Public Disclosure Authorized

Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 17-Dec-2022 | Report No: PIDA35346

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Paraguay	P180015	Joining Efforts for an Education of Excellence in Paraguay	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
LATIN AMERICA AND CARIBBEAN	05-Jan-2023	07-Mar-2023	Education
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Government of Paraguay	Ministry of Education and Sciences	

Proposed Development Objective(s)

To improve learning environments in selected compulsory education and teacher training institutions, strengthen institutional frameworks for better service delivery in core priority areas, and contingently respond to an eligible crisis or emergency.

Components

Component 1. Improving learning environments for quality education
Component 2. Strengthening institutional frameworks for better service delivery
Component 3. Contingency Emergency Response Component
Component 4. Project Management and Support to Corporate Priorities

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	180.00
Total Financing	180.00
of which IBRD/IDA	125.30
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	125.30
Non-World Bank Group Financing	
Counterpart Funding	54.70
Borrower/Recipient	54.70

Environmental and Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

1. Country Context

1. **Paraguay has recently been affected by a series of significant exogenous shocks.** The combined effects of the COVID-19 pandemic that hit the country in March 2020, adverse climate developments, and the ongoing global uncertainty following the start of the war in Ukraine in February 2022 posed significant challenges to the country's relentless efforts to achieve inclusive growth.[1] The Government of Paraguay (GoP) tried to mitigate these shocks by expanding social protection initiatives and focusing on maintaining the overall positive trends in poverty reduction and shared prosperity improvement.[2] Still, challenges remain as the economy is expected to contract by 0.3 percent in 2022 due to a severe drought, high inflation rates, and tighter monetary and fiscal conditions.[3]

2. **These exogenous events disproportionately affected Paraguay's poorest and marginalized populations.** Exacerbated by a severe drought and the global challenges brought about by the war in Ukraine,[4] the average cumulative inflation rate from January -November 2022 was 8.3 percent, 22 percent

[1] World Bank, 2022g. After reaching peak poverty and inequality rates in 2002 (57.7 percent and a 0.57 Gini coefficient), the country had significantly reduced both indicators to historical lows by 2019 (23.5 percent and 0.44 Gini).

[2] World Bank, 2022f. Despite an increase in both poverty rates and inequality during the first year of the pandemic, as of the date of this document, both metrics had already returned to previously decreasing trends, reaching historical lows of 20.8 percent (poverty rate) and 0.43 (Gini).

[3] World Bank, 2022d. Due to climatic events in 2022, the country suffered a historically small soybean harvest, highly reduced hydropower exports, and higher logistics costs due to inflation being the highest in the country in 14 years. With inflation running high, monetary conditions were significantly tightened and the overall fiscal position deteriorated.

[4] Causing a generalized increase in oil prices, directly impacting the cost of living, and significantly decreasing meat exports.

higher than in the previous year and the fastest increase in almost 15 years. Higher inflation hinders poverty reduction, as it especially impacts those at the lower end of the income distribution. For example, the food index, a subcomponent of inflation, rose 11.1 percent in the last year alone, over-impacting poor and vulnerable households who spend a larger share of their budget on food. As a result, poverty rates, measured at $6.85/day, are estimated to increase from 20.8 percent in 2021 to 21.5 percent in 2022.

3. **These shocks have been compounded by pervasive structural challenges in human capital accumulation and labor market outcomes, especially for women.** Paraguay, an upper-middle income country (UMIC), still displays relatively high levels of illiteracy rates, with 5.5 percent of its population unable to read or write. Furthermore, there are high levels of schooling deprivation – around 12 percent of children of compulsory education age are not in school – and extremely high levels of learning poverty – with roughly 8 in 10 Paraguayan 10-year-olds unable to read or understand an age-appropriate text.[5] There are also persistent gaps between men and women in the labor market reflecting gender differences in the use of human capital, despite improvements for women in labor market outcomes in recent years. According to the latest data from Paraguay's National Household Survey,[6] women are 40 percent more likely to be unemployed than men (7.6 vs. 5.4 percent, respectively). This gap further widens in rural areas, where women are more than twice as likely to suffer from unemployment (8.7 vs. 3.3 percent). These worrisome trends also replicate when analyzing the quality of employment, where underemployment disproportionately affects women (7.0 vs. 3.5 percent). Finally, Paraguay's labor market is marked by a high level of informality, with only about 1 in 3 Paraguayans working in the formal sector, a trend that has hardly changed over the past decade.

2. Sectoral and Institutional Context

2.1 Background and Main Challenges Pre- and Post-Pandemic

4. **Paraguay has struggled to build human capital foundations, especially when it comes to educational outcomes.** According to the latest update of the Human Capital Index (HCI), just before the pandemic Paraguay's HCI was 0.53, meaning that a child born in Paraguay today would be expected to reach 53 percent of his/her productivity under the current health and education in the country.[7] This value is not only lower than the average for the Latin America and the Caribbean (LAC) region, but is also lower than the average for comparable UMICs.[8] When the different drivers of the HCI are disaggregated, it is clear that low performance is driven by lower-than-average education outcomes.[9] In fact, both in terms of the quantity and quality of schooling, Paraguay fares below its regional and income-equivalent peers

[5] World Bank, 2022c.
[6] INE, 2022. Third trimester of 2022.
[7] World Bank, 2022b.
[8] In both cases, Paraguay is roughly 5 percent below, as average values for LAC and UMICs is 0.56.
[9] World Bank, 2020. The HCI has five different sub-indicators that combine to determine its final value. Out of these five indicators, three are related to the conditions of health/social protection systems (survival rate through age 5, stunting rates by age 5, and adult survival rate) and two are related to the characteristics of education systems (expected years of schooling and harmonized learning outcomes).

by an average of around 5.5 percent.[10]

5. **Education sector challenges in Paraguay are significant, represent key obstacles to building strong human capital foundations, and are related to a nascent stage in educational development.** As a recent Human Capital Review for Paraguay shows,[11] key milestones in the education sector have taken place only in the last 30 years. Compulsory primary education – grades 1 through 6 – was only incorporated into the Paraguayan legislation in 1992, when a new Constitution was approved after 35 years of military rule ended in 1989. In 1998, Law N°1264 increased the number of compulsory years of education from six to nine, mandating compulsory basic education guaranteed by the state.[12] It was only in 2010 that 13 years of compulsory education – with the addition of kindergarten and 3 years of upper secondary education – were finally ensured in the country's legal framework (Law N°4088).

6. **Partly because of these recent developments, Paraguay faces significant bottlenecks in educational attainment, both in terms of stock and flow.** As regards the stock, (i) Paraguay has not yet succeeded in eradicating illiteracy, with an estimated 280,000 people (roughly 5.5 percent of the adult population) unable to read or write; and (ii) average educational attainment in Paraguay is roughly 9.5 years, which means that, on average, the adult population in Paraguay has only completed basic education (or the equivalent of complete lower secondary education). The flow, on the other hand, shows significant improvement over time. Having reached almost universal access in primary education, Paraguay's coverage rates have improved sizably in the last 3 decades for all the other levels of compulsory education: kindergarten (from 27 percent to 80 percent), lower secondary education (from 39 to 74 percent), and upper secondary education (from 22 to 64 percent). Still, the number of out-of-school (OOS) children and adolescents totals roughly 210,000 (approximately 7 percent of the total population of compulsory education age).[13] And this does not consider that the full cycle of early childhood education (ECE) is not yet compulsory by law. In fact, pre-kindergarten ECE covers 56 percent of 4-year-olds and only 12 percent of 3-year-olds.

7. **In addition to access challenges, the Paraguayan educational system also faces significant internal efficiency issues.** Repetition rates are high and start early, with an average of 2 percent of compulsory education students (1st to 12th grade) repeating a grade every year. This average almost doubles for the first cycle of basic education – grades 1-3.[14] Moreover, the level of absenteeism is also high.[15] Repetition and absenteeism rates are early predictors of dropout rates, which are also high in

[10] Paraguay's HCI sub-indicator on the: (i) *quantity of schooling (expected years of schooling)* is 7 percent below LAC average and 4 percent below the average for UMICs; and (ii) *quality of schooling (harmonized learning outcomes)* is 5 percent below LAC average and 6 percent below UMICs' average.
[11] World Bank, 2022g, Chapter 3 (The Paraguayan education system).
[12] Basic education in Paraguay is divided into three cycles of three years each. The first and second cycles of basic education, encompassing grades 1 through 6, are the equivalent of primary education. The last cycle of basic education, comprising grades 7 through 9, is the equivalent of lower secondary education.
[13] MEC, 2022. OOS rates vary significantly by age group, with the largest rates currently at the extremes of the distribution of compulsory education: (i) 19.8 percent (5-year-olds); (ii) 1.5 percent (6-11 years old); (iii) 4.4 percent (12-14 years old); and (iv) 16.5 percent (15-17 years old).
[14] MEC, 2022. Roughly 4 percent of 1st graders and approximately 3 percent of 2nd and 3rd graders repeat every year. When these effects are compounded, an estimated 10 percent of 6-year-olds in Paraguay does not reach 4th grade on time.
[15] MEC, 2022. Statistics from the 2015 PISA-D assessment in Paraguay show that 17 percent of students reported losing 3 consecutive months of classes at one point during their lifetime in school and 58 percent losing 1 full day of classes in the 2 weeks prior to administration of the assessment. Reasons for student absenteeism vary, but the most predominant were illness (70%)

Paraguay and start early. On average, 1.3 percent of compulsory education school-aged students drop out of school every year. Dropout rates are also twice the average for certain grades, most notably in the last year of primary education (6th grade), the first two years of lower secondary education (7th and 8th grades), and the first year of upper secondary education (10th grade). All in all, roughly 4 in 10 students entering first grade are expected to attain full compulsory education by age 18. Dropout rates, in addition, are higher for boys than for girls throughout compulsory education.[16]

8. **Access and internal efficiency challenges in the education system are compounded by low learning levels.** To date, roughly two-thirds of Paraguayan students lack the fundamental literacy and numeracy skills needed for their age. Results from the 2019 Regional Comparative and Explanatory Study (*Estudio Regional Comparativo y Explicativo,* ERCE) showed that roughly 50 percent of 3rd graders did not reach the minimum proficiency level (MPL) in Reading and only about 40 percent reached MPL in Math. Sixth graders fared worse: roughly 82 percent in Reading, 92 percent in Science, and 94 percent in Math did not reach the respective MPL. In other words, learning foundations in Paraguay are weak, which is why progress in schooling may not be yielding much effect. In fact, although the average expected number of years of schooling of an incoming cohort is 11 years, the estimated number of learning-adjusted years of schooling is only 7. This means that roughly one-third of the time spent in school in Paraguay (4 years out of 11) does not seem to add value in terms of learning.

