Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 24-May-2023 | Report No: PIDC35569

Public Disclosure Authorized

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Brazil	P180429		Bahia Sustainable Rural Development Project - Phase 2 (P180429)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
LATIN AMERICA AND CARIBBEAN	Mar 11, 2024	Apr 30, 2024	Agriculture and Food
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Government of the State of Bahia	CAR - Companhia de Desenvolvimento e Acao Regional	

Proposed Development Objective(s)

To improve productivity, access to markets and climate change resilience of family farmers and access to water in selected rural areas..

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	150.00
Total Financing	150.00
of which IBRD/IDA	100.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	100.00

Non-World Bank Group Financing

Counterpart Funding	50.00
Borrower/Recipient	50.00

Environmental and Social Risk Classification	Concept Review Decision
Moderate	Track II-The review did authorize the preparation to continue

B. Introduction and Context

Country Context

1. **Brazil's recent economic and social progress has been put at risk by unfinished reforms and external shocks.** Between 2000 and 2013, Brazil underwent swift economic and social development. Tight labor markets, high consumer demand, expanding credit supply, and high commodity prices as well as increased access to international capital markets contributed to an average annual growth rate of 4 percent. In addition, the Government's social policies were successful in lifting almost 25 million people out of poverty. However, the lack of policy reforms focused on increasing productivity and improving economic competitiveness meant that productivity increases were insufficient to support growing household consumption and sustain economic growth[1, 2]. This led to a reduction in household debt and a contraction in consumption, a negative effect that was amplified by the end of the commodity supercycle. As a result, between 2014 and 2020, the annual growth rate dropped below 1 percent. The COVID-19 pandemic has made things worse, deepening the negative effect on the Brazilian economy and increasing the risk of unravelling the social progress made during the 2000s.

2. **The dual impacts of COVID-19 pandemic and the Russia's invasion of Ukraine have taken a toll on the Brazilian economy and its people.** Despite the country's efforts to rebound, the road to recovery remains long and challenging. Within a brief but tumultuous span of two years the COVID-19 pandemic and the Russia's invasion of Ukraine unleashed a series of cascading crises in the Brazilian economy. As of April 2023, COVID-19 had taken more than 700,000 lives and infected more than 37 million people in Brazil. To combat the pandemic, Brazil implemented strict health measures that led to an economic collapse, causing a 3.9 percent decline in GDP in 2020. In 2021, the economy was showing early signs of recovery with a 4.6 percent increase in GDP. But, in February 2022, the Russia's invasion of Ukraine sent shockwaves throughout the global economy, and Brazil was not spared[3]. The ensuing crises brought high inflation rates[4], increased unemployment, and put upward pressure on high interest rates, exacerbating the already fragile economic situation in Brazil. Rural households felt these national changes keenly, with many struggling to access basic food and clean water.

3. **Brazil's response to the COVID-19 crisis in 2020 was marked by a sizable fiscal stimulus package of USD158.5 billion (10.6 percent of GDP) to support households and businesses**. Emergency cash transfers worth USD64.5 billion (37.0 percent of the stimulus package) were primarily directed at vulnerable households, while USD20.9

[1]International Monetary Fund. (2015). Brazil: Staff Report for the 2015 Article IV Consultation. https://www.imf.org/external/pubs/ft/scr/2015/cr15251.pdf.
[2]World Bank. (2016). Brazil Economic Update, Fall 2016: Treading Water. Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/25032/109858-BRI-P152101-OUO-9.pdf?sequence=1&isAllowed=y
[3]Glauber, J. and D. Laborde. "How will Russia's invasion of Ukraine affect global food security." IFPRI Blog Post. February 28, 2022. https://www.ifpri.org/blog/how-willrussias-invasion-ukraine-affect-global-food-security.
[4]In 2018 and 2019, it remained stable at 3.75% and 4.31%, respectively. In 2020, it increased slightly to 4.52%. In 2021, the inflation rate jumped to 10.67%. Then, in 2022, the inflation rate went down to 5.01%.

billion was allocated to the health sector by December 2021. The Ministry of Citizenship (MoC) launched the Emergency Aid program (EA) that initially benefited 68.3 million people in 2020, it was gradually scaled down and eventually phased out. The EA program was followed by the reformulated *Bolsa Família* (BF) program, now known as *Auxílio Brasil* (AB). Despite the stimulus package reducing poverty in 2020, the phasing out of the EA, slow labor market recovery, and high inflation contributed to an increase in poverty rates in 2021.[5, 6].

