³ [De Janvry, A. and E. Sadoulet \(2002\)](#).

- 1.10 The proposed program incorporates the following recommendations from the midterm evaluation of loan 2223/BL-BO: (i) redefine the scope of supports to strengthen the delivery of technical assistance at the appropriate times and intervals; (ii) incorporate a gender approach with crosscutting actions to promote the participation of women; (iii) apply criteria of transparency and equal opportunity in the selection of beneficiaries; (iv) conduct a rigorous impact evaluation; (v) increase coverage; and (vi) concentrate supports under a single component for the distribution of vouchers to purchase technology.
- 1.11 **Lessons learned.** The operation's design incorporates lessons learned from loan 2223/BL-BO as well as from other Bank-financed operations involving supports for technology adoption (loans 2181/OC-ME, 2443/OC-DR, 2055/BL-NI, and 1299/OC-UR): (i) mechanisms should be incorporated to foster the development of a market of private technology suppliers; (ii) financial supports (vouchers) should be scaled to encourage the self-selection of small producers; (iii) since technical assistance plays a key role in technology adoption, these services should be offered at the right moment in the crop cycle, and at appropriate intervals; (iv) the technology menu selection criteria should be objective and based on technical, economic, social, and environmental principles; (v) the eligibility criteria for producers and the strategy for selecting them should foster transparency and equal opportunity; and (vi) program impacts should be measured using indicators that capture short-, medium-, and long-term impacts of the technology adoption process.
- 1.12 **Target population.** As in loan 2223/BL-BO, the program beneficiaries are small producers from indigenous, native campesino communities whose income level is low primarily because of low agricultural productivity. The chief source of income for these producers is agriculture (67%).¹⁴ They work small plots of land, averaging two hectares, with more than 70% of the land devoted to the production of traditional crops with little commercial value.¹⁵ Of their total output, these producers consume 39% and sell 20%.¹⁶ Also, they are typically indigenous or native (71%), and have little formal schooling (four years on average) and limited access to credit or savings (7% report access to formal credit and 4% savings).¹⁷
- 1.13 **Gender approach.** The proposed program includes a gender approach to promote the participation and empowerment of women through the following: (i) coordination of activities for obtaining an identity card; (ii) establishment of focal points for gender mainstreaming within institutions involved with the program; (iii) specific socialization activities to promote the linkage of associations for women producers; (iv) technical assistance that factors in the

¹⁴ This percentage reflects food for the producers' own consumption, which was valued at market prices to calculate the opportunity cost of selling.

¹⁵ In all, 44% have up to 1 hectare of cultivated land, 32% have 1 to 3 hectares, 13% have 3 to 5 hectares, and 11% have 5 to 10 hectares.

¹⁶ The remainder goes to: 8% animal consumption, 5% seed, 2% processing, 16% gifts and bartering, and 10% losses.

¹⁷ Survey for the impact evaluation of loan 2223/BL-BO (see [Baseline study](#)).

situation of participating women in the local context; and (v) collection and monitoring of sex-disaggregated data and output indicators.

- 1.14 **National Development Plan and the Agriculture Sector Development Plan.** The operation is consistent with the National Development Plan and the Agriculture Sector Development Plan 2010-2015 insofar as it contributes to the proposed goals of: (i) progressing toward food security and sovereignty; and (ii) increasing the contribution of agricultural and forestry production to people's livelihoods and the country's development. The program also dovetails with the proposed National Development Plan 2015-2020.
- 1.15 **Consistency with the Ninth General Increase in the Resources of the Bank (GCI-9) and the IDB country strategy with Bolivia.** The proposed program is consistent with the following lending program priorities of the GCI-9 (document AB-2764): (i) support for small and vulnerable countries; (ii) poverty reduction and equity enhancement, since this operation's main objective is to raise the agricultural income of small rural producers; and (iii) climate change and environmental sustainability initiatives, by creating incentives to adopt agricultural technologies that contribute to climate change adaptation. The program will help meet the regional GCI-9 targets relating to annual growth rate of agricultural GDP and number of farmers given access to improved agricultural services and investments. The program is also aligned with the Bank's country strategy with Bolivia (2011-2015) (document GN-2631-1), in that it will contribute to the crosscutting objectives of climate change adaptation, by promoting technologies that will enhance the adaptive capacity of small producers, and of interculturality and participation of indigenous people, by including interventions that improve their living conditions. The program is consistent with the Sector Framework Document on Agriculture and Natural Resources Management (document GN-2709-1).

C. Objectives, components, and costs

- 1.16 **Objectives.** The program's general objective is to raise the income of Bolivia's small-scale farmers by promoting productivity-enhancing technologies, thereby helping to reduce levels of vulnerability to food insecurity. Specifically, increased productivity will lessen vulnerability to food insecurity through increased output, which will result in higher income for participating producers through sales and in the form of food for their own consumption. The specific objective is to boost the adoption of technologies that increase agricultural yields, the value of production, and productive efficiency.
- 1.17 To achieve the proposed objectives, the program has a single component, "**Direct supports for the adoption of agricultural technologies**," which will finance nonreimbursable financial supports (vouchers) to partially cover the cost of adopting a technology.¹⁸ The number of producers expected to benefit from the program is 45,500.¹⁹ The component is divided into two subcomponents:

¹⁸ Technology adoption is understood to mean the purchase of technological equipment and technical assistance. Technical assistance is understood to mean the transfer of information, technology, and advisory services with the aim of improving agricultural activities (Law 144, 2011).

¹⁹ Including projections from loan 2223/BL-BO, a total of 66,500 producers will benefit.