9. **Paraguay's low education outcomes are driven by several factors.** A recent series of comprehensive diagnostic documents commissioned by the Ministry of Education and Sciences (*Ministerio de Educación y Ciencias,* MEC)[17] have identified six main drivers: (i) the poor quality of the teacher workforce; (ii) the low material and pedagogical conditions under which learning takes place; (iii) the lack of an enabling environment for the use and appropriation of information and communications technology (ICT) for education (henceforth, educational technology or EdTech); (iv) the dearth of evidence-based decision making at the system and school level, directly affecting the quality of management and instruction; (v) the weak service delivery framework under which several core areas affecting the quality of education operate; and (vi) the low level of financing for education.

The poor quality of the teacher workforce is driven by three major issues. First, teaching is still a profession that, on the whole, does not require a university-level degree – roughly 1 in 4 ECE and primary education teachers and 1 in 2 secondary education teachers hold only a non-university tertiary education degree. Second, a large share of the teacher workforce does not have the correct profile or credentials to teach at the given level (50 percent of the teacher workforce in ECE or upper secondary education, and 90 percent in special education schools). Third, access to the teacher workforce also lacks a clear merit-based application process, with only 1 in 4 teacher positions in the system awarded through the application process known as *concurso de oposición*.[18] These factors, related to pre-service education and

and the need to provide family care (50 percent). Teacher absenteeism seems to also play a role. In fact, 94 percent of students confirmed having missed classes in the previous 2 weeks due to teachers not going to school, mostly due to teacher strikes (82 percent), or missing class time due to teachers being late (85 percent).

[16] Dropout rates for boys are, on average, 15 percent higher than for girls throughout compulsory education. The dropout rate gap seems to be bigger in urban than in rural or indigenous areas.

17 MEC, 2021a. For technical reports on each of these topics, see https://www.transformacioneducativa.edu.py/diagn%C3% B3sticoyresumen.

18 MEC, 2021c.

teacher recruitment, affect teachers' competences to teach the curriculum and their readiness to apply effective pedagogical practices, thereby directly impacting the quality of learning. An additional factor that operates as a possible constraint is that the teacher profession does not appear to attract the male population. In Paraguay, far more women than men teachers receive pre-service or in-service training. As of 2019, Paraguay had 77,832 registered teachers, only 30 percent of which were female.19 The lack of appeal to the male gender of the teacher profession is an aspect worth investigating.[20]

10. **Learning takes place under deficient material and pedagogical conditions**. According to a 2016 World Bank study on educational infrastructure in Paraguay,[21] the country featured among those in LAC with the largest deficits in school infrastructure, both in terms of pedagogical needs (insufficiency and inadequacy of learning environments) and of infrastructural complementary needs (inadequacy of ventilation, water and sanitation, electricity, connectivity, resilience to climate events). The study finds that the "poverty of educational infrastructure" in Paraguay has both quantity and quality elements that disproportionately affect specific populations.[22] In a 2017 school safety survey, 15 percent of Paraguayan public schools were deemed at risk of collapse.[23] The structural foundations of physical learning environments lack resilience to safeguard Paraguay's high vulnerability to climate events, and face a high likelihood of loss of lives.[24,25] In addition to these critical safety and health-related challenges, the poor state of physical learning environments directly impacts the quality of learning.[26] Annex 5 presents a detailed overview of the main conclusions gathered during a visit of 13 educational institutions during Project preparation.

11. **Paraguay lacks an enabling environment for the use and appropriation of EdTech**. This is reflected in four core challenges, with the first being the low and unequal level of connectivity across the country. To date, only 18 percent of public schools are connected to the Internet via fiber-optic cable and able to enjoy a high-quality Internet connection.[27] The bulk of public schools – representing 60 percent of total enrollment in compulsory education – lack any digital infrastructure to use EdTech in classrooms. Such inequitable access to connectivity creates an important "digital opportunity gap". In addition, connection is often unreliable due to pervasive service cuts or insufficient due to lower than required

19 https://www.observatorio.org.py/especial/22.

20 As to the reasons teachers choose teaching as an occupation, a survey of first-year and 3-year in-service teachers in Paraguay identified some myths that their responses revealed about teaching, namely "teachers are born, not made," "teaching is an easy task," "teaching is a short course with an assured degree," and "teaching is a profession for women". See MEC, 2021c.

21 Wodon, 2016.

22 In terms of quantity, roughly 40 percent of educational institutions in Paraguay were infrastructure poor, with higher prevalence in urban areas (58 percent) and secondary education institutions (48 percent) (see Table 2.3, p.10). The study did not assess, however, ECE institutions, where the dearth is estimated to be even higher than for secondary education. In terms of quality, the study finds largest deficits for schools located in rural areas (geographical location) and areas with the largest share of population with unmet needs (poorest socioeconomic backgrounds). A prior study – UNICEF, 2013 - complements these metrics, showing that school conditions for indigenous populations are worse than those of their non-indigenous peers.

23 Paci-Green et al., 2021.

24 Eckstein et al., 2021. Paraguay ranked 20 out of more than 150 countries in the Climate Risk Index in 2019.

25 Eckstein et al., 2021, p.40. Paraguay ranked 22 for the indicator "Fatalities per 100,000 inhabitants" in 2019, 1 of the 4 indicators used to calculate the Climate Risk Index.

26 For a recent review of the literature on this, see Barnett et al., 2019. For a comprehensive overview applied to the Russian Federation, see Shmis et al., 2020.

27 Roughly 75 percent of schools in Paraguay have been provided with school digital infrastructure (local area wireless networks, etc.), but can only work offline because they lack internet connectivity.

bandwidth, which generates further disparity.[28] The second challenge is the low level of availability and usage of digital devices. The number of digital devices available per school is low in Paraguay, consistent with the low level of connectivity in the system, which can impede student achievement.[29,30] Third, education actors -- and especially school directors[31] and teachers -- have a generalized lack of digital skills. Being "digitally competent" is a critical skill in the 21st century, hence the need to ensure all key actors achieve this stage. To date, there are no data available to assess the average digital skills competency level in Paraguay, but evidence collected during the pandemic shows that, on average, teachers seem to have low levels of digital skills.[32] In part, this is due to the lack of a competence framework for digital skills for the education sector, which hampers the development of education-level- subject-matter-appropriate competences,[33] and can go a long way in addressing the digital divide.[34] The fourth core challenge is the lack of a national strategy for EdTech. The National ICT Strategy 2022-2030 was only recently approved and is pending an education-specific strategy. A national EdTech strategy is fundamental not only to ensure a clear vision for the sector, but also to create an ecosystem where the appropriation of science and technology can take place.[35, 36]

12. **The dearth of evidence-based decision making at the system and school levels is directly affecting the quality of management and instruction**. The Paraguayan education system is centrally managed and uses education management information systems (EMIS), but the bulk of decision-making is not guided by evidence.[37] For example, there are no impact evaluations currently underway in the sector and previous evaluations were not used to inform core policies or programs. Similarly, the management of educational institutions is still weak in Paraguay, with little to no use of diagnostic assessments (formative or summative assessments) to inform policies to improve learning.[38] Although schools have a leadership structure, they lack a learning strategy based on evidence, which makes for an inefficient use of instruction.

13. **Several core areas operate under a weak service delivery framework, affecting the quality of**

[28] Internet service is provided through the state-owned company COPACO, whose service cost is lower than private providers (e.g. Millicom, TIGO Paraguay). Anecdotal evidence shows that many public schools have already resorted to collecting money and paying out-of-pocket for private services to guarantee continuity and reliability of connectivity.

[29] The GoP has made significant strides in providing digital devices to schools, distributing an estimated 50,000 devices in the last five years, but anecdotal evidence from device distribution points to two bottlenecks to optimizing their use: (i) lack of teacher/director knowledge on how to use them; and (ii) lack of adequate connectivity infrastructure within the school.

[30] Bozkuş, 2021 uses Programme for International Student Assessment (PISA) 2018 data to demonstrate the importance of ensuring access to digital devices, finding a strong relationship between the infrastructure of digital devices within the school and test scores. The author finds that this factor is even stronger than teachers' capacity to use digital devices.

[31] The term "school director" is used interchangeably with "school principal" throughout the text.

[32] The High-Frequency Phone Survey (HFPS), spearheaded by the World Bank, collected information on education service delivery during school years 2020 and 2021 in Paraguay. Although specific results for teachers' usage were not collected, results from student engagement during the pandemic point to significant gaps in teachers' digital skills, in general, and digital pedagogical skills, in particular. https://www.worldbank.org/en/topic/poverty/brief/high-frequency-monitoring-surveys.