4. **In the wake of an unstable period for the Brazilian economy, the agriculture sector played a crucial role in the country's recovery.** The agricultural sector in Brazil fared relatively well in comparison to other economic sectors during the COVID-19 pandemic. Between 1996 and 2021, for instance, average labor productivity growth in the agriculture sector reached nearly 6 percent while services and manufacturing, transport and construction were negative. In 2021, the agriculture sector contributed 21 percent of Brazil's GDP, with benefits felt along the entire value chain from production to processing, storage, marketing, and distribution. The sector employed 20 percent of the country's workforce, with 46 percent of employment opportunities located in rural areas. Brazil's agriculture sector was also responsible for 46 percent of all exports, generating trade surpluses of over USD1 trillion and contributing 91 percent of the US$380 billion in Brazil's current foreign exchange reserves. As the destiny for 33 percent of agriculture exports, comprising mainly of a mix of soybeans, beef, pork, and poultry meat, China is Brazil's largest trading partner. The Eurozone is second, accounting for 16.2 percent of exports and purchases of soybeans, forest products, coffee, and fruit. Finally, the United States is the third largest trading partner, responsible for 7.4 percent of exports, taking a mix of forest products, coffee, sugar, and fruits.

5. **The agriculture sector in Brazil has made impressive strides in productivity at the national level, with an annual growth rate of 3.3 percent in total factor productivity (TFP) between 1975 and 2020.** This growth was achieved through investments in agricultural research and development, agricultural extension and technical assistance, infrastructure development and trade liberalization. There is, however, still room for improvement[7]. Small-to-mid size farmers (20-200 hectares) and those in the Northeast of Brazil (NEB) have recorded the lowest TFP growth. This suggests that while the agriculture sector has been competitive overall, there are distinct regions and producer cohorts lagging behind. Increasing productivity in the lagging producer cohorts is a priority to provide access to sectoral growth and its associated co-benefits. Investing in research and development, implementing extension services, and improving access to credit and markets could increase agriculture TFP from 3 to 18 percent[8, 9]. These investments would increase agricultural productivity, promote social inclusion and contribute to poverty reduction[10]. It would also allow farmers to adapt to and mitigate the effects of climate change.

6. **Furthermore, women who have difficulties accessing these water and sanitation services tend to be more affected than men as they perform three times more domestic and family care activities**. Women are also affected when a family member falls ill due to inadequate access to water and sanitary sewage services because

[5]In 2020, the AE buffered the pandemic's socioeconomic impacts and helped Brazil reduce poverty to 13.1%. The exit strategy of the EA program increased the poverty rate to 18.7%. The slow recovery of the labor market did not compensate for the phasing out of the income support provided by the EA.

[6]World Bank. 2022. Macro Poverty Outlook. April 2022.

[7]Gasques, J. G. (2022). Precision farming technologies and total factor productivity in Brazil. Agricultural Economics, 53(1), 1-10.

[8]Bertoni, D., & Lipper, L. (2019). Farmer education and farmer-led extension: complementary investments to improve smallholder agricultural productivity. Food Security, 11(4), 827-839.

[9]Ragasa, C., Ulimwengu, J., & Randriamamonjy, J. (2022). Access to credit and total factor productivity in smallholder agriculture: Evidence from Latin America. Agricultural Economics, 53(2), 191-203.

[10]Cai, J., & Cao, X. (2022). Market access, farm size, and agricultural productivity: Evidence from smallholder maize farmers in Honduras. Food Policy, 106, 102238.

they are often the primary care givers. The complexity and high cost of managing water supply services in rural areas, however, has led to a lack of focus on this issue by state-run water companies. But, innovative decentralized solutions, which supplement traditional utility approaches, have been tested over the past two decades with some success by subnational governments, rural communities, and non-governmental organizations to expand access to safe drinking water in rural areas.[11, 12, 13]

7. **Dwindling supplies of fresh water due climate change pose a material risk to agricultural development and the delivery of water and sanitation services (WSS).** Climate change-induced factors such as decreased precipitation, prolonged dry spells, and elevated temperatures are anticipated to intensify evaporation rates, leading to a reduction in the availability of surface water and groundwater. The agricultural sector in Brazil faces an average loss of approximately 1 percent of its annual gross production value because of extreme weather events[14]. The reduction of fresh water supply caused by climate change presents a significant and growing threat to the development of agriculture, the provision of water services and food security overall. In Brazil, the average temperature is projected to increase between 1.7°C and 5.3°C by the end of the century, making the country's biomes vulnerable.