- (i) nonreimbursable financial supports for the purchase of agricultural technologies; and (ii) technical assistance for agricultural processes with a focus on gender and association management.
- 1.18 The program will initially target a subgroup of 70 municipios from a list of 190 eligible municipios based on the following criteria: (i) vulnerability to food insecurity ([VAM](#)=2 or 3); (ii) predominantly agricultural land use as defined by the current “Capacity for Greater Land-use” ([CUMAT](#))²⁰ classification methodology; (iii) no participation in loan 2223/BL-BO; and (iv) municipios not located in protected areas. In addition, the program will directly include two²¹ municipios that had been selected as beneficiaries under loan 2223/BL-BO, but that did not participate owing to a lack of resources at program’s end. The additional 70 municipios will be selected as follows: (i) 33 municipios will be included directly that have been prioritized by the Government of Bolivia because they have high poverty rates and meet the eligibility requirements; and (ii) 37 municipios from the remaining list of eligible municipios will be selected at random (see [zoning](#)). After the target of benefiting the 72 municipios has been met, if there are resources available, a new group of municipios will be selected at random from the universe of remaining eligible municipios.
- 1.19 **Subcomponent 1. Nonreimbursable financial supports for the purchase of agricultural technologies (US\$46.78 million).** This subcomponent will finance the delivery of nonreimbursable financial supports to partially cover the cost of purchasing an agricultural technology selected by the producer from a menu of eligible options, along with training in its use and maintenance. Producers who meet the following criteria will be eligible to receive these supports: (i) are small producers who subsist primarily on farming and/or raising livestock;²² (ii) have a valid identity card and are 18 years or older; (iii) were not beneficiaries of loan 2223/BL-BO; (iv) do not have household members who were beneficiaries of loan 2223/BL-BO; (v) belong to the selected municipios and communities; (vi) are in the registry of potential beneficiaries;²³ and (vii) are legally entitled to hold/use the land (by legal deed and/or according to custom and tradition).
- 1.20 The initial technology menu has been determined based on the following criteria: (i) returns, meaning financial viability via impacts on productivity and/or reduction in losses; (ii) environmental sustainability, meaning that environmental impacts will be positive or neutral; (iii) appropriability, referring to a technology’s compatibility with external (agroecological and climate) and internal (gender and cultural) circumstances; (iv) neutrality, referring to the technology’s flexibility to be applied to a wide range of crops or livestock products; (v) availability, referring to the presence of sufficient supply; (vi) adaptability, which entails building capacity

²⁰ Based on the “Capacity for Greater Land-use” (CUMAT) classification methodology, the project will include municipios whose land is used mainly for: (i) extensive annual crops, (ii) intensive annual crops; or (iii) extensive perennial crops or extensive-grazing livestock.

²¹ The two municipios are Padcaya and San Lorenzo, both located in Tarija.

²² Small producers are those with small holdings as defined in agrarian legislation (the Régimen Agrícola Unificado [Unified Agricultural System]).

²³ The execution unit will develop the registry of potential beneficiaries in each of the eligible communities. Producers will have a period of time to register and prove that they meet the requirements for participation, including by giving a sworn statement.

for climate change resilience; and (vii) verifiability, referring to the possibility of confirming in situ that the technology was adopted. The initial menu includes 10 technologies grouped into three categories: agricultural production, post-harvest, and livestock production. This technology menu may be modified as mutually agreed with the Bank, in keeping with the selection criteria (see [technology menu and Subcomponent 1](#)).

- 1.21 **Subcomponent 2. Technical assistance for agricultural processes with a focus on gender and association management (US\$10.85 million).** This subcomponent will finance the delivery of nonreimbursable financial supports (vouchers) to partially cover the cost of technical assistance associated with the use of the technology purchased. The technical assistance will have two dimensions: (i) technical assistance to maximize productive potential, including crop diversification practices and use of inputs; and (ii) capacity-building to promote association management (see [Subcomponent 2 study](#)). It will also consider social and environmental sustainability and gender issues specific to the local context, including training exclusively for women, linking associations of women producers, and promoting women's participation in the technical training teams.
- 1.22 The technology supplier will provide training in use and maintenance at the time the technology is delivered to the field, as part of Subcomponent 1. Technical assistance with agricultural processes and association-related capacity-building will be outsourced to organizations or enterprises selected through a competitive process, with priority given to those on the list of technology clearinghouses certified by Bolivia's National Institute for Agricultural and Forestry Innovation (INIAF). This mechanism will make it possible to build the capacity of local institutions and coordinate efforts with INIAF to create the institutional framework for an agricultural outreach system to ensure the operation's sustainability.
- 1.23 The financial support to be provided will consist of a fixed amount per producer of up to US\$1,200 for technology adoption, including the purchase of equipment and technical assistance, with the beneficiary able to opt for a lesser amount, depending on the technology chosen. The US\$1,200 figure includes financing for up to US\$1,000 to procure technology and US\$200 for technical assistance. Of the total voucher amount, 90% will be financed with program resources and 10% will be paid by the beneficiary. The voucher can be exchanged by the producer or any family member (first degree) listed in the registry of beneficiaries. Just one voucher will be given per family. The support amount may be revised as mutually agreed with the Bank (paragraph 2.5). The delivery and adequate use of technologies and the quality of the technical assistance will be supervised through a sample verification process done by an independent firm.

D. Results Matrix and key indicators

- 1.24 The program will use a Results Matrix (see Annex II) agreed upon with the Ministry of Rural and Land Development (MDRyT) showing the impact, outcome, and output indicators along with the respective baselines, targets, and means of verification. The program's main outcomes will be a rise in agricultural productivity among small producers through increased technology adoption. In

the long term, the program's impact will be reflected in higher agricultural income for small producers and improved food security.

Table 1: Main results matrix indicators

Impact and outcome indicators	Time of measurement	Rationale for selection
Annual household agricultural income (US\$)	Years 1 and 5	Measures impact on quality of life for producers through income increases
Food security index (FAO)	Years 1 and 5	Measures impact on vulnerability to food insecurity
Average gross production margin per hectare (US\$/ha)	Years 1 and 5	Measures the change in agricultural productivity resulting from technology adoption
Share of beneficiary producers who used the promoted technologies during the previous two agricultural cycles (%)	Years 1 and 5	Measures the adoption and implementation of technologies

II. FINANCING STRUCTURE AND RISKS

A. Financing instrument

- 2.1 The total program cost is US\$62 million, which the Bank will finance through a blended loan broken down as follows: US\$49.6 million from the Single Currency Facility of the Ordinary Capital and US\$12.4 million from the Fund for Special Operations. Table 2 shows the cost breakdown and sources of financing (see [program execution plan](#)).

Table 2. Program cost and financing (US\$ millions)

Investment category	IDB	Total	Approx . %
I. Component: Direct supports for the adoption of agricultural technologies	57.63	57.63	93
Subcomponent 1: Nonreimbursable financial supports for the purchase of agricultural technologies	46.78	46.78	75
Subcomponent 2: Technical assistance for agricultural processes with a focus on gender and association management	10.85	10.85	18
II. Program administration (implementation, monitoring, evaluation, audits. Includes strengthening of the Management, Monitoring, and Evaluation System (SIGESEVA))	4.37	4.37	7
Total	62.00	62.00	100

- 2.2 The program is structured as a specific investment operation to be executed over five years, according to the following disbursement schedule and the preliminary financial plan:

Table 3. Disbursement schedule (US\$ millions)

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
Total IDB	2.19	11.82	15.92	18.76	13.31	62.00	100
%	4	19	25	30	23	100	

B. Economic viability

- 2.3 [The ex ante economic appraisal](#) of the program utilized a cost-benefit analysis methodology that began by analyzing each of the most important technologies on the initial menu in terms of demand. The costs used included investment in (technology asset, technical assistance, and private investment by the beneficiary) and operation, maintenance, and replacement of the technologies, as well as the costs of additional production and opportunity costs. The benefits included higher yields, diversification toward higher-value-added crops, and lower production losses. These were used to calculate the economic benefit of the technologies, which translates into an increase in gross margins for farms and in household income levels. The net incremental benefits of technology adoption were estimated using labor and input technical coefficients obtained in the field, as well as from the impact evaluation for loan 2223/BL-BO. Using efficiency prices, a technology adoption rate of 75%, a 12-year time horizon,²⁴ and a 12% discount rate, the appraisal found the program to be cost-effective, with a net present value (NPV) of US\$25.8 million, an internal rate of return (IRR) of 28.3%, and a benefit-cost ratio of 1.35. Table 4 provides information broken down by technology.