[33] Digital competence frameworks comprise the set of knowledge, skills, and attitudes needed to achieve different levels of digital literacy. https://unevoc.unesco.org/home/Digital+Competence+Frameworks.

34 Atherton et al., 2021, draw on UNESCO's International Centre for Technical and Vocational Education and Training (UNEVOC) repository of the 30 digital competence frameworks from 20 different countries to show how they can address the existence of different dimensions (availability, adaptability, acceptability, and accessibility) of the digital divide.

[35] Chuang et al. (2022).

[36] MEC, 2021h.

[37] For a diagnostic assessment of the research and evaluation aspects of the education sector, see MEC, 2021f.

[38] For an overview of the education management challenges for the education sector, see MEC, 2021e.

education. The education sector faces several challenges in the provision of critical services for students. Some stem from deficiencies or inconsistencies in the current regulatory framework (*de jure*), while others are rooted either in the governance structure or in generalized practices that have become the norm (*de facto*). *De jure* weaknesses include MEC's organizational structure, which is bound by law, leading to rigid arrangements and not allowing adaptation as needed.[39] Another example is the current regulation for ECE, which still caters to institutionalized education for children aged 0-3 instead of aligning with best international practices.[40] *De facto* deficiencies include school infrastructure, where investment, though regulated by MEC,[41] lacks oversight and coordination, leading to differences in the quality of civil works.[42] These factors impact the system's functionality and the quality of learning environments and pedagogical processes, which would ultimately affect educational outcomes.

14. **Financing for the sector remains low**. Despite having increased in the last decade, Paraguay's public spending on compulsory education is only 3.5 percent of its Gross Domestic Product, roughly 23 percent below the average for LAC and 5 percent below international standards.[43] Low financing levels exacerbate the effects of the five previous factors, directly impacting teachers and learning environments.[44] In fact, a recent document prepared by MEC for the planned National Plan for the Transformation of Education (*Plan Nacional de Transformación Educativa*, PNTE) 2040 shows that teachers and learning environments suffer from the largest absolute financing gaps, especially when contrasted with the ideal budget needed to overhaul the sector for an education of excellence in the long run.[45]

15. **These structural problems were exacerbated by the COVID-19 pandemic.** Given that the country's school year begins in late February, the sudden outbreak of COVID-19 led to a nationwide decision to close all educational institutions in the country only two weeks after the 2020 school year had started, depriving 1.5 million students of compulsory education age of in-person education for the remainder of that school year and half of the following. It was only in August 2021 that MEC authorized the full reopening of schools. Attendance remained voluntary for the rest of 2021, when an estimated 30 percent of students still did not attend in-person classes, and it was only in February 2022 that in-presence

[39] Law No.5749, issued on January 24, 2017, which sets a rigid organizational structure for MEC that can only be changed by a new Law and makes it difficult to operationalize cross-cutting issues. One example of this is the EdTech unit, which should be a transversal area, but is hosted within the purview of the Viceministry of Higher Education only, technically falling outside the scope of the Viceministry of Basic Education. For a comprehensive review of the legal framework under which the education sector operates, see MEC, 2021g.

[40] Bendini and Devercelli (2022) note that: (i) ages 0-3 is where the bulk of brain development takes place; and (ii) this age group is not suited for a traditional classroom setting. The Bank is supporting an update to ECE regulation in Paraguay to adapt to international best practices and standards.

[41] According to article 13 of the Law No.5749, "investments in infrastructure and equipment, regardless of its financing source, must be coordinated invariably with the MEC, according to the regulation established to that end." Regulations are set in Title IV, articles 44-56 of MEC Resolution No. 32388, dated October 19, 2017.

[42] The National Fund for Public Investment Financing and Development (*Fondo Nacional para la Inversión Pública y el Desarrollo*, FONACIDE) is a Trust Fund (TF) created by Law N°4758 in 2012. Resources to replenish this TF come from a compensatory agreement signed with Brazil for a period of 10 years for the use of hydroelectrical power generated by Paraguay's Itaipú dam. A complementary Law mandated that 25 percent of FONACIDE's total funding be allocated to municipalities, 50 percent of which must be allocated to school infrastructure investments. Since municipalities do not always fully abide by the regulations, deficient arrangements are often carried out as a result.

[43] MEC, 2022, and World Bank, 2018c.

[44] For an updated assessment of education financing in Paraguay, see MEC, 2021d and Juntos por la Educación, 2019.

[45] See MEC, 2022.

attendance was required. With a system that was already structurally weak, both in terms of the hard (material conditions) and soft (pedagogical conditions) components of learning, the pandemic in Paraguay led to a crisis within a crisis. The experience with both distance learning[46] throughout the full 2020 school year and half of the 2021 school year and hybrid instruction for the remainder of the 2021 school year was not only less than ideal, but also of low overall pedagogical quality.[47] A series of simulations of the potential magnitude of learning losses for Paraguay due to the pandemic are staggering: the country is expected to have experienced roughly a 20 percent increase in learning poverty.[48]

2.2 The Country's Response: The Short- and Long-Term Agendas

16. **Aware of the long-standing challenges in the education sector, the GoP set education as one of its top priorities and launched a comprehensive strategy to overhaul the education sector: the PNTE 2040.** The PNTE was launched in 2018 as an institutional project led by MEC to: (i) produce a comprehensive diagnostic of the education system around key thematic areas; (ii) define the core priorities (labeled as "policies") to significantly transform the sector by 2040; and (iii) undertake a detailed costing of the implementation roadmap focused on these "policies." These policies were: (i) bilingual education models; (ii) teachers' professional development; (iii) pedagogical adoption of science and technology in education; (iv) strengthening of technical and vocational education and training (TVET); (v) learning-centered school management; (vi) structural and material conditions for learning; (vii) evaluation and research for educational improvement; (viii) sustainable education financing; and (ix) strengthening of the educational community. [49]

17. **While working on this long-term agenda, which had been set prior to the pandemic, the GoP still had to tackle the short-term needs stemming from COVID-19.** Efforts were led by MEC as the core institution and the National Fund for Public Investment Financing and Development (*Fondo Nacional para la Inversión Pública y el Desarrollo*, FONACIDE) as the temporary financier for critical programs for which MEC's budget was insufficient for either needed top-ups (e.g. school lunch) or new programs (school/learning kits for students during the pandemic).[50] For supporting any of the other COVID-19 response initiatives, MEC's budget was reallocated as needed. Efforts in the first year of the pandemic (school year 2020) focused on setting up MEC's digital platform for distance education and starting the work for curricular prioritization. During school year 2021, priorities focused, during the first semester, on

[46] MEC deployed an online platform "Paraguay Aprende," offering curriculum and supplemental content for students and teachers.

[47] The HFPS highlighted that, as of June 2021, the main remote education delivery means for roughly 8.5 in 10 students took place on asynchronous mode, most notably via Whatsapp (44%) and text messages/phone calls (35%). No data were compiled during the pandemic to evaluate whether these remote education solutions were a proper substitute for in-person learning. At the end of school year 2022, MEC conducted its first post-pandemic standardized assessment focused on essential subject-matter content - the National Evaluation for Student Assessment of Essential Curriculum Content (*Evaluación Nacional de Logros de Aprendizajes de Contenidos Esenciales*, ENLACE). Although not comparable with any other pre-pandemic assessment, ENLACE results are expected to shed light on the breadth, depth, and characteristics of the learning losses generated by the pandemic.

[48] World Bank, 2022h.

[49] MEC, 2022. The document finalized in September 2022 proposed a longer platform for reforms and relabeled the PNTE 2030 to the PNTE 2040. It is undergoing final consultations with stakeholders throughout the country until January 12, 2023, after which it is expected to be sent to the National Congress for approval.

[50] With the outbreak of the pandemic, FONACIDE's allocation mechanism was revised by Parliament in 2020 to make space for critical national programs to respond to COVID-19.

launching curriculum condensation for primary and secondary education, and, during the second semester, on fostering vaccination through active communication campaigns and in-school vaccination services, and on reopening schools with optional attendance by students. Finally, 3 initiatives were launched during school year 2022: (i) the return to full, mandatory in-person learning; (ii) implementing the revised and updated curricular prioritization for primary and secondary students; and (iii) launching diagnostic tools to assess students' learning losses and design appropriate learning recovery programs. These efforts were aligned with the World Bank's regional framework for the learning recovery and acceleration agenda.[51]

18. **With pandemic risks phasing out and post-pandemic recovery efforts steadily ongoing, the GoP focused on leveraging financing to the sector to start bridging some of the most critical financing gaps identified in the PNTE 2040.** In fact, the Law that created FONACIDE had envisaged a dedicated channel for financing to the sector: the Fund for the Excellence in Education and Research (*Fondo para la Excelencia en la Educación y la Investigación*, FEEI). The FEEI, originally created in FONACIDE's Law as a Child Trust Fund receiving 30 percent of total proceeds from the parent Trust Fund, is the decentralized entity that became the de facto main financier for investment project financing for the education sector in Paraguay for the 2013-2022 period.[52] Like FONACIDE, the FEEI also had specific pillars (or thematic areas) for investment, and mobilized annual funding for education in support of these thematic areas.[53] Complemented with financing from both multilateral and bilateral donors, financing for the education sector totaled roughly US$750 million, 56 percent of which was apportioned by the GoP from national funding through the FEEI (see Table 1). The areas receiving the largest share were research and development (22 percent) and learning environments (20 percent). Other areas with important investments were EdTech[54], curricular development, scholarships, ECE, and teacher training.