8. **These changes are expected to increase the number of high-risk areas for agriculture development, including areas for production crops and livestock**. The greatest climate risk is associated with the increased length and intensity of the dry season[15]. Furthermore, climate change is expected to increase the cost of supplying safe water in both low- and high-risk areas by an average of 3 and 18 percent, respectively[16]. The impacts of climate change are likely to be concentrated in the Midwest, North and Northeast, where the population already lives in harsh edaphoclimatic conditions. The Northeast of Brazil encompasses nine states, has a population of more than 50 million, and covers some 1.6 million square kilometers. As extreme weather events like droughts and floods become more frequent and intense, climate resilience will become increasingly important to water providers[17] and farmers.

Sectoral and Institutional Context

9. **The State of Bahia covers an area of 567,400 km2, representing about 6.7 percent of Brazil's territory and more than one-third of the Northeast Region**. With a total population of 14.9 million distributed over 417 municipalities Bahia is the 4th most populous state in Brazil, of whom 10.4 million are living in urban areas and 4.5 million in

[11]do Nascimento, N. M., Barbosa, E. P., & Lopes, F. F. (2016). Water supply in Brazilian rural areas: a review of public policies and decentralized solutions. Water International, 41(4), 539-553.
[12]Lima, R. C., Almeida, J. A., de Souza, L. E., & de Oliveira, V. H. (2020). Impact of rainwater harvesting on crop yield and rural livelihoods in the semiarid region of Brazil. Agricultural Water Management, 233, 106072.
[13]de Araújo, R. C., de Oliveira, F. M., & de Araújo, E. S. (2017). Integrated water resources management in Brazilian semi-arid: challenges and perspectives. Revista Brasileira de Recursos Hídricos, 22, e-21S02.
[14] Arias, D. et al. 2017. "Agricultural Market Insurance Development: Policy Note – Brazil." Policy Note. Washington, DC: World Bank. http://hdl.handle.net/10986/32203.
[15]Rattis, L., Brando, P. M., Macedo, M. N., Spera, S. A., Castanho, A. D., Marques, E. Q., ... & Coe, M. T. (2021). Climatic limit for agriculture in Brazil. Nature Climate Change, 11(12), 1098-1104.
[16]Dalberg. 2020. Assessing the Climate Resilience of Safe Water Enterprises (SWEs). Final Report.88 pages. http://safewater.enterprises/wp-content/uploads/2020/12/Dalberg-SWE-Climate-Resilience-Full-Report .pdf
[17]Water system providers are institutions that are responsible for managing and maintaining the water treatment and distribution systems that provide clean and safe drinking water to communities.

rural areas. After seeing a significant increase between 2007 and 2019, mainly due to an increase in the minimum wage, direct income transfers, and growth in the industrial and agricultural sectors, Bahia's GDP reached US$58.7 billion, ranking it 7th in Brazil. However, social indicators show that poverty and inequality remain significant issues. The state's Gini Coefficient, a measure of inequality, stands at 0.56, which is higher than the national average of 0.54, and approximately 40 percent of Bahia's population lives in poverty, with 10 percent living in extreme poverty. It is estimated that 38 percent of Bahian households were food insecure in 2020. The State also ranks poorly in the Municipal Human Development Index (MHDI).

10. **The agriculture sector in Bahia is composed mainly by small-scale family farmers.** Family farms of less than 50 hectares producing for both subsistence and commercial needs make up approximately 78 percent of the farms in Bahia. While State level data suggest that agricultural productivity growth is close to the national average at 3.74 percent annually[18], the agriculture sector face contrasting realities. One reality is found in the Cerrado and Sao Francisco region and features higher land quality with highly productive, commercially successful production systems that are well-integrated into local, regional and international markets (see annex 1). The other reality, which is common throughout large areas of the semiarid region, features subsistence and transitory agriculture systems on fragile ecosystems that are poorly integrated into markets. Farmers in this semiarid region have demonstrated the lowest productivity gains in Brazil[19].