Table 4. Initial menu of eligible technology options

Technologies	Direct impact	IRR
Modern irrigation	Increases in productivity and efficiency of water use	38%-46% ²⁵
Greenhouse	Increases in productivity and efficiency of seed use	57%
Fruit dehydrator	Improvements to food security and value added to output	43%
Storage silo and multipurpose mill	Improvements to food security and value added to output	15%-17%
Poultry coops	Increases in productivity and reproductive efficiency	19%

- 2.4 An analysis of sensitivity to variations in the actual extent to which technologies are adopted by beneficiaries showed the program to be cost-effective starting at the cutoff point of 48% effective adoption.

²⁴ This time frame is equivalent to two useful life cycles of the technologies plus a two-year learning period.

²⁵ The IRR of 31% is for the specific scenario of crop intensification (without diversification), while the IRR of 34% is for the crop diversification scenario.

Table 5. Analysis of sensitivity to variations in extent of adoption

Adoption rate	NPV (US\$ millions)	IRR
48%	0	12%
60%	11.6	19.5%
75%*	25.8	28.3%
90%	40.1	36.9%

* The 75% rate of effective adoption by beneficiaries was used in the base scenario.

- 2.5 The maximum voucher amount per producer will be US\$1,200. To be able to exchange a voucher of this maximum amount, producers will have to pay US\$120, which represents 10% of their annual agricultural income (US\$1,090). This amount was adjusted by 20% with respect to the amount under loan 2223/BL-BO, because: (i) new technologies with slightly higher prices were included with the expansion of the program's coverage; and (ii) the cost of the more intensive technical assistance is inherently higher—estimated at US\$200 per beneficiary. The midterm and impact evaluations of loan 2223/BL-BO found the amount to be appropriate to the financial and productive capacity of the target population.

C. Environmental and social risks

- 2.6 In accordance with the Environment and Safeguards Compliance Policy (policy OP-703), this has been classified as a category “C” operation. The planned activities are not expected to adversely affect the environment or vulnerable communities. To the contrary, the program will boost the adoption of technologies with positive or neutral environmental impacts. What's more, the anticipated social impacts are positive, as it gives priority to vulnerable communities and native cultures and will implement crosscutting activities to encourage the participation of women. This notwithstanding, an [environmental and social management strategy](#) was developed as part of the operation's design, identifying steps to strengthen the execution unit.

D. Fiduciary risks

- 2.7 The institutional capacity of the project coordinating unit (PCU) for loan 2223/BL-BO was assessed during the design of the proposed operation using the Institutional Capacity Assessment System methodology in the following areas: (i) planning and organization, measuring the ability to carry out programming processes and to assign responsibilities for managing resources; (ii) execution, measuring the ability to achieve the programmed outcomes; and (iii) controls, measuring internal and external control capabilities. The assessment found the PCU's institutional capacity development level to be “medium” for planning and organization, “satisfactory” for execution, and “medium” for controls. The assessment resulted in an overall score of 81%, equivalent to satisfactory development, with a low level of risk. The risk analysis, however, did identify the lack of clear definition of roles and responsibilities of the agencies involved in implementation as a risk.
- 2.8 Based on these findings, an institution-strengthening plan was developed to ensure that the program coordination and execution unit (PCEU) for the

proposed operation will have the internal capabilities for effective execution. The principal actions include: (i) strengthening the SIGESEVA information system; (ii) preparing the annual work plan for the first year of execution, with physical and financial targets; (iii) preparing Operating Regulations that cover levels of authorization for different types of contracting and spell out the responsibilities of the various actors, avoiding duplication of efforts; (iv) designing an implementation mechanism that provides the PCEU with greater operational autonomy; and (v) bolstering staff knowledge of project management (Bank tools) in the PCEU and the MDRyT, as well as in the Internal Audit Unit.

E. Other risks

- 2.9 The program's risks were identified during the design phase, along with the respective mitigation measures. The main risks are: (i) lack of identification of demand by technology suppliers; (ii) insufficient technical assistance, limiting the adoption of technologies; and (iii) program needs not met by SIGESEVA. The mitigation activities are: (i) implementation of a comprehensive communications and information plan to disseminate the program to all stakeholders; (ii) technical assistance strategy that provides training in the use of technology and support for agricultural processes and association management; and (iii) updating of SIGESEVA. All the activities have a budget line item.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Implementation and management

- 3.1 The borrower will be the Plurinational State of Bolivia, and the executing agency will be the Ministry of Rural and Land Development (MDRyT), through the Deconcentrated Public Institution for Food Sovereignty (IPD-SA), which was legally established under the MDRyT via Supreme Decree 1858. The program coordination and execution unit (PCEU), which will run the program, will be attached to the IPD-SA. The PCEU will have Administrative Office status, assuming direct responsibility for implementation and devoting its time exclusively to program execution. The PCEU will carry out program planning, management, and monitoring, develop planning instruments, channel resources for execution, authorize and transfer voucher payments, and consolidate and submit to the Bank financial information and monitoring and evaluation reports, among other responsibilities set forth in the [program Operating Regulations](#). So as not to slow the pace of execution, every effort will be made to keep on key personnel currently in the PCU²⁶ for loan 2223/BO-BL for the PCEU. **As a contractual condition precedent to the first disbursement, evidence must be furnished that a PCEU with sufficient administrative, budgetary, procurement management, technical, operational, legal, and financial capacity has been set up under the IPD-SA, with staff assigned full-time to the program.**
- 3.2 **Operating Regulations.** Program execution will be governed by the Operating Regulations, which will spell out the rules and procedures for activity

²⁶ Note that PCU refers to the project coordinating unit for loan 2223/BL-BO, while PCEU refers to the project coordination and execution unit for operation BO-L1096.