Table 1: Total Financing to the Education Sector in the Last 10 Years, by Thematic Area

Pillars or Thematical Areas	Total Commitments (US$ million) *	Share of Total Commitments (Percent)	Disbursement Rate (Percent)
Research and development	166.4	22	51
Learning environments	147.9	20	60
ICT/EdTech	91.4	12	79
Curricular development	89.1	12	14
Scholarships	87.0	12	51
Early childhood education and care	72.7	10	59
Teacher training	66.5	9	37
Educational evaluation and planning	18.0	2	89
Institutional strengthening	11.7	2	7
Total Commitments	**750.7**	**100**	**52**

[51] World Bank, 2022g.
[52] In the initial estimations, this meant an approximate annual flow of US$108 million in resources into the FEEI. Eventually, these projections were overestimated and the net flow into the FEEI never reached the US$90 million mark. With the outbreak of the pandemic in 2020, and a further revision in 2021, allocation to FEEI from FONACIDE decreased from the original 30 to the current 25 percent of total FONACIDE proceeds.
[53] FEEI's thematic pillars are: (i) EdTech; (ii) teacher training; (iii) ECE and care; (iv) infrastructure and equipment; (v) school networks; (vi) scholarships; (vii) research and development; and (viii) educational evaluation.
[54] With funding from the FEEI, the GoP funded two projects mainly aimed to close the connectivity gap by 2025.

* Includes 4 projects to be approved in the last two weeks of December 2022 for a total amount of US$50 million.
** FEEI's current contribution to total financing was 56 percent (US$421.9 million).
*** Table does not include an extra US$8.5 million allocated to MEC's project implementation unit through a specific project not related to any education pillar.

19. **All in all, this injection of resources in the last decade has been instrumental in providing significant financing from outside MEC's regular budget, but has only addressed part of the problem.** The PNTE 2040 identified sizable financing gaps even after accounting for resources committed to the sector to date. The PNTE 2040 identified, for each of the nine policies, the ideal annual budget that would be needed by 2040. The total absolute financing gap resulting from the comparison between the 2022 education budget and PNTE 2040's ideal budget is almost US$2 billion; however, every policy presents different absolute gaps. By far, financing gaps are the largest for Policy 6 Structural and material conditions for learning, which comprises the infrastructure, equipment, and educational material needed to ensure educational institutions have adequate pedagogical conditions for learning; and Policy 2 Teachers' professional development, which comprises all the elements needed to ensure more appropriate conditions for the teacher profession (e.g. a more attractive compensation package or higher credentials to become a teacher). These gaps represent for 99 percent of the total financing gap, but there are also smaller financing gaps in 5 other policy areas (Figure 1).

20. **This Project would support key policies identified in the PNTE 2040, prioritizing under-funded policies, while also tackling other core bottlenecks to improve the quality of education outcomes in Paraguay.** The Project would help achieve four important goals. First, the Project would tackle all six key factors identified as the main drivers of low educational outcomes in MEC's 2021 comprehensive set of diagnostics, which eventually led to the design of the PNTE 2040. Second, it would provide financing for 5 of the 9 policies identified in the PNTE 2040, ensuring significant alignment with critical reforms to improve education outcomes in the next two decades. Third, it would help close financing gaps for all these policies, most notably closing: (i) absolute gaps[55] for Policy 6 Structural and material conditions for learning, where as much as 13 percent of the total gap of US$1.3 billion would be closed to help improve learning environments; and (ii) relative gaps[56] for Policy 3 Pedagogical adoption of science and technology in education, where as much as 40 percent of the total gap of US$10 million would be closed to help develop an ICT-enabled environment for learning (Figure 2).[57] Fourth, in supporting a significant enhancement of learning conditions, the Project would also contribute to increasing both access – e.g., through the expansion of ECE coverage - and educational attainment, through an improvement in internal efficiency indicators affecting the average number of years of education in the system.

[55] The absolute gap is measured in dollar terms and is calculated as the monetary value of the financing shortfall with respect to the ideal budget.
[56] The relative gap is measured in percentage terms and is calculated as the proportion of the ideal budget that the financing shortfall represents.
[57] The Project's gap-closing strategy would prioritize limited funding available from the combined Bank-FEEI sources. The US$54.7 million FEEI allocation could only be devoted to two of its seven thematic pillars, namely "EdTech" and "infrastructure and equipment." The bulk of the Bank's financing (90 percent) would be allocated to Policy 6, which has the largest absolute gap.

Figure 1: PNTE 2040: Absolute financing gaps with and without Project, by policy (in USD million)

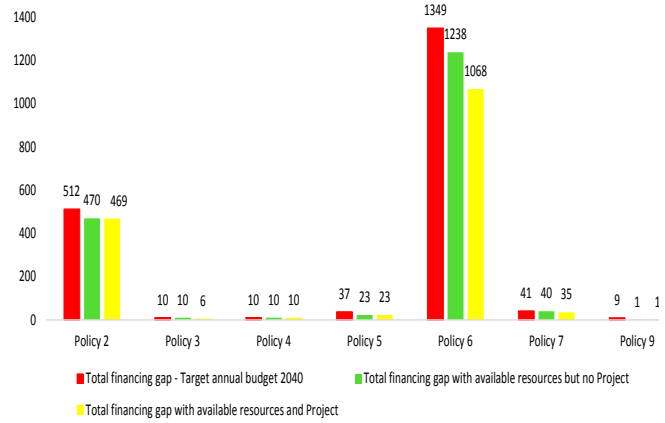
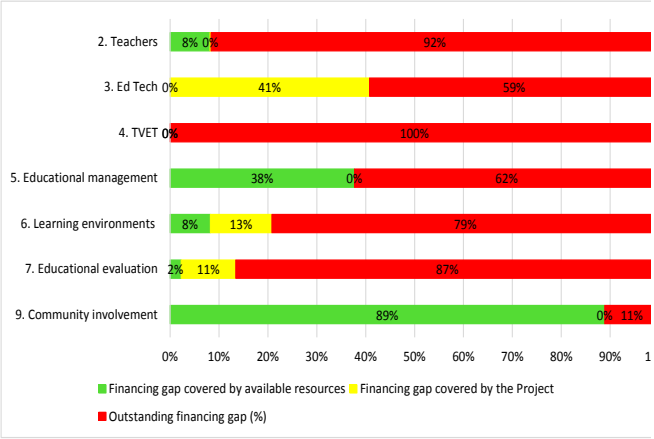


Figure 2: PNTE 2040: Financing gap coverage with and without Project, by policy (in USD million)



Source: Own elaboration based on information from PNTE 2040.

C. Relevance to Higher Level Objectives

21. **The Project would be fully aligned with the Country Partnership Framework FY18-FY23[58] and its recent mid-term revision.**[59] In particular, the Project would support Focus Area 3 "Boost human capital," specifically Objective 9 "Contribute to the design and implementation of key national education strategies to enhance human capital in support of Paraguay's twin goals" and Indicator 9.1 "Paraguay approves a new educational strategy for the 2021-2030 decade, building on substantial inputs from Bank technical assistance in areas identified as core pillars of the reform." The Project would finance a significant portion of the implementation roadmap for the new PNTE 2040,[60] providing resources needed to support the core national education areas prioritized for the next two decades.[61]

22. **The Project responds to the Bank's Global Crisis Response Framework (GCRF),[62] and is underpinned by the overarching Green, Resilient and Inclusive Development (GRID) approach and the World Bank Group's Twin Goals.[63]** Specifically, the Project would support Pillar 4 "Strengthening Policies, Institutions and Investments for Rebuilding Better" of the GCRF through the following thematic areas for intervention: (i) resilient reconstruction; (ii) education; (iii) digital development; and (iv) institutional strengthening and capacity building. In doing so, the Project would closely follow the GRID approach through the lens of environmental, socioeconomic, and financial sustainability of investments (green),

[58] World Bank, 2018a.
[59] World Bank, 2022e.
[60] The original PNTE 2030 has been relabeled as PNTE 2040 to cater for a longer-term strategy for the education sector.
[61] World Bank, 2018b and World Bank, 2018d. The Bank played a critical role at inception, contributing with key reports prepared under a Reimbursable Advisory Services Agreement with the GoP during FY18-FY19, helping shape further standalone and in-depth reports around seven thematic areas (financing, legal framework, teachers' professional development, educational technology, education management, curriculum, and research and evaluation).
[62] World Bank, 2022a.
[63] World Bank, 2021b.

safeguarding interventions from a variety of climate change-related risks (resilience), and ensuring all groups, especially those more vulnerable, may reap the expected short- and long-term benefits of the Project (inclusive). Alignment with the Bank's Twin Goals would be ensured through two critical approaches: (i) targeting; and (ii) gap closing. Targeting would be the main strategy used to select beneficiaries of the Project's investments to enhance learning environments through a carefully designed vulnerability index (see Annex 3) and gap closing would be the main strategy used to inform the targeting approach.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

To improve learning environments in selected compulsory education and teacher training institutions, strengthen institutional frameworks for better service delivery in core priority areas, and contingently respond to an eligible crisis or emergency.