11. **Family farmers confronts multiple challenges that obstruct productivity and temper income growth.** The multiple challenges faced by family farmers, in Bahia, include the following: (i) reduced bargaining power of farmers due to the low scale of production, (ii) inadequate access to financial markets to undertake medium-long term investments (credit and insurance), (iii) limited information and technical support for the adoption of modern agricultural technologies and good farming practices; (iv) limited access to business development services; and (v) limited access to productive assets. Often, these problems are a combination of market and government failures. Consequently, family farmers often lack competitiveness within the agricultural sector, hindering their ability to capitalize on the growing market potential driven by urbanization and evolving consumer preferences for food. Fostering the integration of family farmers into value chains through producers' organizations has the potential to create a more productive, sustainable and resilient agriculture sector, family farmers, in Bahia.

12. **Women and youth are the driving force behind the agriculture value chains.** Recent studies clearly show that including women and youth in agriculture value chains leads to increased productivity and income for them and their families[20]. Success stories can be found in Guatemala, Colombia, and Rwanda, where integrating women and youth into coffee value chains resulted in significant increases in income and production[21]. Indeed, women's integration into the coffee value chain in Guatemala led to a 15 percent increase in income for women farmers, while youth involvement in coffee production in Rwanda led to a remarkable 22 percent increase in coffee production and a 27 percent increase in income. In Colombia, a recent study found that the women's

[18]Gasques, J. G., et al. 2018. Growth and Productivity of Brazilian Agriculture from 1975 to 2016. Conjuncture Chart No 38 – 1o Quarter 2018. Institute of Applied Economic Research (IPEA).

[19]Carvalho, N. B., de Moura Pires, M., & da Silva Gomes, A. (2017). Capital Humano E Tecnologia: análise da produtividade agrícola da Bahia. Campo-*Território*: 11(24), 265-288.

[20]FAO. (2018). Youth and agriculture: key challenges and concrete solutions. Food and Agriculture Organization of the United Nations.

[21]Briones, M., & Reyes, T. (2017). Coffee certification and forest conservation in Ethiopia: how valuable are forest coffee certifications to local livelihoods and forest conservation? Forests, Trees and Livelihoods, 26(2), 119-131.

empowerment program had a positive effect on coffee production, with a 5 percent increase in coffee productivity among households where women participated in the program[22]. Finally, youth also have a unique role to play in the accessing information, as their familiarity with modern technology makes them ideal candidates to adopt and utilize new digital technologies in the agriculture sector.

13. **The gap in access to Water Supply and Sanitation (WSS) between rural and urban areas remains a major challenge.** In Bahia, 2.8 million people (19 percent of the total population) do not have access to a treated water supply while 7.2 million (48 percent of the total population) lack access to sewage services. In rural areas, 1.6 million people (36.8 percent of the rural population) continue to lack access to safe drinking water services and only 0.7 million (16.2 percent of the rural population) people have access to sewage system[23]. The new water and sanitation law may provide incentives for the private sector to invest in WSS in urban areas, which will go a long way to helping Bahia to achieve universal access in urban areas[24]. However, the situation in rural areas is compounded by the lack of sustainability of water infrastructure and water services which are transferred for management to municipalities which lack the capabilities to support the management of services[25]. Experiences from other states in Brazil, such as Ceará, and in other countries, demonstrate the need for the creation of a State Policy for Rural Water and Sanitation that creates the conditions for strengthening the provision of water services paying due attention to water services management and adaptation to climate change to ensure the resilience and sustainability of service provision.

14. **The institutional and policy framework for agriculture and water and sanitation services in the State of Bahia[26].**

Agriculture

15. **In the State of Bahia, agriculture is supported by a range of institutions operating at different levels of government**. Two key agencies are responsible for agricultural and rural development: the Secretariat for Regional Development (SDR) and the Secretariat for Agriculture, Livestock, Irrigation, Fisheries, and Aquaculture (SEAGRI). The SDR has a broad mandate to promote economic and social development across the State and its target audience includes small-scale farmers, rural entrepreneurs, and other actors in the agricultural sector. SEAGRI's target audience, on the other hand, are commercial farmers.