programming, financial and accounting management, procurement, audits, monitoring, and evaluation of the program. It will also cover: (i) responsibilities of the entities under the MDRyT, IPD-SA, and PCEU; (ii) eligibility criteria for municipios, technologies, and beneficiaries; and (iii) implementation details for each subcomponent. **As a contractual condition precedent to the first disbursement, the program Operating Regulations must enter into force, under the terms agreed upon in advance with the Bank.**

- 3.3 **Procurement.** The program involves only the procurement of goods and related services and the contracting of consulting services; it does not call for works. Goods will be procured and services contracted in accordance with the practices and procedures set out in Bank policies (documents GN-2349-9 and GN-2350-9) and with the loan contract and the program's Fiduciary Agreements and Requirements (see Annex III), which include a procurement plan for the first 18 months. This plan will be updated yearly, or whenever substantial changes occur, subject to Bank approval. Procurements may be reviewed on an ex post basis, as described in Annex III.
- 3.4 **Retroactive expenditures.** The Bank may retroactively recognize eligible expenditures of up to US\$1 million, or 1.6% of the financing amount, incurred during the 18 months prior to the date of loan approval by the Bank's Board of Executive Directors. The following will be considered eligible expenses: (i) preliminary studies for execution of the subcomponents; (ii) set-up and outfitting of the regional operating units; and (iii) hiring of key PCEU personnel as stipulated in Annex III.
- 3.5 **Audits.** Each year, for the duration of the loan disbursement period, audited program financial statements will be submitted to the Bank within 120 days after the close of the PCEU's fiscal year. These statements will be audited by an independent audit firm acceptable to the Bank. The scope and other related matters will be determined pursuant to the Financial Management Policy for IDB-financed Projects (policy OP-273-6) and the guidelines on financial statements and external audits.

B. Monitoring and evaluation plan

- 3.6 **Monitoring.** The program will use the Management, Monitoring, and Evaluation System (SIGESEVA), a computerized monitoring system whose design incorporates a database at the PCEU's central office with a network connection to the regional offices. This system will make it possible to track technology request, delivery, implementation, verification, and payment processes under the program. It will also be used to enter the beneficiaries, technology suppliers, and technical assistance providers into the database. The respective payments will be made through the Integrated System of Management and Administrative Modernization (SIGMA). SIGESEVA will have the following modules: Subcomponent 1 (management and tracking of beneficiary producers), Subcomponent 2 (management and tracking of technical assistance providers), financial management, goods and services administration, and results management and monitoring. The system will generate reports for the various levels of oversight as well as for results monitoring and evaluation. It will be updated to capture detailed microeconomic information during creation of the

registry and the registration of beneficiaries, as well as to link the physical targets set out in the Results Matrix with the advances of subcomponent funds.

- 3.7 No later than 60 days after the end of every six-month period during program execution, the PCEU will, by way of this system, prepare and submit to the Bank semiannual progress reports indicating the level of fulfillment and progress (both physical and financial) of the program using the indicators set out in the Results Matrix and the activities in the annual work plan and procurement plan. The reports will explore any problems encountered and propose corrective measures to ensure successful program implementation. The reports relating to the second six-month period will also include the annual work plan for the following calendar year, along with a disbursement forecast, and an updated procurement plan (see [monitoring plan](#)).
- 3.8 **Evaluation.** The PCEU will submit the following reports to the Bank: (i) a midterm evaluation within 90 days after commitment of 50% of the loan proceeds; and (ii) a final evaluation within 90 days after disbursement of 90% of the loan proceeds. These reports will include: (i) analysis of financial execution by subcomponent and source of financing; (ii) progress with respect to outputs, outcomes, and impacts; (iii) effectiveness in the application of the program Operating Regulations; (iv) the level of compliance with contractual clauses; (v) a summary of the results of the social/environmental audits; and (vi) a summary of the results of program audits of financial statements, procurement processes, disbursements, and internal controls. The final evaluation report will also include the results of the program's impact measurement, in accordance with the agreed plan. All evaluations will be carried out independently and will be financed using the loan proceeds.
- 3.9 **Impact evaluation.** This evaluation will identify the effects on agricultural income and food security in the households of beneficiary producers. It will also provide the tools to analyze the process of technology adoption in Bolivian agriculture (see [evaluation plan](#)). The evaluation will be financed with program resources. It is based on an experimental methodology for creating a counterfactual scenario wherein the producers will be randomly assigned to treatment and control groups. This program lends itself to an experimental evaluation because demand outstrips program resources, therefore requiring transparent, equitable beneficiary selection. Beneficiaries will be selected in two stages. In the first stage, 37 municipios from the list of eligible municipios will be selected at random. Of the beneficiary municipios, 50% will be communities whose main activity is agriculture. All producers within that group of selected communities who meet the stipulated eligibility criteria may benefit. This process will allow for two control groups (inside and outside the beneficiary municipios) to be constructed for the purpose of measuring the program's direct impacts and spillovers. The remaining 35 beneficiary municipios who enter directly will be evaluated using a quasi-experimental instrumental variable methodology. The data needed for the evaluation will be generated by way of two surveys measuring the impacts in a representative sample of 1,980 producers (beneficiaries and control) per round. The survey of producers will include detailed information regarding their socioeconomic condition and agricultural activities. The design of this operation provides a unique opportunity to generate

empirical evidence that will contribute to understanding the effectiveness of agricultural technology transfer projects in the region.

Development Effectiveness Matrix				
Summary				
I. Strategic Alignment				
1. IDB Strategic Development Objectives		Aligned		
Lending Program	-Lending to small and vulnerable countries -Lending for poverty reduction and equity enhancement -Lending to support climate change initiatives, renewable energy and environmental sustainability			
Regional Development Goals	-Annual growth rate of agricultural GDP (%)			
Bank Output Contribution (as defined in Results Framework of IDB-9)	-Farmers given access to improved agricultural services and investments			
2. Country Strategy Development Objectives		Aligned		
Country Strategy Results Matrix	GN-2631-1	Adaptation to climate change.		
Country Program Results Matrix	GN-2805	The intervention is included in the 2015 Operational Program.		
Relevance of this project to country development challenges (If not aligned to country strategy or country program)				
II. Development Outcomes - Evaluability		Highly Evaluable	Weight	Maximum Score
		9.9		10
3. Evidence-based Assessment & Solution		9.6	33.33%	10
3.1 Program Diagnosis		3.0		
3.2 Proposed Interventions or Solutions		3.6		
3.3 Results Matrix Quality		3.0		
4. Ex ante Economic Analysis		10.0	33.33%	10
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		1.5		
4.3 Identified and Quantified Costs		1.5		
4.4 Reasonable Assumptions		1.5		
4.5 Sensitivity Analysis		1.5		
5. Monitoring and Evaluation		10.0	33.33%	10
5.1 Monitoring Mechanisms		2.5		
5.2 Evaluation Plan		7.5		
III. Risks & Mitigation Monitoring Matrix				
Overall risks rate = magnitude of risks*likelihood		Medium		
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		C		
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.		
Non-Fiduciary				
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:				
Gender Equality	Yes	The project will track specific gender indicators and has cross-cutting activities to promote the participation of women.		
Labor				
Environment	Yes	The project promotes the adoption of technologies with positive or neutral environmental impacts.		
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	Yes	BO-T1207 supported the design 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	Yes	The Impact Evaluation proposal will provide rigorous empirical evidence (experimental methodology) on the impact of technology transfer programs in the short, medium and long term.		