Key Results

23. **The PDO would be measured by two PDO-level indicators (PDOIs), in line with two main objectives of the PDO.** The PDO also includes a contingent objective to be realized only in the case of an eligible crisis or emergency.

i. PDOI 1: Number of students in the education system benefitting from improved learning environments.
   - PDOI 1.1 Number of compulsory education students benefitting from improved learning environments, disaggregated by female, indigenous, and special needs students
   - PDOI 1.2 Number of pre-service teacher training students benefitting from improved learning environments, disaggregated by female, indigenous, and special needs students

ii. PDOI 2: Number of education service delivery areas with 2025-2040 national strategies[64] approved and operational

D. Project Description

1. Project Components

24. **The proposed Project would support the GoP's efforts to improve the quality of education and student learning in the long run, in alignment with the goals set through 2040 in the PNTE.** Specifically, the Project would aim to: (i) improve learning environments for both compulsory education students and

[64] The strategies to be delivered would be in the four areas supported under Component 2, namely: (i) educational infrastructure; (ii) EdTech; (iii) teacher professional career; and (iv) student assessment.

(pre-service and in-service) teachers; and (ii) strengthen MEC's institutional frameworks for better service delivery in four priority areas identified as critical to generate the conditions for an education of excellence in Paraguay. In doing so, the Project would have a special focus on inclusion, ensuring that the core areas of intervention target those most in need, including compulsory education students in vulnerable learning environments and dedicated lines of investment for groups traditionally underserved (female, rural areas, indigenous people, and students with special needs). The Project would be financed through a combined investment financing program of US$180 million, comprising a US$125.3 million loan from the International Bank for Reconstruction and Development (IBRD) and US$53.7 million in counterpart funding through financing apportioned by the FEEI. It would include two core components (Components 1 and 2), one contingent component (Component 3), and a Project management component, also including support to corporate priorities (Component 4). A more detailed Project description can be found in Annex 2.

25. **Component 1: Improving learning environments for quality education (IBRD: US$108.8 million, FEEI: US$53.7 million).** Component 1 would support the GoP to improve learning environments in Paraguay through a comprehensive suite of structural interventions for selected beneficiary institutions. The approach would be framed within Pillar 4 of the GCRF, specifically supporting resilient reconstruction. This activity would support MEC in revamping the structural (material and pedagogical) conditions under which: (i) compulsory education takes place in Paraguay; and (ii) teacher training institutions prepare future (and existing) teachers for high-quality teaching and developing needed competences in students. Two types of learning environments would benefit from these interventions: (i) compulsory education institutions that have been selected by MEC as "upgradable" (upgradable compulsory education institutions, UCEIs); and (ii) selected Teacher Training Institutions (*Institutos de Formación Docente*, IFDs). The "intervention package" to be provided to learning environments in these two types of institutions would comprise: (i) civil works; (ii) learning materials; (iii) educational equipment and furniture; and (iv) digital connectivity.

26. **Component 1 would be comprised of two subcomponents.** Subcomponent 1.1 would comprise interventions to be made in UCEIs. Subcomponent 1.2 would support a package of interventions to convert a selected number of IFDs into Experimental Centers for Specialized Teacher Training *(Centros Experimentales de Formación Especializada Docente,* CEFEDs).

27. **The choice of beneficiary institutions for each subcomponent follows a specific method of selection and a specific policy goal.** UCEIs comprise a subset of 4,638 educational premises of the 7,315 currently existing nationwide (roughly two-thirds of the total). IFDs comprise 39 teacher training institutions that provide both pre-service and in-service teacher training; a subset of 6 IFDs would be reconverted to CEFEDs. The Project would benefit a subset of about 1,300 UCEIs and 6 IFDs. UCEIs would be selected according to criteria to ensure that at least one UCEI is selected per municipality/district in Paraguay (262) and that the impact in terms of total current (and prospective) enrollment is maximized (see Annex 3). The selection of IFDs to be converted into CEFEDs stems from an initial diagnostic undertaken by MEC in 2019. In line with such assessment, a twofold approach would be followed: (i) 3 CEFEDs whose locations and specializations have already been identified and whose architectural designs would be ready by Project effectiveness would be directly funded; and (ii) 3 other CEFEDs, whose specializations have been identified, would be chosen from a comprehensive study of all 36 IFD locations.

The Project would finance the study leading to the eventual selection under Component 2, Sub-Component 2.1 (see below).

28. **The infrastructure interventions foreseen under the Project are expected to address the increasing problem of climate change in Paraguay.** An upcoming report by the Bank on climate change in Paraguay confirms that: (i) in the last 50 years, natural hazard events in the country impacted about 4 million people at an estimated cost of over US$60 million in direct damages; (ii) over the next century, the frequency and intensity of such events are projected to increase, with average monthly temperatures forecasted to rise by 2°C in 25 years and by 4°C by the end of the century.[65] Against this background, adapting the educational infrastructure would be fundamental to increase resilience to climate shocks. As a result, all infrastructure-related interventions under the Project would be guided, in general, by the Bank's overarching GRID framework, and in particular by the Roadmap for Safer and Resilient Schools tool encompassed within the scope of the Global Program for Safer Schools. As a result, it would include climate change-related adaptation and mitigation measures in the design of works and the equipment to be purchased. In addition, all UCEIs and CEFEDs undergoing major infrastructural interventions would include sites that can be used as shelters in case of emergencies and civil works designs would include disaster risk management plans. Furthermore, interventions in school buildings would help to contribute to decarbonization by adopting energy-efficient actions (e.g., conducting energy audits, installing solar panels, etc.). Lastly, digital connectivity would also be: (i) built to withstand severe climate change events and to reduce schooling interruptions due to climate events (e.g., underground fiber-optic cabling); and (ii) used to forewarn about impending climatic events posing threats to the geographical area where school premises lie.

29. **Subcomponent 1.1: Revamping structural conditions for compulsory education (IBRD: US$97.8 million, FEEI: US$53.7 million).** This subcomponent would enhance the structural and material conditions for learning in a select number of UCEIs. Only those UCEIs that do not have any other educational institution within a 5km radius would be screened for the targeting exercise. From this subset, two sets of UCEIs would be selected for intervention: (i) UCEIs requiring minor civil works; and (ii) UCEIs requiring major civil works.[66] Only for this latter group would a full intervention package apply. This package would involve school furniture, learning equipment and materials, and Internet connectivity (if not connected already). Lastly, this subcomponent would include a digital gap-closing activity applicable to roughly 25 percent of CEIs.

a. **Major civil works (IBRD: US$64.8 million; FEEI: US$27.7 million).** This activity would ensure that: (a) all UCEIs provide a full cycle of compulsory education, from ECE to upper secondary education; (b) any beneficiary UCEI merges all existing separate educational institutions/levels (CEIs) within a single school premise; and (c) any beneficiary UCEI addresses inclusive education principles, catering to the infrastructural and learning needs of students from indigenous populations and students with special needs. This activity would finance, for 300 targeted UCEIs, the new construction/retrofitting of school's infrastructure, including classrooms, gender-separate and age-appropriate bathrooms, laboratories, libraries, administrative offices, kitchens and dining halls, rooms for recreation and physical education. In addition, this activity would try to comprehensively

[65] World Bank, forthcoming.
[66] See Annex 3 for a detailed description of the approach used to differentiate between major and minor civil works.

improve landscaped school grounds and mobility around school facilities by insuring barrier reduction for people with disabilities with all improvements made according to standards. Whenever needed, learning environments with deficits would be considered a priority within the given intervention along with other resilience enhancements to improve adaptation to or mitigation against climate change threats. As discussed earlier, this activity is aimed to improve preexisting precarious conditions in schools, therefore to be eligible under this category works would be made within the existing school premises. Finally, whenever there is a need for the incorporation of new environments within existing premises, an assessment of the possibility of building flexible learning environments would be assessed, guided by UNESCO's whole-school approach.

b. **Minor civil works (IBRD: US$20 million; FEEI: $0):** This activity would finance a series of transfers to 1,000 UCEIs to undertake minor repairs (e.g. fixtures and finishes, painting), replacement and/or refurbishment, and other small works to the following areas: (a) roofs and ceilings; (b) floors; (c) bathrooms; (d) electrical systems; (e) gutters and open channels; (f) doors and windows; and (g) walkways and access ramps. These transfers would be made in the first year of implementation and split proportionally in four quarters. Each UCEI would receive an average amount of US$20,000 that would be transferred directly to school principals. This decentralized mechanism is part of MEC's institutional structure. Moreover, traditional bidding processes are not always adequate for minor interventions and repairs in schools that are scattered across the country. Direct transfers would thus reduce transactional costs compared to large-scale tenders and strengthen community involvement, while at the same time supporting the local economy.

c. **School furniture and learning equipment (IBRD: US$8 million; FEEI: $0):** This activity would finance, only for those UCEIs that would undergo major civil works, the acquisition of furniture and equipment for quality learning, such as (a) tables; (b) chairs; (c) blackboards; (d) shelves;(e) administrative support furniture; (f) kitchen/dining equipment; (g) cleaning and maintenance equipment; and (h) technical equipment tailored to the specific learning environment (e.g., learning equipment for TVET, digital equipment).

d. **Materials (IBRD: US$5 million; FEEI: $0)**: This activity would provide, only for those UCEIs that would undergo major civil works, quality learning-appropriate materials for the development of (a) level-appropriate classrooms (e.g., ECE); (b) thematic classrooms/laboratories (e.g., for natural science); (c) high-quality teaching and the development of needed subject-matter competences and fundamental numeracy and literacy skills; (d) multilingual education specialized materials; and (e) special education kits for teachers and students working with students with disabilities.

e. **Internet connectivity (IBRD: $0; FEEI: US$24 million):** This activity would seek to increase access to Internet connectivity in the education system across the country to close the digital gap. From the 4,638 eligible UCEIs, an estimated 1,329 are not yet connected to the Internet. As such, the subcomponent would provide each UCEI with: (a) a fully functional internet network; (b) an internal server to access digital educational contents to boost learning; (c) costs coverage of school-appropriate Internet service under a gradually decreasing scale; and (d) a 24/7 call center to provide technical support and maintenance to educational devices.

f. **Digital devices and laboratories (IBRD: $0; FEEI: US$2 million):** This activity would support 60 selected UCEIs from the 300 targeted for major civil works with: (a) the deployment of a complete hybrid-learning classroom infrastructure in 30 UCEIs; and (b) establishment of 30 digital laboratories. These investments would be part of a pilot activity under Subcomponent 2.2 to assess the impact of EdTech solutions as critical factors for learning.