16. **The State Agency for Agriculture Health (AEDA) is responsible for ensuring the safety and quality of agricultural and livestock products in Bahia**. Its main role is to inspect farms and food processing facilities to ensure compliance with health and safety standards. The Regional Development Agency (CAR) supports rural development by providing technical assistance, financing, and infrastructure support to small-scale farmers and

[22]Describe the results Pena, C. R., Figueroa, H., & Robles, M. (2018). Women's empowerment and coffee production: Evidence from a field experiment in rural Colombia. World Development, 110, 171-182.

[23]Sistema Nacional de Informações sobre Saneamento (SNIS),

[24]In 2020, the New Legal Framework for Basic Sanitation (Law No. 14.026) was approved, and it requires that all states must provide safe drinking water services to 99 percent of the population. Also, it requires access to sewage collection services to cover 90% of the population.

[25] CAR (2022). '*Planejamento das novas Centrais de Associações Comunitárias a serem implantadas no estado da Bahia*'. December 2022.

[26]https://www.perfiladministracaopublica.ba.gov.br/organograma.html.

rural entrepreneurs. The Bahia Agency for Technical Assistance and Rural Extension (BAHIATER) provides extension services to farmers and rural communities, offering advice and support on a range of issues related to agriculture and rural development.

17. **In addition to these agencies, the State of Bahia also has several research and development institutions that support agriculture and rural development**. These include regional Universities and the Bahia State Research Foundation (FAPESB), which funds research projects and supports innovation in agriculture and related sectors. The Agency for Agribusiness Development (SUDEAGRO) also supports research and development activities, with a particular focus on promoting sustainable and socially inclusive development in the agriculture sector. Finally, the Bahia Fishery (BAHIAPESCA) is responsible for supporting and regulating the state's fisheries and aquaculture industries, with a mandate to promote sustainable development and protect the State's aquatic resources.

18. **Key policy instruments in Brazil's agricultural sector.** The main policy instruments employed in Brazil include: (i) rural credit, (ii) risk management programs, (iii) minimum and reference prices, (iv) agricultural land zoning with environmental compliance, and (v) agricultural innovation. Credit at preferential interest rates is the main agricultural policy instrument provided to large, medium, and small-scale family farms. For instance, for the 2021/22 harvest, total credit allocation was BRL 251.2 billion (USD 46.6 billion). This instrument is developed and implemented through collaboration between the Central Bank, the Treasury, the Secretariat of Economic Policy (Ministry of the Economy), the Ministry of Agriculture (MAPA) and the Ministry of Agrarian Development and Family Farming (MDA). The National Rural Credit System (SNCR) primarily allocates rural credit, offering preferential interest rates and distinct conditions for small farmers (PRONAF), medium-sized farmers (PRONAMP), and commercial farms[27].

Water and Sanitation

19. **Bahia has a comprehensive institutional arrangement for water and sanitation management.** The main agency responsible for water and sanitation is the Secretariat of Infrastructure and Water Resources (SIHS), which is responsible for planning, implementing, and regulating water and sanitation policies. Within SIHS, there is a Water Resources Directorate responsible for coordinating, preparing studies, programs and projects, aiming at the formulation, execution and follow-up of the State Water Safety Plan and the State Policy for Safety of Dams. The Water and Sanitation Directorate is responsible for planning, implementing, and regulating water and sanitation policies and projects. The Environment and Water Resources Institute – INEMA, under the Secretariat of Environment, is responsible for managing water resources, including water allocation, water quality monitoring, and dam safety regulation.

20. **The Bahia Water and Sanitation Company (EMBASA) and Water Engineering and Sanitation Company (CERB) are both public water and sanitation companies owned by the State of Bahia**. EMBASA is responsible for providing services in urban and selected rural areas, while CERB is focused only on rural areas. EMBASA manages and operates the water and sanitation systems, including treatment plants and distribution networks, and is responsible for planning and implementing new projects. CERB, on the other hand, is responsible for the

[27] The National Rural Credit System (NRCS) is based on compulsory quotas of bank deposits dedicated to rural credit.

development of water sources and the construction of water supply and sanitation infrastructure in rural areas. Overall, EMBASA is the larger and more comprehensive of the two, while CERB has a more specific focus on the provision of infrastructure for water and sanitation in rural areas. The management and operation of water supply systems in rural areas is carried out by the municipalities themselves, by EMBASA at a less extent, or by the Central of Associations, management model expanded with the Bank support, based on close participation by the communities and technical support from EMBASA and CERB. Both companies work to ensure compliance with environmental regulations, promote water conservation and efficient use, and provide reliable and affordable services to their customers.