The objective of the program is to increase the incomes of small Bolivian farmers, through the promotion of technologies that increase productivity, helping to reduce levels of vulnerability to food insecurity. For this, the program will finance the provision of nonrefundable subsidies to partially cover the costs of adopting a selected technology. It is expected that the number of beneficiaries of the program ascend to 45,500 producers. The program is a continuation of the 2223/BL-BO operation, currently in its final stages of execution.

Project documentation contains a solid and well-structured diagnosis on the low productivity of the agricultural sector and its contributing factors, including the lack of innovation and technology transfer, and presents some evidence that validates the effectiveness of the proposed intervention. The results matrix reflects the objectives and activities of the project and has a clear vertical logic. The key top-level indicators have values that are the result of the evaluation of CRIAR I and an ex-ante economic analysis. Lower-level indicators reflect the project design. SMART indicators at the level of impact, results and products, with their respective baseline and target values are provided and the means of collecting the information are noted.

The economic analysis presented is based on increases in the margins of agricultural production expected by technology. In general, assumptions seem reasonable, and are largely anchored in the evaluation findings of CRIAR I. The sensitivity analysis is differentiated by technology, thus avoiding that the relative high profitability of irrigation diversification camouflage sensitivity to relatively minor changes in the variables of interest of other less profitable technologies.

The Monitoring and Evaluation Plan proposes an identification strategy based on experimental methods, with random selection at the level of municipalities and beneficiary communities, allowing for the capture of spillover effects that in these types of interventions are often substantial, and therefore important to measure.

The risks identified in the risk matrix seem reasonable and include compliance indicators, as well as defining responsibility and dates for monitoring.

RESULTS MATRIX

General objective	The program's general objective is to raise the income of Bolivia's small-scale farmers by promoting productivity-enhancing technologies, thereby helping to reduce levels of vulnerability to food insecurity.			
Specific objective	The specific objective is to boost the adoption of technologies that increase agricultural yields, the value of production, and productive efficiency.			
Impact	Unit of measure	Baseline (2013)	Target (2019)	Observations
Impact: Increase in family farming income of small-scale agricultural producers (male and female)				Means of verification: Randomization ensures that the initial difference between the beneficiaries and the control group will be zero. The target value is drawn from the CRIAR baseline study , which analyzed impact on income of beneficiaries versus a control group. This study found an income differential between the two groups of US\$133 (939 bolivianos), or about 12% of total income (US\$1,090, National Institute of Statistics (2011)). This is a conservative scenario, since the study in question was conducted during the agricultural cycle immediately following the technology transfer. Observations: These figures will be verified with the baseline and monitoring surveys for the impact evaluation of CRIAR II.
Indicator: Percentage difference in the increase in agricultural income among beneficiary versus control producers	%	0	12	
Impact: Improvement in level of food security among small-scale agricultural producers (male and female).				Means of verification: The baseline value is zero because randomization ensures that the difference between the beneficiaries and the control group will be zero. The target value is drawn from the short-term impact evaluation of CRIAR, which found a change of 6% in the program's first year. - These figures will be verified with the baseline and monitoring surveys for the impact evaluation of CRIAR II.
Indicator: Difference in the percentage of beneficiary versus control producers who are not food insecure according to the Food and Agriculture Organization's food security index.	%	0	8	

Outcomes	Unit of measure	Baseline (2013)	Target	Observations
Final outcome: Increase in agricultural productivity of small-scale producers (male and female)				Means of verification: - The baseline value is an average of the crops used for the economic appraisal, the calculations for which were based on data from the CRIAR impact evaluation, FAOSTAT, consultant reports, and the state-owned food production support enterprise EMAPA. - The target value is drawn from estimates in the economic appraisal. - These figures will be verified with the baseline and monitoring surveys for the impact evaluation of CRIAR II.
Indicator 1: Value of agricultural production (median value per cultivated hectare)	US\$ per hectare	840	2,686	
Indicator 2: Average gross production margin per hectare for agricultural activities (median U.S. dollars per cultivated hectare)	US\$ per hectare	420	1,643	
Intermediate outcome 1: Increase in technology adoption by participating producers (male and female)				Observations: The percentage reflects the number of farmers who use the purchased technology during the last two agricultural cycles under the program and is based on the data collected by CIES Internacional for the impact evaluation of CRIAR. Means of verification: The target value is drawn from the data collected for the impact evaluation of CRIAR and from existing literature. - These figures will be verified with the baseline and monitoring surveys for the impact evaluation of CRIAR II.
Indicator: Difference in the percentage of beneficiary versus control producers who utilize the technologies promoted by the program	%	0	75	
Intermediate outcome 2: Improved association-building among beneficiary producers (male and female)				Means of verification: Charter of the producers' association, signed by the community or by the Organización Económica Comunitaria [Community Economic Organization] (OECOM). Randomization ensures that the difference between the beneficiaries and the control group will be zero in the baseline.
Indicator: Percentage of participating producers (male and female) who form new associations	%	0	5	

Component: Direct supports for the adoption of agricultural technologies								
	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Observations
Output 1: Technologies delivered to participating producers (male and female)								Means of verification: PCEU reports
Milestone 1: Number of vouchers exchanged by beneficiary producers (male and female)	0	10,500	12,000	15,000	8,000		45,500	Voucher exchange will occur during the fairs, and occurs when the beneficiary pays the counterpart contribution.
Milestone 2: Number of vouchers exchanged by female heads of household	0	1,500	2,500	3,500	4,000		11,500	
Milestone 3: Number of technologies installed on beneficiary producers' plots (male and female)	0	8,000	11,500	12,500	11,000	2,500	45,500	Corresponds to the time of request by the supplier.
Milestone 4: Number of participating producers (male and female) who have received training in technology maintenance and use	0	8,000	11,500	12,500	11,000	2,500	45,500	This training will be given directly by the technology provider.
Indicator 1.1: Number of technologies for participating producers (male and female) paid for by the PCEU	0	0	6,500	8,000	10,000	21,000	45,500	Refers to the technologies for which the PCEU has paid suppliers as the final step in the process. This number includes the verified technologies.
Output 2: Participating producers (male and female) having received technical assistance								Means of verification: PCEU reports
Indicator: Number of beneficiary producers (male and female) who have received technical assistance with agricultural processes and association management during an agricultural cycle	0	0	4,000	8,500	14,000	19,000	45,500	