30. **Subcomponent 1.2: Supporting the conversion process of IFDs to CEFEDs (IBRD: US$11 million; FEEI: US$0).** This Subcomponent would support the overhaul of a selected number of IFDs that would transition towards becoming CEFEDs. CEFEDs would be university-level degree-granting institutions and are part of MEC's plan to gradually create a new national university for specialized teacher training. This change would provide prospective and in-service teachers with state-of-the-art learning conditions and training on specific thematic areas, levels of education, or transversal issues to support higher teacher quality. Education provided in CEFEDs would be based on scientific methodologies that place innovation and experimentation at the core of teachers' training process. These centers would be built on a select number of IFD premises and integrated, within the scope of disruptive organizational and adaptive and integrated architectural design, taking advantage of existing infrastructure to maximize investments. The curricular part of the investment is already at MEC's disposal and under implementation through a combined investment of US$56 million from the FEEI and the European Union. This Project would complement these existing initiatives by supporting a comprehensive infrastructure intervention. Upon completion of the intervention, the reconversion process would kick-off with the given IFD being renamed as CEFED and getting university-level status.

31. **MEC would initiate this transition with the transformation of six IFDs into CEFEDs.** These CEFEDs would be strategically distributed across the country and specialized on: (i) the transversal area of intercultural education, located in Villa Hayes, Department of Presidente Hayes; (ii) ECE, located in Paraguarí, Department of Paraguarí; and (iii) the four core subject matter areas, namely Literacy in Coronel Oviedo, Department of Caaguazú; Numeracy in Coronel Bogado, Department of Itapúa; Natural Sciences in San Estanislao, Department of San Pedro; and Social Sciences in Horqueta, Department of Concepción. Given that the preliminary technical architectural designs for three of these CEFEDs – Intercultural Education, ECE, and Natural Sciences – is currently funded by the FEEI, the Project would finance integral infrastructural interventions only for those CEFEDs once the technical architectural designs are finalized. Improving infrastructure under this subcomponent would be holistic taking into consideration the existing situation and assets and not only including civil infrastructure, but also funding for furniture, equipment, and EdTech improvements, as needed. This subcomponent would prioritize investments in the following order: to complete the Intercultural Education CEFED; to build the ECE CEFED; and to construct the Natural Sciences CEFED. The remaining CEFEDs would be subject to an in-depth demand analysis under Subcomponent 2.1 to determine if the geographic location originally selected by the General Directorate for Teacher Professional Development (*Dirección General de Formación Profesional del Educador*) would be suitable for these investments.

32. **Component 2: Strengthening institutional frameworks for better service delivery (IBRD: US$10.5 million; FEEI: US$0).** This Component would provide technical assistance to strengthen institutional capacity and improve governance frameworks in four key thematic areas prioritized by the MEC, in line with the PNTE 2040implementation roadmap. These areas would be: (i) learning environment and infrastructure design standards and implementation strategies for UCEIs; (ii) appropriation of science

and technology in the education sector (EdTech); (iii) building a new teaching profession in Paraguay anchored in the creation of CEFEDs; and (iv) fostering an evidence-based culture through educational evaluation and research. These improvements would ensure that new investments in UCEIs and prospective CEFEDs are adequately leveraged to maximize their impact on teaching and learning, while supporting evidence-based decision-making and central planning capacity.

33. **Subcomponent 2.1: Learning environment standards for UCEIs (IBRD: U$3 million; FEEI: US$0).** This subcomponent would support: (i) the preparation, implementation, and publication of results of the National Census of Educational Infrastructure (NCEI); (ii) the new governance framework for the operation of UCEIs; (iii) the preparation of an educational infrastructure maintenance handbook and operational manual; and (iv) the preparation, including field work, publication, and results dissemination events for the National Strategy for the Comprehensive Improvement of Educational Infrastructure (NSCIEI) 2025-2040. The NCSCEI would be prepared after the completion of the NCEI and would set short- to long-term objectives and targets, and an investment strategy to mobilize financing.

34. **Subcomponent 2.2: Harnessing EdTech for leapfrogging in education (IBRD: US$2.5 million; FEEI: US$0):** This subcomponent would finance: (i) a mapping exercise for EdTech readiness in Paraguay using the Ed Tech Readiness Index (ETRI); (ii) the elaboration of a competency framework for digital skills in the education sector; (iii) a comprehensive assessment of ICT competency levels for teachers and school directors using open-source tools that are currently being applied in other LAC countries; (iv) a proposal for a digital skills training plan for teachers and school directors; (v) the creation of a digital innovation ecosystem; (vi) an impact evaluation of the two EdTech interventions, hybrid-learning classrooms and digital labs, under Subcomponent 1.1; (vii) a detailed survey of the connectivity options for providing Internet to each of the 1,329 UCEIs described in Subcomponent 1.1; (viii) development of the proposal and eventual implementation of a Sustainable Management System for the Education Sector's Digital Devices; (ix) teacher and school management training courses on digital skills; and (x) the preparation of the new National EdTech Strategy 2025-2040.

35. **Subcomponent 2.3: Building a new teaching profession in Paraguay anchored in the creation of CEFEDs (IBRD: US$1 million; FEEI: US$0).** This subcomponent would help set the foundation for a new governance framework for the teaching profession in Paraguay to improve the effectiveness of teacher training, the relevance of teachers' profiles, and teacher recruitment and career progression. This would be achieved through: (i) a comprehensive demand analysis – i.e. an evaluation of the profile of potential demand for specialized teacher training services, offered both for pre- and in-service teacher training, for the three CEFEDs supported under the Project and whose location is to be determined; (ii) a study of the curriculum transition (and eventual reform) from IFDs to CEFEDs; (iii) a study on the administrative and pedagogical transition of IFDs to CEFEDs; (iv) the development of a proposal for CEFED's governance model; and (v) a long-term strategic plan for CEFEDs.

36. **Subcomponent 2.4: Fostering an evidence-based culture through evaluation and research (IBRD: US$4 million; FEEI: US$0).** This subcomponent would finance activities to consolidate the evaluation culture and boost applied educational research in Paraguay to provide critical evidence for decision-making, which would be important both to recover from learning losses in the short term and improve learning in the long term. This subcomponent would finance capacity building and technical support to the National Institute for Educational Evaluation (*Instituto Nacional de Evaluación Educativa*,

INEE) to undertake a series of learning assessments and pilot a new tool to assess the quality of educational institutions' leadership.

37. **Component 3: Contingent Emergency Response Component (CERC) (US$0)**. This component would have no initial allocation and would be available as a contingency fund to respond in the event of an emergency. It would allow the GoP to gain rapid access to financing still available under the Project to respond to any emergency through a quick reallocation of uncommitted loan resources. As part of a comprehensive risk management strategy, the CERC would provide support for immediate rehabilitation and reconstruction needs in the event of any such event. The implementing agency and the mechanisms that would trigger the CERC, e.g., upon declaration of a state of emergency by national authorities, would be detailed in the CERC Manual.

38. **Component 4: Project Management and Support to Corporate Priorities (IBRD: US$6 million; FEEI: US$1 million)**. This component would provide comprehensive support to MEC's Program and Project Implementation Unit (*Unidad Ejecutora de Programas y Proyectos*, UEPP) for Project management. Financing under this component would: (i) ensure the administrative transparency of project implementation; (ii) enable the UEPP to cover operational costs related to this Project; and (iii) provide capacity building to the UEPP on areas such as school infrastructure and the Environmental and Social Standards (ESS). In addition, this component would finance the purchase of digital equipment (hardware) and software to upgrade MEC's equipment at the central level. The objective is to ensure MEC's central offices have updated digital tools to enhance its capacity to manage and improve the quality of education process. In addition, this Component would also fund those activities to support key corporate priorities of the institution, namely the gender and citizen engagement corporate commitments. Specifically, the Project would support: (i) the funding of two studies of gender gaps against boys (on dropout rates for compulsory education, and on participation in the teaching profession); and (ii) three surveys (to document the degree of engagement of specific beneficiary populations).

2. Project Beneficiaries

39. **The Project would have five types of direct beneficiaries of the interventions.** First, compulsory education students attending the 1,3000 UCEIs that would benefit from improved learning environments. Second, compulsory education students attending the 1,329 UCEIs that would receive connectivity to the Internet. Third, pre-service and in-service teacher training students attending the 6 IFDs that would be converted into CEFEDs. Fourth, in-service teachers and school directors in compulsory education public schools, who would benefit from digital skills' training courses. Fifth, MEC staff at both the central and departmental level that would benefit from capacity building support in the areas of: (i) educational infrastructure; (ii) EdTech; (iii) teacher's professional development; and (iv) research and evaluation.