21. **The Regulatory Agency for Water and Sanitation Services of Bahia (AGERSA) is an autonomous agency responsible for regulating water and sanitation services in the State**. AGERSA's main responsibilities include setting tariffs and regulating the water quality and sanitation services provided by EMBASA and other service providers. Municipalities also play a role in water and sanitation management, particularly in providing local water and sanitation services. The Municipalities are responsible for regulating and managing local water and sanitation services, in partnership with EMBASA and other agencies, to ensure that the needs of local communities are met. The agencies mentioned above should work together to ensure that water and sanitation services are provided in an efficient, sustainable, and equitable manner; however, there remain big challenges to be addressed to secure water services in rural areas.

22. **In Brazil, key policy instruments in the water and sanitation (WSS) sector include the new Sanitation Law (Law 14.206)**. This law reformed the regulatory framework for water and sanitation in the country. The National Water Agency (ANA) now has an expanded role, encompassing not only water resource management but also the establishment of reference standards for WSS and the oversight of their implementation by subnational governments. The new legal framework also introduced increased opportunities for privatization and private investment, aimed at infrastructure development and the expansion of sanitation services nationwide (universal provision). This shift is significant as the previous regulatory framework allowed for local regulation of WSS without federal direction or supervision, resulting in fragmented, inconsistent, and imbalanced rules that led to inefficiencies and regulatory risks. The new Law is expected to establish a more stable regulatory environment.

23. **Regarding Bahia State, the SHIS is currently preparing and/or updating the following plans**: (i) State Plan for Water Supply and Sanitation (*Plano Estadual de Agua de Saneamento Básico*, PESB); (ii) Water Security State Plan (*Plano Estadual de Seguranca Hídrica*, PESH), which aims to update the water balance, detailing the necessary interventions to ensure water supply (construction of dams, water mains, water supply and treatment systems), under the prevailing conditions of climate change; (iii) Regional Water and Sanitation Plans (*Planos Regionais de Saneamento Básico*, PRSB), which will be the planning tools that will present the investment need in the short, mid and longer terms to attain the universal access to water and sanitation services.

Relationship to CPF

24. **The project is fully aligned with the World Bank Group's (WBG) Brazil Country Partnership Framework (CPF - Report No. 113259-BR) for Brazil for the Period FY18-FY23 as revised by its Performance and Learning Review (PLR - Report No. 143636-BR).** The project directly contributes to the third focus area of the CPF: Inclusive and Sustainable Development. Under this focus area, the project seeks to contribute to the socioeconomic development of the rural poor and vulnerable groups through investments in productivity enhancing and climate-

resilient agricultural technologies, good farming practices, and increasing market access through producers' organization. Also, the project seeks to increase access to water supply and sanitation services in low-income communities, with a focus on the Northeast region; enhance the sustainability and resilience of water supply and sanitation systems through better governance, planning, and management; and promote the adoption of innovative technologies and practices to improve water supply and sanitation services. The project will also contribute to Bahia's efforts to improve food security, as set out in the Bahia Without Hunger program (Bahia sem Fome), which promotes food and nutritional security through investments to strength small-scale farmers.

25. **The project will contribute to Brazil's Nationally Determined Contribution (NDC) and National Adaptation Plan (NAP)**. In the latest NDC update completed in 2022 building on the original of 2015, Brazil confirmed its commitment to reduce emissions in 2025 by 37 percent compared with 2005, committed to reduce its emissions in 2030 by 50 percent compared with 2005 and set a long-term objective to achieve climate neutrality by 2050. Brazil's NDC, referencing the second cycle of the National Adaptation Plan (NAP) from 2021, makes note of adaptation strategies in the agricultural sector as a mean of ensuring food security. By supporting small-scale family farmers in their adoption of climate-smart agriculture technologies and farming practices that enhance productivity and increase resiliency to climate shocks, the project is fully aligned with these climate change policies. Also, the proposed project is aligned with the following commitments: (i) increase the percentage of households with access to treated drinking water from 83.3 percent in 2010 to 100 percent by 2030; (ii) implement climate change adaptation actions in water and sanitation by 2030; and (iii) reduce water losses in the supply system by 20 percent by 2030.