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: The Plurinational State of Bolivia

Project No./Name: BO-L1096 – Direct Supports for the Creation of Rural Agrifood Initiatives II (CRIAR II)

Executing agency: Ministry of Rural and Land Development

Prepared by: Carolina Escudero (PRM) and Abel Cuba (FM)

I. EXECUTIVE SUMMARY

- 1.1 This annex was prepared taking into account the results of the following in determining the level of fiduciary risk associated with the project: (i) the institutional capacity assessment of the project coordinating unit (PCU) for loan 2223/BO-BL; and (ii) the fiduciary supervision by financial management and procurement specialists at the Bank's Country Office in Bolivia (FMP/CBO) during the execution of loan 2223/BO-BL.¹
- 1.2 Program execution will fall to a program coordination and execution unit (PCEU) attached to the new Deconcentrated Public Institution for Food Sovereignty (IPD-SA) under the Ministry of Rural and Land Development (MDRyT).
- 1.3 Accounting records for the operation will be kept in the Integrated System of Management and Administrative Modernization (SIGMA).² SIAP-BID³ will be used for financial reports required by the Bank. The IDB's Standard Bidding Documents or other documents agreed with the Vice Ministry of Public Investment and External Financing and made available through SICOES⁴ will be used for execution of this operation; SICOES will also be used for the publication of specific procurement notices.
- 1.4 Use of the Basic Standards of the Goods and Services Management System (NB-SABS) is acceptable to the Bank⁵ as relates to the National Production and Employment Support (ANPE) procurement modality for: (i) works contracts for amounts below the threshold established by the Bank for use of the shopping method (for reference: US\$250,000); (ii) contracts for goods and nonconsulting services for amounts below the threshold established by the Bank for use of the shopping method (for reference: US\$50,000); (iii) all individual consulting

¹ The PCU is the current project coordinating unit for loan 2223/BO-BL while the PCEU is the project coordination and execution unit for operation BO-L1096.

² The Ministry of Economy and Finance has developed the Sistema de Gestión Pública [Public Management System] (SIGEP), which in the medium term will replace SIGMA.

³ Sistema de Administración de Proyectos–BID [IDB Project Administration System].

⁴ A national procurement subsystem that has been approved for use in Bank operations.

⁵ See document GN-2538-11 for what the Bank's Board of Executive Directors has approved as relates to acceptance of the partial use of the country procurement system in Bolivia. The agreement for the implementation and use of country systems in IDB-financed operations is currently being finalized, and will be applied once it enters into force.

contracts,⁶ and (iv) use of the SICOES system⁷ as a mechanism for advertising requests for proposals and the results of national bidding processes and simplified procurement processes in Bolivia.

II. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT

- 2.1 As a government agency, the MDRyT is governed by Law 1,178 of 20 July 1990 for Government Administration and Control (SAFCO). This law regulates the administrative and control systems for government finances, and their relationship with country planning and public investment systems.
- 2.2 The MDRyT uses SIGMA for all of its financial records.⁸ SIGMA offers secure and reliable access to budget execution information. It does not provide data in foreign currency, or on the basis of the investment categories established in the program costs table. The MEFP⁹ has, however, with Bank support, developed the Accounting Management Module, which allows reports to be issued based on the financing structures and the currency of loans from international development partners, meaning that these limitations should be overcome. Despite this, until such time as this module has been fully implemented, it has been agreed that the PCEU will use SIAP-BID¹⁰ as a supplementary accounting and reporting system for rendering accounts and financial reporting. As a state agency, the MDRyT is supervised by the Office of the Comptroller General and an internal audit unit.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 The institutional capacity assessment, together with the observations of the FMP/CBO team during execution of loan 2223/BL-BO, indicate an ADEQUATE level of institutional development and capacity, and a LOW level of fiduciary risk.
- 3.2 **Coordination.** To ensure optimum overall coordination, the program Operating Regulations will include flow charts featuring independent and exclusive administrative and legal functions, as well as the coordination mechanism that will govern participants under the this program. It is recommended that the MDRyT maintain the structure established for the PCU, which, as executing agency for current loan 2223/BO-BL, has acquired the knowledge and experience needed to ensure compliance with the fiduciary agreements and requirements set out in this document.
- 3.3 **Procurement.** Although the level of turnover among local authorities and administrative personnel (including high-, mid-, and low-level management procurement personnel) is generally high in the country, this has not been the case with the PCU. To avoid adversely affecting the transfer and strengthening of procurement-related knowledge or the pace of execution, efforts should continue to

⁶ Except in rare cases in which the Bank authorizes the use of the policy set forth in document GN-2350-9.

⁷ Sistema de Contrataciones Estatales [State Procurement System] www.sicoes.gob.bo

⁸ The Ministry of Economy and Finance has developed SIGEP, which in the medium term will replace SIGMA.

⁹ Ministry of Economy and Public Finance.

¹⁰ Sistema de Administración de Proyectos-BID [IDB Project Administration System], developed by Country Department Andean Group staff in the Bank's Country Office in Bolivia (CAN/CBO).

retain for the PCEU fiduciary staff (procurement and financial management specialists) who currently work in the PCU¹¹ for loan 2223/BO-BL.