40. **The bulk of Project funding would cater to approximately 450,000 students attending vulnerable UCEIs, whose learning environments would be improved.** An estimated 1,300 UCEIs would receive infrastructural interventions. These interventions would guarantee the representation of historically marginalized groups in this regard, most notably rural areas, indigenous populations[67],

[67] An estimated 74 percent of the indigenous school population between the ages of 7 and 14 years old live in poverty. The

students with special needs, and students attending educational institutions that have been identified as cultural heritage. In a preliminary desk review with existing data from MEC's EMIS, the Project would benefit: (i) 57 percent of all eligible rural UCEIs; (ii) 61 percent of all eligible indigenous UCEIs; and (iii) all 7 Centers for Inclusive Education Support (CIESs)[68] that have been identified as UCEIs. These interventions would benefit approximately 233,000 students, or approximately 20 percent of all compulsory public education students. Additionally, 1,329 UCEIs would be connected to an Internet network for the first time. Since the list of UCEIs benefitting from civil works would only be confirmed at implementation, it is not possible to forecast at this point how many UCEIs benefitting with civil works would overlap with those that have yet to be connected to the Internet. Yet, a preliminary analysis suggests roughly a 25 percent of overlap. Hence, this would result in an estimated 219,000 additional beneficiaries.[69]

41. **The Project would also build the foundation for the transformation of the teaching profession in Paraguay.** By supporting the conversion of 6 IFDs to CEFEDs, it would benefit an estimated 12,000 in-service and pre-service teachers in the country. Additionally, since these CEFEDs would be built outside the capital of the country (Asunción), their strategic location would support the GoP's decentralization efforts, expanding specialized teacher training more evenly across the country.

42. **The Project would provide technical assistance to strengthen MEC's institutional frameworks for better service delivery**. The UEPP would benefit from support to bolster its implementation capacity, institutional knowledge on ESS, and expertise with the Bank's procurement and financial management procedures. Furthermore, the Bank would provide technical assistance to develop more appropriate service delivery frameworks for infrastructure, digital connectivity, the teaching profession, and the areas of evaluation and research, benefitting MEC staff[70]. An estimated 400 people would benefit from this institutional strengthening effort.

3. Results Chain

43. **Problem Statement**: Paraguay faces significant challenges to build human capital, primarily driven by low educational outcomes. This derives from the: (i) poor quality of the teacher workforce; (ii) deficient material and pedagogical conditions under which learning takes place; (iii) lack of an enabling environment for the use and appropriation of ICT for EdTech; (iv) the dearth of evidence-based decision making at the system and school level, which directly affects the quality of management and instruction; (v) the weak service delivery framework under which several core areas affecting the quality of education operate; and (vi) the low level of financing for education.

average number of years of school is 4 for the population 15 years old and above and 33 percent of the population 15+ is illiterate.

[68] CIESs are educational institutions that have been created to specific support to students with special needs have streamlined inclusive education by incorporating students with special needs into regular education classes. CIESs provide specific support to students with special needs through a dedicated set of supervisors that train teachers for the integration of students with special needs into mainstream or regular schools.

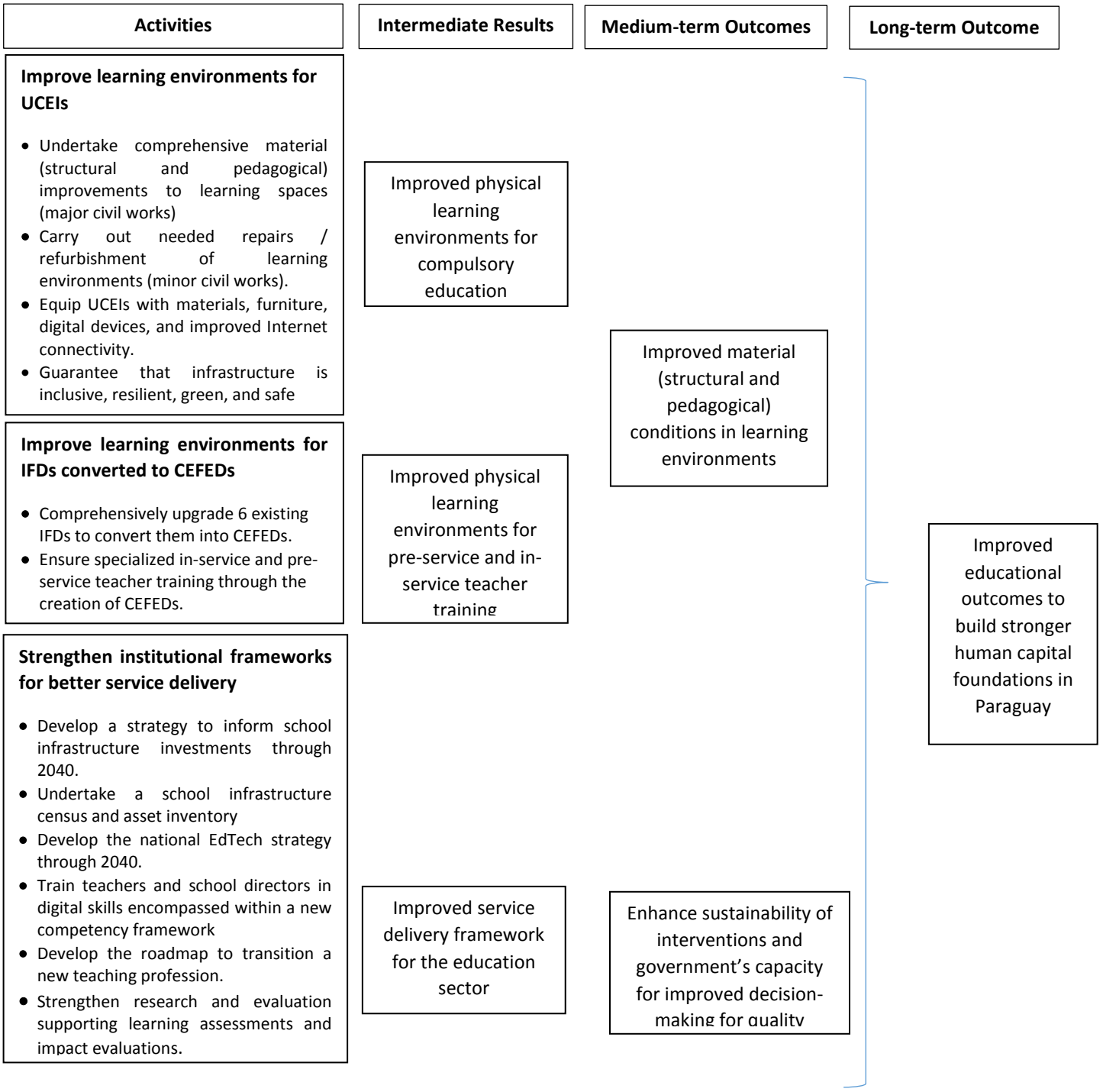
[69] The estimation uses the average student population size for UCEIs in Paraguay (220 students) and multiplies it by 997 UCEIs (i.e. 1,329 UCEIs less 25 percent of overlap with the list of UCEIS that would benefit from civil works).

[70] In the case of digital connectivity, a few staff from the Ministry of Information and Communication Technologies (*Ministerio de Tecnologías de la Información y Comunicación*, MITIC) would also among the beneficiaries on top of MEC staff.

44. **Key Assumptions:** The main assumptions of this theory of change (figure 3) stem from a series of diagnostic instruments prepared by MEC as part of the PNTE 2040. Project activities would be therefore designed to address the bottlenecks to building stronger human capital foundations under a holistic and complementary approach and with three short-term outcomes that have been operationalized in the PDO and the PDOIs above.

Figure 3: Theory of Change

Problem statement: Paraguay faces significant challenges to build human capital, primarily driven by low educational outcomes. Six factors are hypothesized to be the main drivers: (i) the poor quality of the teacher workforce; (ii) the deficient material and pedagogical conditions under which learning takes place; (iii) the lack of an enabling environment for the use and appropriation of information and communications technology (ICT) for education (henceforth, educational technology or EdTech); (iv) the dearth of evidence-based decision making at the system and school level, directly affecting the quality of management and instruction; (v) the weak service delivery framework under which several core areas affecting the quality of education operate; and (vi) the low level of financing for education.



4. Rationale for Bank Involvement and Role of Partners

45. **Education is regarded as the great equalizer, hence public investments in the sector can contribute to reducing gaps, unleashing the potential for human capital, and boosting shared prosperity.** The social returns to education can be translated into productivity gains, accelerated economic growth, reduction of poverty and gender gaps, more efficient government spending, and increased fiscal benefits in the long run.

46. **Ensuring public education for all is a responsibility of national governments to meet basic human rights.** The GoP has a mandate to guarantee access to compulsory and free education, with a multicultural and inclusive approach, through middle school,[71] making it the country's largest provider of educational services.[72] The country's educational policy is governed by the MEC, which is the leading institution for implementation of activities that foster access and high-quality education for all.

47. **The Project would build on the Bank's wealth of experience in school infrastructure projects and understanding of the sectoral deficiencies in Paraguay.** In recent years, the Bank has successfully financed and implemented several infrastructure projects in the region.[73] This Project would incorporate lessons learned in areas such as the complementarity of holistic interventions; community participation and stakeholders' engagement; resource monitoring and evaluation systems; and strengthening human and institutional capacity. Additionally, the Bank would consider the diagnostics derived from recent research studies in the education sector in Paraguay in the Project's design. These are: (i) an assessment of the needs, investments, and costs of school infrastructure;[74] (ii) a public expenditure review of the education sector;[75] (iii) a comprehensive prognosis of the education sector around 7 core initial priorities envisaged at PNTE 2040's inception;[76] (iv) a public expenditure review of national early childhood development (ECD) programs, including ECE;[77] and (v) a review of the state of human capital in the country.[78] These studies provide a good evidence base to inform the Project's design, allowing the Bank to complement the existing capacities of and work in close collaboration with GoP authorities and technical officers.