C. Proposed Development Objective(s)

26. To increase adoption of agricultural technologies aiming to improve agricultural productivity and resilience of family farmers to climate change shocks while enhancing access to markets and expanding access to resilient[28] water services in selected rural areas.

Key Results (From PCN)

27. Adoption of agriculture technologies:

- Farmers (members of producer organizations supported by the project) adopting agricultural technologies and good farming practices aiming to improve productivity (number - disaggregated by women, youth and traditional communities).

- Farmers (members of producer organizations supported by the project) adopting agricultural technologies and good farming practices aiming to improve climate change resilience (disaggregated by women, youth and traditional communities).

[28] Resilient water services entail: (i) a minimum number of hours per day of water service even during the most critical periods of the year, (ii) an institutional management model in place with backup support arrangements for operation and maintenance (O&M), and (iii) financial arrangements that cover at least operation and management costs.

28. Enhance market access:

    - Increase in gross value of sales by family farmers participating in approved subprojects (Percentage - disaggregated by women, youth and traditional communities);

29. Improved access to water:

    - Water access will be measured as the number of people provided with access to resilient[29] water services through piped household water connections (Number).

D. Concept Description

30. One strategy employed to tackle the various challenges described above is the promotion of Productive Alliances (PA), which aim to strengthen the connections between producers, buyers, and the public sector within agricultural value chains. The PA approach involves three key actors: (i) producer organizations, (ii) buyers, and (iii) the public sector. These actors are linked through a business plan that outlines the capital and service requirements of the producers and proposes enhancements to improve their production capacities and skills, thus strengthening their connection to the market. The implementation of the business plan typically involves a subproject supported by three main inputs or activities: productive investments (assets), technical assistance for primary production, processing and marketing, and business development services. These inputs are funded through grants provided by the project, which are matched by the beneficiary producers.

31. The PA approach combines insights from experimental research, including randomized controlled trials, focused on identifying the major barriers to the adoption of agricultural technologies and best farming practices, with recent literature on the participation of family farmers in agricultural value chains[30]. The PA approach primarily addresses constraints related to (i) liquidity, (ii) information gaps, (iii) risk aversion, (iv) transaction costs associated with market access, and (v) the subpar quality of agricultural products produced by family farmers. By facilitating the participation of family farmers in value chains that connect their agricultural production with the increasing urban demand for high-quality food products, the PA approach offers a pathway for improving their economic prospects[31]. The component 1 of the project will finance both the pre-investments needed to develop business plans (subcomponent 1.1) and the implementation of the proposed investments (subcomponent 1.2). The component will address the diverse needs of producer organizations at various levels of organization through different grant windows, aiming to foster social inclusion.

32. The strategy for managing water supply issues in rural areas is centered around the Community Associations for Water Management, known as "*Centrais de Associações*." This management approach emphasizes community-driven and locally managed water systems, moving away from the reliance on centralized systems typically overseen by municipalities. By involving local communities in the planning, implementation, and maintenance of water services, this strategy aims to enhance ownership, sustainability, and effectiveness. Empowering

[29] See definition in footnote on PDO above.
[30] Barrett, Christopher B., Thomas Reardon, Johan Swinnen, and David Zilberman. "Agri-food value chain revolutions in low-and middle-income countries." Journal of Economic Literature 60, no. 4 (2022): 1316-1377.
[31] Gollin, Douglas, and Lilli Teresa Probst. "Food and agriculture: shifting landscapes for policy." Oxford Review of Economic Policy 31, no. 1 (2015): 8-25.

communities to take control of their water supply ensures long-term access to clean water and promotes the overall well-being and development of rural populations. Developed in the early 2000s, this approach has gained increased attention in recent years, particularly in cases where water systems were transferred to municipalities but failed to achieve sustainability. The previous project financed by the World Bank relied on the management model of "*Centrais de Associações*" and the results demonstrated benefits such as reduced administration and maintenance costs, improved water quality monitoring, decreased water losses, and enhanced association accountability[32]. The component 2 will finance both the pre-investments needed to develop "*Centrais de Associações*" (subcomponent 2.1) and the implementation of the proposed investments (subcomponent 2.2).

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

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[32] CAR/CERB (2022). *'Avaliação Comparativa dos Impactos à População Atendidas por SSAA Operados pelas Centrais e Prefeituras'.* December 2022.

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APPROVAL

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Practice Manager/Manager:		
Country Director:	Sophie Naudeau	12-Jun-2023