- 3.4 **Internal legal and administrative processes and procedures.** It is highly recommended that the staff of the legal and administrative departments of the MDRyT and the IPD-SA continue to strengthen their knowledge of fiduciary management according to IDB guidelines, and that they participate in the early stages of procurement processes (preparation of bidding documents, draft or model contracts, etc.). Accordingly, the Bank will continue to provide training to agency staff (PCEU and other entities), supplemented by training offered by the Bank in the use program management tools (GRP, PM4R, MS Program).
- 3.5 **Public financial management.** The PCEU will have access to SIGMA for the timely recording of payment requests and financial records. In addition, until such time as the SIGEP Accounting Management Module has entered into operation, SIAP-BID will be used as a supplementary system for recording program transactions.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACT

- 4.1 **Operating Regulations.** Based on prior agreement between the Bank and the parties, the Operating Regulations will include details of execution arrangements, procedures, and information flows.
- 4.2 **Exchange rate agreed on with the executing agency for financial reporting.** The exchange rate used will be the prevailing rate in the borrowing country on the effective date of the conversion of funds into local currency in the executing agency's accounts.
- 4.3 **Financial statements and other audited reports.** Each year, for the duration of the loan disbursement period, audited program financial statements will be submitted to the Bank within 120 days after the close of the executing agency's fiscal year. These statements will be duly audited by an independent audit firm acceptable to the Bank. The final audit report will be submitted to the Bank within 120 days following the date stipulated for last disbursement under the loan.
- 4.4 The terms of reference for the contracting of the independent audit firm will be subject to the Bank's prior approval, and may include outputs consistent with the International Standards on Auditing relating to the financial audit of the program and related audit tasks.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 **Procurement execution.** Procurement will be conducted consistent with what the Bank's Board of Executive Directors has approved as relates to the acceptance of the partial use of the country procurement system of Bolivia (document GN-2538-11) once the agreement for the implementation and use of country systems in Bank-financed operations enters into force; and with the policies in documents GN-2349-9 and GN-2350-9 for everything not covered in document GN-2538-11 and the agreement for the implementation and use of country subsystems in Bank-financed operations.

¹¹ Note that the PCU is the current project coordinating unit for loan 2223/BO-BL while the PCEU is the coordination and execution unit for operation BO-L1096.

- 5.2 **Procurement of works, goods, and nonconsulting services.** Program-related contracts for works, goods, and nonconsulting services subject to international competitive bidding will be carried out using the Standard Bidding Documents issued by the Bank.
- 5.3 Bidding processes subject to national competitive bidding (NCB) will be carried out using national bidding documents agreed on with the Bank (or satisfactory to the Bank) for amounts up to US\$400,000, as such contracts can be fulfilled by local vendors and because it has been observed that contracts for amounts below US\$400,000 have not generated interest among foreign bidders in recent years. Shopping will be applied in those cases indicated in the procurement plan, using the bidding documents agreed on with the Bank, or the ANPE procurement modality once the agreement for the implementation and use of country subsystems in Bank-financed operations has entered into force. Calls for bids may be published in the SICOES.
- 5.4 This program does not envisage the contracting of works. If required, however, works valued at or below US\$1 million will be contracted using the shopping method.
- 5.5 **Selection and contracting of consultants.** Contracts for consulting services under the program will be listed in the initial procurement plan, and will be executed using either the Bank's Standard Request for Proposals or one agreed with the Bank (or satisfactory to the Bank if no agreement has been reached).
- a. **Selection of consulting firms.** Consulting firms will be selected for the program using the Bank's Standard Request for Proposals.
 - b. **Shortlist of consulting firms.** For contracts valued below the thresholds established by the Bank for the country, the shortlist may comprise entirely (100%) Bolivian firms.¹² For Bolivia this threshold is US\$200,000.
 - c. **Selection of individual consultants.** Individual consultants will be selected taking into account their qualifications for the assignment, based on a comparison of the qualifications of at least three candidates. As a rule, no interviews will take place. When the work necessitates the involvement of additional persons, to provide specific support and advisory services, consulting firms should normally be used. In circumstances where two or three persons would provide this support, the suitability of relying on individual consultants with complementary services will be analyzed on a case-by-case basis. The ANPE procurement modality may be used once the agreement for the implementation and use of country subsystems in Bank-financed operations has entered into force. Requests for proposals may be published in the SICOES.
- 5.6 **Procurement planning.** The PCEU will publish the procurement plan in the Procurement Plan Execution System (SEPA) and will update it at least once a year, or as necessary to reflect the program's actual progress and requirements for execution.
- 5.7 **Advance procurement/retroactive financing.** The Bank may retroactively recognize eligible expenditures of up to US\$1 million, or 1.6% of the financing

¹² Includes nonconsulting services.

amount, provided that they meet requirements substantially similar to those set out in the loan contract. These expenditures must have been incurred during the 18 months prior to the date of loan approval by the Bank. The following will be considered eligible expenses: (i) preliminary studies for execution of the subcomponents; (ii) set-up of the regional operating units; and (iii) hiring of key PCEU personnel as stipulated in the procurement plan.¹³

5.8 **Domestic preference.** The application of domestic preference will not be considered in the procurement of goods envisaged for this operation.

5.9 **Terms of reference and technical specifications.** The project team leader will review terms of reference and/or technical specifications.

5.10 **Table of threshold amounts (thousands of U.S. dollars).**

Works			Goods and nonconsulting services			Consulting services	
International competitive bidding	National competitive bidding	Shopping	International competitive bidding	National competitive bidding	Shopping	International advertising	Shortlist 100% national
Greater than US\$5,000	Less than or equal to US\$5,000	Less than US\$1,000	Greater than US\$400	Less than or equal to US\$400	Less than or equal to US\$200	Greater than US\$200	Less than or equal to US\$200

5.11 **Main procurements.** The main procurements for this operation are detailed below:*

Activity	Bidding process	Estimated date	Estimated amount (US\$000)
Goods or nonconsulting services			
Engagement of several service providers/firms to verify that technical assistance was provided to beneficiaries (US\$365,000 average contract)	NCB	Q3-2015	1,820
Engagement of two service providers/firms to design and implement the program's information campaign	NCB	Q1-2015	500
Engagement of three service providers/firms to verify the installation of technology for program beneficiaries	NCB	Q2-2015	1,365
Purchase of transport units	Shopping	Q2-2015	200
Consulting services			
Engagement of several consulting firms (eight contracts on average) to provide technical assistance to program beneficiaries	FBS	Q2-2015	9,100
Consultancy for the program impact evaluation	QCBS	Q4-2019 Q2-2019	500

*To access and review the procurement plan for the first 18 months, click: [\(here\)](#).

5.12 **Procurement supervision.** The thresholds for post review are set based on the fiduciary capacity of the executing agency, the complexity of procurement, and/or

¹³ Key personnel include: (i) national project coordinator; (ii) technical specialist I, PCEU; (iii) information technology expert; (iv) officer IV, planning, monitoring, and evaluation; (v) officer IV, legal affairs; (vi) officer III, agrifood technologies; (vii) officer III, voucher management; (viii) officer IV, SIGESEVA management and monitoring; (ix) officer IV, communications and training; (x) administrative specialist I, PCEU; and (xi) officer IV, goods and services (procurement specialist).

external factors that may affect the timeliness and manner of procurement execution. Given the current fiduciary management capabilities of the PCU (the PCEU for project BO-L1096) as relate to procurement, the program may be executed using ex post review for procurement processes worth up to 100% of the threshold for NCB, as set out in the table below. (Direct contracting and procurements not listed in the table will be subject to ex ante review). Based on the matrix of risks identified for the program, the level of fiduciary risk in relation to program procurement is LOW. Accordingly, annual procurement supervision visits and ex post review visits will be made with a view to updating the level of fiduciary risk and monitoring progress in procurement management under the program.