48. **The Project would partner with FEEI, the main financier for education in Paraguay.** The Project draws on a strategic alliance with FEEI to maximize funding for impact. Leveraging funding from both sources allows for a faster implementation process, as FEEI funding is expected to be approved and ready to disburse in February 2023. This would help the Bank-funded portion of the Project be ready to complement initial efforts by FEEI as soon as the Project becomes effective.

[71] Paraguay's Constitution and Laws n.° 1.264/1998, n.° 4.088/2010 and n.° 5.749/2017.
[72] From a student population of 1,534,984 enrolled in compulsory educational levels, 79 percent attend public schools.
[73] Including Argentina and Haiti (recently closed), Ecuador, El Salvador, Guyana, Honduras, Nicaragua, and Uruguay (under implementation), and the state of Mato Grosso in Brazil (under preparation).
[74] Wodon, 2016.
[75] World Bank, 2018c.
[76] World Bank, 2018b, and World Bank, 2018d.
[77] World Bank, 2021a.
[78] World Bank, 2022g.

5. Lessons Learned and Reflected in the Project Design

49. **Investments must be aligned with government priorities and long-term national plans to ensure sustainability of the intervention.** The Project's proposed objectives and interventions are in line with national laws and policy frameworks that emphasize the need to: (i) improve the structural conditions and materials for learning; (ii) provide schools with pedagogical and technological resources; (iii) facilitate the conditions to improve the sector's governance; (iv) support the professional development of teachers and new incentives for the teacher profession; and (v) boost research and evaluation for continuous improvement.

50. **Project design should consider the existing capacity of the implementation unit.** The Project's design is based on the identified financing and technical gaps in the education sector in Paraguay. In this process, and in order to carry out a successful project implementation, the Bank has taken into consideration UEPP's strengths and focused on strengthening the areas where technical gaps may exist. As a result, Project components have been designed drawing on UEPP's expertise while ensuring that technical assistance is provided to build the implementing agency's capacity on fiduciary and ESS aspects.

Legal Operational Policies

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

Summary of Assessment of Environmental and Social Risks and Impacts

The Environmental and Social Risk Classification is Moderate. The Environmental risk rating is classified as Moderate (M) at this stage of Project preparation as the risks associated with the project are mostly related to minor civil works (repairs and/or refurbishment of walls, floors, bathrooms, the electric system, gutters, and ceilings) and major civil works (new construction/retrofitting of classrooms, bathroom, libraries, offices, kitchen and dining hall, recreational and physical education rooms) that will be carried out in around 1,500 (out of 7,315) educational institutions already established in plots owned by the MEC. In addition, the preliminary screening has identified potential pollution conditions because of these works (air, soil, water) including electronic waste. The social risks are also classified as moderate as the project is expected to have positive overall social benefits and is not expected to cause social adverse impacts to project affected people, including vulnerable groups who, to the contrary, are expected to fully benefit from the increased access to learning. Indigenous Peoples and other vulnerable groups are expected to benefit from the Project?s activities aiming at promoting inclusive and accessible education. The project puts special emphasis on improving infrastructural and learning needs of students from all groups, including indigenous populations and students with special needs. Project activities will also include construction and rehabilitation of schools located throughout the country in both urban and rural areas, as well as the expansion of access to digital devices and Internet connectivity in the education system across the country.

E. Implementation

1. Institutional and Implementation Arrangements

51. **The UEPP would be responsible for overall Project implementation.** The UEPP was created in 2017 to implement all programs and projects from the MEC that are funded by the FEEI and foreign governments and organizations, with the objective of enhancing efficiency in the allocation and use of public resources.[79] The UEPP's General Coordinator reports directly to the Minister of Education and the UEPP carries the status of an Administrative and Financing Sub-unit. As such, the General Coordinator has the legal authority and independence to mandate over the UEPP's expenditures and the Administrative and Financing Coordination (*Coordinación de Administración y Finanzas*, CAF) is responsible for disbursements.[80] MEC's UEPP has experienced Financial Management (FM) and procurement staff who are currently performing fiduciary functions for other donors and multilateral financing institutions, such as the Inter-American Development Bank.[81] As such, its structure, roles, and responsibilities are well defined.

52. **The UEPP's capacity would be enhanced to support the Project's execution, monitoring, and reporting.** The roles and responsibilities of the UEPP would encompass**:** (i) technical oversight and general coordination of Project activities; (ii) review of annual activity plans; (ii) monitoring, evaluation, and reporting of project progress; (iv) financial and procurement management to ensure adherence to the Bank's standards; and (v) stakeholders' engagement to disseminate results from Project interventions.

53. **The Project would benefit from UEPP's governance structure, and a dedicated Project focal point would be assigned to interact with each of the UEPP's departments for a more agile workflow and better coordination.** The Project Coordinator would supervise all Project-related activities and report directly to the UEPP's General Coordinator. The Coordinator of Component 1 would interact with its counterparts from the: (a) Projects' Infrastructure Coordination; and (b) ICT Infrastructure Department. The Coordinator for Component 2 would work with peers from the: (a) Coordination for Teacher Training Projects; (b) ICT Skills' Development Department; and (c) General Directorate of the National Institute for Learning Evaluations.[82] All legal, financial, and procurement matters would be managed through the Coordination for Legal Counsel, the Coordination for Financial Management, and the Coordination for Procurement, respectively. Considering that this is the first project that the UEPP would implement with the World Bank, experience on the Bank's Environmental and Social Framework (ESF) is limited. The Bank would build staff capacity during preparation to address this shortcoming, and the UEPP would hire dedicated staff to support the implementation of the environmental and social risk instruments and measures agreed upon in the ESF.

[79] Executive Power's Decree 6833/17 created MEC's UEPP, which reports to the highest ministerial authority, as a result of the regulatory adjustments required due to the enactment of the Law No. 5749/2017 "Establishing the Organic Charter of the Ministry of Education and Sciences" and Ministerial Resolution No. 698/2021 (page 9).

[80] These entities and its responsibilities are legally recognized by the Ministry of Finance and the Financing Agency for Development (*Agencia Financiera para el Desarrollo,* AFD).

[81] 14 projects are currently under implementation and managed by MEC's UEPP with funding from the FEEI.

[82] As opposed to the other units, the General Directorate of the National Institute for Learning Evaluations is not a division within the UEPP. It has the same rank and also reports directly to the Minister of Education and Sciences.

2. Results Monitoring and Evaluation Arrangements

54. **The Results Framework outlines the PDO-level and the Intermediate Results Indicators (IRIs) that would be tracked throughout the lifetime of the Project.** Annex 1 also presents the Monitoring and Evaluation (M&E) plan with a detailed description of the indicators, data sources, methodology, and institution/s responsible for data collection.

55. **The UEPP would have a designated M&E Coordinator.** The M&E Coordinator would be responsible for: (i) ensuring the consistency of data collection methods; (ii) maintaining an updated database of units of intervention (UCEIs, IFDs) for targeting accuracy at all times; (iii) coordinating the timing of field surveys and data collection; (iv) reporting on the progress of indicators in the Results Framework; and (v) guaranteeing that reports and updates are provided to technical teams in a timely manner to consolidate results for quarterly, semester and annual reports, which are mandatory reports the UEPP must produce to MEC authorities. Additionally, the UEPP would benefit from the FEEI's existing interactive dashboard to publicly communicate technical and financial progress. The M&E coordinator would ensure that this reporting capacity is transferred to the UEPP and would build internal capacity. Additionally, the FEEI would have two of its staff, one for infrastructure and one for ICT-related activities, devoted to providing field-level oversight of Project implementation and the data collection process led by the UEPP.

3. Sustainability

56. **The Project would ensure sustainability at the government, design and implementation levels.** The Project boasts strong government commitment and buy-in due to its full alignment with the GoP's education sector development national strategy (PNTE 2040). In addition, the design of the Project has been developed after close consultation with local authorities from: (i) MEC's dependencies[83]; (ii) the UEPP and its sub-divisions; (iii) the FEEI; (iv) the Ministry of Finance; (v) the Ministry of Planning (*Secretaría Técnica de Planificación*, STP); and (vi) civil society[84]. Furthermore, before any of the infrastructure interventions take place, the Project would undertake consultation meetings with the local education community to ensure that the technical design is responsive to their needs while maintaining its alignment with corporate priorities such as inclusion, climate change, and citizen engagement. Last but not least, the Project would ensure that the capacity of the UEPP is strengthened in key areas needed to ensure compliance with Bank procedures and standards and to successfully implement even after the Project closes.

[83] On November 23rd and 24th, the WB conducted a consultation meeting opened to all MEC staff whose activities would be linked to the Project. There were 57 attendees from 43 divisions and sub-divisions to discuss and provide feedback on the Project. These responses were coded and processed to build a solutions' matrix.

[84] The Project undertook two consultation sessions with the civil society. On November 21, 2022, a meeting was held with the National Council on Indigenous Education (*Consejo Nacional de Educación Indígena*). This was followed by two meetings with the National Commission for the Rights of People with Disabilities (*Comisión Nacional por los Derechos de las Personas con Discapacidad*) on November 25 and November 28, 2022, respectively.

CONTACT POINT

World Bank

Juan Diego Alonso
Senior Economist

Borrower/Client/Recipient

Government of Paraguay
Oscar Llamosas
Minister
secretaria.general@mec.gov.py

Implementing Agencies

Ministry of Education and Sciences
Nicolás Zárate
Minister
nicolas.zarate@mec.gov.py

FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects

APPROVAL

Task Team Leader(s):	Juan Diego Alonso

Approved By

Practice Manager/Manager:		
Country Director:	Paul Procee	23-Dec-2022