

# Case study of the Family Agricultural Value Chain Inclusion Project in Paraguay

UNOPS impact for vulnerable people |  
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In the restated strategic plan, UNOPS commits to deliver impact for the most vulnerable people. We present this case study to the Executive Board to illustrate the UNOPS contributions.

## Executive summary

1. The family agricultural value chain inclusion project successfully boosted agricultural production for 5,000 poor families in the Eastern Region of Paraguay. It strengthened the capacities of 776 community organizations across five departments aiming at enhanced land use efficiency, improved crop effectiveness, and improved resilience to climate change. UNOPS directly contributed to Goal 1 'no poverty', fostering prosperity through improved land efficiency, productivity and value, while also indirectly supporting Goal 2 'zero hunger', Goal 5 'gender equality', Goal 8 'decent work and economic growth', and Goal 12 'responsible consumption and production'.

Funded by Itaipu Binacional  
US\$ 5 million

Main service line  
Project Management



## Context and project outline

2. Paraguay, a landlocked country, heavily reliant on agriculture, faces challenges caused by climate change, including severe droughts, forest fires and decreasing water levels. These environmental impacts adversely affect agricultural production, especially for small farmers. By 2022, due to extreme climate conditions during the crop season 2021-2022<sup>1</sup>, the agriculture sector's contribution to GDP was forecasted to decrease by 27%, prompting emergency measures by the Paraguayan government to assist more than 21,000 small-scale farmers. In rural areas where 2.6 million Paraguayans reside, 34% live below the poverty line, and 7.4% are extremely poor. The lack of farming technologies, employment opportunities, and quality education leads to significant migration (600 thousand/year) to urban areas, particularly among youth and women.
3. The project focuses on poverty-stricken departments like San Pedro (37% poverty), Caaguazú (36%), and Caazapá (36%<sup>2</sup>), where many families, in settlements and communities with limited services, face challenges with regards to access and ability to adopt technologies for their productive processes. Women, in particular, have less access to key assets for productivity, such as land (31% for women vs. 69% for men), credit (6.3% vs. 24.5%) and technical assistance (2.5% vs. 4%).
4. The project takes an integrated approach, transforming non-arable land into productive areas, providing quality agricultural products for human and animal consumption, marketing support, and technical training to local producers. The project addresses the immediate needs of rural communities and promotes sustainable agricultural practices for reasons of climate change adaptation. By addressing immediate community needs and promoting sustainable practices, the project aims to help empower rural areas, offer economic opportunities, and reactivate the economy.

## Theory of change

5. The theory of change outlines a tailored set of activities designed to address root causes and needs, with the expectation that these activities will drive outcomes and impact. Developed retrospectively, **Figure 1** illustrates how various components resolve the issue of land use efficiency, crop effectiveness, and resilience to climate change.
6. Paraguay contends with pressing socio-economic and food security challenges, as evidenced by 34% of rural communities residing below the poverty line and 27% of the population experiencing moderate to severe food insecurity. The country's agricultural sector has witnessed a notable **decline in productivity**, resulting in **reduced income for smallholder farmers**. Particularly in poverty-stricken Departments like San Pedro, Caaguazú, and Caazapá, vulnerable farmers face **limited access to crucial technologies** essential for

<sup>1</sup> ABC Color (2021). Si se confirman pérdidas en el Agro, el impacto en el PIB será significativo en 2022. Publicación: <https://www.abc.com.py/nacionales/2021/12/28/si-se-confirman-perdidas-en-el-agro-el-impacto-en-el-pib-sera-significativo-en-2022/>

<sup>2</sup> Encuesta Permanente de Hogares, 2019

enhancing their competitiveness. Women, in particular, encounter barriers with less access to technical assistance, land, and credit. The baseline study conducted by PRODICAF revealed stark realities, with 40.2% of participants **lacking mechanized hectares** entirely, and 21% possessing less than 1 mechanized hectare. These findings underscore the urgent need for targeted interventions to uplift the struggling family agricultural sector and improve the livelihoods of vulnerable communities.

7. To address the pressing challenges faced by Paraguay's family agricultural sector and rural communities, the project focuses on **four key areas of intervention**. The first involves enhancing plots to **transform non-arable land into productive and mechanized farming areas**. The second area centers on the **provision of high-quality agricultural inputs**, ensuring that farmers have access to the necessary resources for sustainable and competitive farming practices. The third aspect involves supporting the **commercialisation efforts of small-scale organizations**, providing them with the tools and assistance needed to bring their products to market successfully. Lastly, **technification** plays a crucial role, offering technical training to local producers to empower them with knowledge and skills for adopting modern and efficient farming practices.
  
8. **The success of the project relies on several key assumptions**. Firstly, the Ministry of Agriculture & Livestock (MAG) is expected to provide a list of beneficiaries prioritized by localities. Additionally, the services and products must be readily available in the market. Timely financial transfers from Itaipu Binacional to UNOPS are crucial for project operations. The project's work plan is contingent on the absence of unexpected changes in requirements. Finally, adjustments to the budget are anticipated in the event of significant price increases for inputs in the national market.