Threshold for ex post review			
Works	Goods and nonconsulting services	Consulting services - Firms Shortlist may be 100% national	Consulting services - Individual
Contracts for amounts less than or equal to US\$5,000,000	Contracts for amounts less than or equal to US\$400,000	Contracts for amounts less than or equal to US\$200,000	No threshold amount

- 5.13 **Operating expenses.** Operating expenses are recurring and maintenance expenses needed for program implementation. These will be agreed on with the project team leader and included in the procurement plan. Procurement relating to recurring expenses will be governed by the executing agency's administrative procedures (generally the NB-SABS regulations), as referenced in the Operating Regulations.
- 5.14 **Direct contracting.** Under this program, direct contracting may be used in the following cases: (i) key PCU personnel executing loan 2223/BO-BL (CRIAR); and (ii) contracts valued at less than US\$500 individually, or US\$5,000 when bundled, may be contracted directly in order to ensure efficient, timely execution. This must be approved by the project team leader, and the procurement plan must also be updated.
- 5.15 **Records and files.** The PCEU for operation BO-L1096 will establish the supporting documentation, procedures, and controls necessary for project execution, and maintain them in accordance with the terms of the loan contract and local laws.

VI. FINANCIAL MANAGEMENT

- 6.1 **Programming and budget.** The PCU for loan 2223/BO-BL, which is currently in operation, has an administrative department¹⁴ within which the project will be set up, thus allowing budget records to be kept with individual identification of the sources of financing and funds used in project execution. Inclusion in the budget as well as future budget modifications (requested via ministerial resolution) must go through the Bureau of Administrative Affairs (DGAA), based on the annual work plan and the project execution plan agreed with the Bank, thus ensuring that the

¹⁴ Under SIGMA's budgetary programming structure, an administrative department may include several projects with independent records and controls.

funds required for each year of project execution will be available. Budget modifications also must be submitted to the Vice Ministry of Public Investment and External Financing, for approval via a ministerial resolution from the Ministry of Development Planning.

- 6.2 **Accounting and information systems.** The PCEU for the proposed program (BO-L1096) will record project transactions in SIGMA. This system combines in a single registry the following accounting records: Budget (budget execution), Net worth (assets, liabilities, equity, and earnings), and Treasury (cash transfers), on an accrual basis. In addition, for project accounting purposes, a chart of accounts will be prepared to allow the identification of expenditures incurred by transaction on a cash basis, aligning the project's investment categories with the respective budget line items and accounts. In addition, until such time as the SIGEP Accounting Management Module (currently SIGMA) is in operation, the PCEU will use the SIAP-BID system on a temporary basis for program accounting and as a supplementary accounting system for financial reporting.
- 6.3 **Disbursements and cash flow.** The loan will be disbursed in the form of independent advances of funds to the PCEU. The frequency of advances will be determined as a function of the project's financial programming, which will be updated periodically by the PCEU. The Bank may make a new advance of funds once at least 80% of previous fund advances have been accounted for. Loan proceeds will be deposited in an independent account in U.S. dollars, and subsequently transferred to another account in local currency, both under the CUT.¹⁵ The MDRyT, through the PCEU, will be responsible for the management of funds disbursed to it.
- 6.4 **Internal controls and audits.** Financial management by the PCEU is subject to yearly reliability reviews by the Internal Audit Unit; the project is expected to be included in this type of review. As a strategic activity under its mandate, the Bank will organize annual workshops for the MDRyT Internal Audit Unit, with a view to strengthening its knowledge of project execution. These activities are coordinated with the Office of the Comptroller General (CGE). Additionally, the Bank has been supporting the CGE with a technical-cooperation operation that is seeking to strengthen the internal control system. With internal audit units as the main participants, it is equipping them with review tools and improving the application of their regulations.
- 6.5 **External controls and reporting.** To meet the requirement of annual submittal of the project's audited financial statements, the PCEU will need to hire an independent audit firm acceptable to the Bank, following Bank policies. A multiyear contract (spanning at least three fiscal periods) should be used so as to avoid transaction costs and give continuity to the auditors' work, while also ensuring timely interventions that will enable preliminary reviews at semiannual cutoff points.
- 6.6 **Financial supervision plan.** Supervision plans and timetables will be designed based on identified fiduciary risks. At a minimum, the following annual activities are envisaged: (i) a comprehensive visit (covering procurement and disbursements) by the external audit firm hired to review the project's financial statements; (ii) a site visit to the areas targeted for investment under the loan; and (iii) a visit to verify

¹⁵ CUT: Cuenta Única del Tesoro [General Treasury Account].

compliance with agreements based on the internal control recommendations issued by the project's external auditor.

- 6.7 **Execution mechanism.** Given that loan 2223/BO-BL is currently being executed by the PCU, no changes are anticipated in this area. The current structure, procedures, and arrangements will therefore be maintained for execution of the proposed operation, as will the PCU, along with its administrative, financial, and management autonomy. The PCEU for proposed project BO-L1096 will assume direct responsibility for implementation and will be devoted full-time to project execution. Its duties will include project planning, management, and monitoring, development of planning instruments, channeling of funds for execution, authorization and transfer of voucher payments, and consolidation and submittal to the Bank of financial information and monitoring and evaluation reports, among others set forth in the Operating Regulations.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Bolivia. Loan ___/BL-BO to the Plurinational State of Bolivia
Direct Supports for the Creation of Rural Agrifood Initiatives II

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 Plurinational State of Bolivia, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a direct supports for the creation of rural agrifood initiatives II program. Such financing will be for the amount of up to US\$49,600,000 from the resources of the Single Currency Facility of the Bank's Ordinary Capital, corresponds to a parallel loan within the framework of the multilateral debt relief and concessional finance reform 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 _____ 2015)

BO-L1096
LEG/SGO/BO-39765860

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Bolivia. Loan ____/BL-BO to the Plurinational State of Bolivia
Direct Supports for the Creation of Rural Agrifood Initiatives II

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 Plurinational State of Bolivia, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a direct supports for the creation of rural agrifood initiatives II program. Such financing will be for the amount of up to US\$12,400,000 from the resources of the Bank's Fund for Special Operations, corresponds to a parallel loan within the framework of the multilateral debt relief and concessional finance reform 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 _____ 2015)

BO-L1096
LEG/SGO/BO-39765884