**Figure 1.**

	CAUSE 1	CAUSE 2	CAUSE 3	CAUSE 4
PROBLEM STATEMENT, ROOT CAUSE AND ITS EFFECT ON COMMUNITIES	Severe socio-economic and food security challenges, with 34% of rural people below the poverty line and 27% facing moderate/severe food insecurity	Significant decline in productivity and smallholder farmers' income.	In high-poverty Departments (San Pedro, Caaguazú, Caazapá), vulnerable smallholders lack access to crucial technologies, hindering competitiveness	40.29% with zero mechanized hectares, and 21% with less than 1 mechanized hectare (PRODICAF baseline study)
	MAIN PROBLEM/OPPORTUNITY			
	<b>Contribute the improvement of vulnerable families' standard of living in 5 prioritized departments (Concepción, San Pedro, Alto Parana, Canindeyú &amp; Caaguazú) via the strengthening of enterprises agricultural production and rural-based community organizations, and the increase of productivity and income of family farmers.</b>			
	EFFECT 1	EFFECT 2	EFFECT 3	EFFECT 4
	Beneficiary families improve their living conditions via an increase in their productivity and diversification of their income sources	Small-scale produces have access to mechanized agriculture and implements for competitive production	Competitive advantage of producer's organizations allows them to enter high-value segments of agricultural value chains	Knowledge strengthening of farmers and MAG technicians on good farming practices and soil conservation.
	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3	ACTIVITY 4
ACTIVITIES	<b>Enhancing plots</b> through land stripping, tree stumps removal, riprap formation, leveling and crop plantation.	<b>Provision of high-quality agricultural productive inputs</b> such as hybrid corn seeds and agricultural lime.	<b>Support to commercialize small-scale organizations</b> through local family farming fairs.	<b>Technification</b> and training of farmers and MAG technicians.
OUTPUTS	Land plots enhanced; Living conditions of beneficiary families improved; Knowledge of farmers and MAG technicians improved.			
OUTCOMES	Productivity and income increased; Land and resource utilization optimized; New agricultural practices adopted and pest and disease control improved.			
IMPACT	Enhancing living conditions of beneficiary families by boosting productivity and diversifying income sources.			

## Contributions

### Outputs

9. The project cleared **2,701 hectares of land** through mechanized processes and distributing 3.000 bags of hybrid seeds, 2.700 bags of agriculture lime for soil improvement, fuel and agricultural implements that **benefited 2,500 families across the departments**. Family farming fairs, supporting **5,000 families** and **776 organizations**, resulted in the creation of new income sources. **Seven training sessions** covered management, soil conservation, corn crop, agro-defensive practices, and leafhopper control for **94 participants**. Rural youth received training on youth empowerment, including information on scholarship opportunities. In total, the project delivered **753 weeding hoes** and **59 monoculture farming implements**, fostering competitive production. Managerial skills training empowered **4376 women** with at least 30% being the participants in the family agriculture fairs organized by MAG.

### Contributions to outcomes

10. The project delivered outcomes that encompassed cultivating **2,180 hectares of land, enhancing small-scale farmers' productivity** and resilience to climate change. Approximately **5,000 families** in the Departments of San Pedro, Concepción, Alto Paraná, Canindeyú, and Caaguazú benefited, generating income through **22 family farming fairs**. The project facilitated **improved methodologies and tools for 94 technicians** from MAG's agricultural extension. Families embraced innovative technologies, leading to a more efficient use of land, increased cultivation area, and **enhanced knowledge** in crop cycle management, agricultural practices, and pest control. These improvements contribute to **long-term increases in land value and overall well-being**.

### Likely contributions to impact

11. The project has helped to enhance living conditions of beneficiary families by boosting productivity and diversifying income sources. **Women and youth** have been actively engaged in production, organisational, and territorial management. The competitive advantage of producer organizations has enabled them to enter **high-value segments of agricultural value chains**. Rural communities have gained **year-round access to quality staple products** at reasonable prices. The project's direct contributions align with specific UN Sustainable Development Goals, addressing Goal 1 'end of poverty' and Goal 5 'gender equality'.

### Sustainability considerations

12. The project demonstrated a commitment to diversity, engaging 43% men, 39% women, 18% children/youth, 194 individuals with disabilities, and 29% from indigenous communities. UNOPS prioritized women's participation in mechanized land clearing, ensuring equal access to improved land plots. In the pursuit of diversification for women, their involvement in family farming fairs was emphasized, benefitting 4.376 women across 22 events. The project maintained inclusivity by having 30% of participants in capacity-building training as women and youth. To reach a broader audience, a training video was developed in Guarani, and a project launching video featured women. Notably, 40% of contractors were sourced from local communities.

## Lessons learned

13. In March 2023, a series of five workshops on lessons learned were held in the targeted Departments. These sessions brought together 105 participants (75% men and 25% women), representing **five key groups**<sup>3</sup>. Throughout these workshops, in-depth discussions centered around various crucial topics, including the agricultural calendar and follow-up, recipient list and plot selection, agricultural inputs, agricultural mechanization services, and inspection and certification of plots. Valuable insights from these collaborative sessions have informed ongoing efforts and strategies. Key lessons from these discussions emphasize the importance of respecting the agricultural calendar<sup>4</sup> to mitigate challenges in corn crop yield. Additionally, prioritizing the most vulnerable populations, including women, young people, indigenous communities, and minority groups, in the project beneficiary list is essential. Considering the planting history of farmers contributes to crop continuity and improved yields. Finally, projects should be designed with a biannual duration, accounting for the agricultural calendar, while incorporating follow-up and inspection visits to ensure service quality.

## Snapshot



Female vendors are protagonists in family farming fairs, bringing products from the field to the consumer's table. © UNOPS/

<sup>3</sup> Beneficiaries, technical team of the Directorate of Agrarian Extension (DEAg) of the Ministry of Agriculture and Livestock, inspection companies and Itaipú Binacional.

<sup>4</sup> The agricultural or crop calendar helps in knowing the life cycle of different crops and their management practices.