Report Number : ICRR0021255

1. Project Data

Project ID	Project Name
P133557	Education Sector Strategy Support
Country	**Practice Area(Lead)**
Nicaragua	Education

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
TF-13232,TF-15143	30-Apr-2016	49,388,269.14
Bank Approval Date	**Closing Date (Actual)**	
19-Apr-2013	15-Nov-2017	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	51,452,263.17	51,452,263.17
Revised Commitment	49,388,269.17	49,388,269.17
Actual	49,388,269.14	49,388,269.14

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) as stated in the Project Appraisal Document (PAD) was to: “(a) increase access to preschool education in selected municipalities, and to improve preschool education learning conditions nationwide; and (b) increase access to lower secondary education in selected municipalities and improve lower secondary education quality and completion rates nationwide.” (PAD, p. 4-5). The Grant Agreement provided an identical formulation (GA, p. 5).

Throughout implementation the project development objective did not change. However, project development outcome indicators were revised both in terms of wording and, in some cases, baselines and targets. The wording revisions improved the formulation of the indicators, and thus, they do not represent fundamental changes in the meaning of the indicators. With respect to targets and baselines, the project team changed baselines and targets when new and more accurate data became available. Target values remained unchanged or revised upwards except for PDO Indicator #1 (Gross enrollment rate for preschool in selected municipalities) that was revised down to account for an increase in the number of children ages 3-5 in selected municipalities. Since the project met both the original and revised target for this indicator, a split rating is deemed unnecessary.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

23-Feb-2016

c. Will a split evaluation be undertaken?

No

d. Components

Component 1: Increasing Access and Improving Learning Conditions of Preschool Education (appraisal cost US$15.9 million; actual cost US$ 15.85 million). This component aimed to increase access to preschool education in selected 43 municipalities and to improve preschool learning conditions through the financing of the following outputs / activities: (i) improving and / or expanding preschool education infrastructure; (ii) development and alignment of curricular instruments; (iii) training of preschool teachers; (iv) improving supply of learning materials; and (v) development of an integrated early childhood development monitoring and evaluation system called *Sistema de Evaluacion Integral de Desarollo Infantil* (SEIDI). The project financed this component with proceeds from a Global Partnership for Education (GPE) grant.

Component 2: Improving Access, Quality and Completion of Lower Secondary Education (appraisal cost US$33.5 million; actual cost US$30.69 million). This component aimed to increase access to lower secondary education in 43 selected municipalities and improve quality and completion of lower secondary education nationwide through the following outputs / activities: (i) improving and / or expanding lower secondary infrastructure; (ii) teacher training paired with a monitoring and evaluation plan to measure the effectiveness of the training; (iii) improving the supply of textbooks and learning materials in secondary education. The project financed this component with proceeds from a European Union (EU) grant.

Component 3: Strengthening of the Ministry of Education's Institutional Capacity for Preschool Education (appraisal cost US$0.8 million; actual cost US$ 0.85 million). This component aimed to strengthen the Ministry of Education (MINED) capacity for preschool education through improving the technical capacity of the General Directorate of Preschool Education (GDPE). Specifically, the component strengthened the GDPE through the financing of the following activities: (i) training of preschool technical specialists; (ii) provision of basic office and ICT equipment; (iii) technical assistance for the development of training materials; and (iv) technical assistance for the development of results-based management and M&E activities. In addition, the component also financed the provision of support to MINED for the administration, financial management, auditing, and procurement aspects of Component 1 and 3 of the project. The GPE grant financed the activities under this component.

Component 4: Strengthening of the Ministry of Education's Institutional Capacity for Lower Secondary Education (appraisal cost US$1.5 million; actual cost US$2 million). This component aimed to strengthen MINED's institutional capacity for lower secondary education through four subcomponents. The first subcomponent aimed at improving the technical capacity of the General Directorate of Secondary Education (GDSE) for monitoring curricula, prepare classroom observation guides, and monitor textbook distribution and delivery. The second subcomponent financed activities to strengthen the capacity of the Directorate of Training for delivering teaching training activities. The third subcomponent financed activities to strengthen the General Directorate of School Infrastructure (GDSI) capacity for carrying out construction and / or rehabilitation of lower secondary infrastructure under Component 2 of the project. The fourth subcomponent provided support to MINED for the administration, financial management, auditing, and procurement aspects of component 2 and 4 of the project. The UE grant financed the activities under this component.

Targeting

The project targeted the access related infrastructure and equipment investments to 43 out of a total of 153 municipalities (PAD, p. 20). In contrast, most of the qualitative investments (preschool unified curriculum, teacher training and provision of educational materials) for both preschool and lower secondary education were national in scope. The targeting of municipalities was guided by the following criteria: (i) poor performance in preschool and secondary education; (ii) high poverty levels; and (iii) overlap with the World Bank financed Support to Education Sector Project II (P126357) which focused on primary education. Using these three criteria, the project generated a ranking and chose the forty-three (43) neediest municipalities.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost

The total project cost was US$49.39 million (ICR, p. 46) as compared to an original commitment of US$51.7 million without contingencies. (PAD, p. 43). At appraisal, the project estimated contingencies at US$0.1million.

Financing

The project was to be financed through a Global Partnership for Education Fund II (GPE) grant worth US$16.7 million and a European Union (EU) grant worth US$35.2 million. Both were fully disbursed. Total disbursements were US$49.39 million. The small difference between the disbursed amount (US$49.39 million) and the committed amount at appraisal (US$51.7 million) is explained by exchange rate fluctuations between US$ and EUR. The ICR does not report on a borrower contribution. However, the second restructuring paper (February 2016) reports a planned US$0.5 million borrower contribution. The World Bank team reported that the contribution took place but the that the Borrower has yet to provide the detailed financial information to the World Bank.

Dates

The project was approved on April 19, 2013 and the GPE grant became effective on May 2, 2013 while the EU grant became effective on September 19, 2013 (ICR, p. 11). The project closed on November 15, 2017. The original closing date was April 30, 2016. The project had five restructurings (October 2015, February 2016, October 2016, April 2017, and September 2017).

Restructurings

1. The first restructuring (October 2015) requested an extension of the original project closing date by date by four months until August 31, 2016. The purpose of the extension was to allow time for completion of civil works for preschools and the piloting of Integrated Early Childhood Development Monitoring and Evaluation System (SEIDI) under the Global Partnership for Education (GPE) Trust Fund II.

2. The main purpose of the second restructuring (February 2016) was to update the results framework through: (i) revised baseline values based on updated data; (ii) adjusted target values for certain indicators in response to revised baseline values and lower total project financing available due to exchange rate losses; (iii) improved formulation of certain indicators to align them with international definitions or to better measure project activities. In addition, the restructuring also introduced other changes. First, the restructuring amended a legal covenant to ensure that the number fiduciary support personnel to be hired under the project is consistent with the IDA-funded Second Support to the Education Sector Project (P126357). Second, the restructuring extended the project closing date from August 31, 2016 to August 05, 2017 to ensure completion of important civil works for secondary schools, particularly in the context of the eight-month delay that took place during the negotiation of the European Union (EU)–World Bank (WB) Administration Agreement. Third, the restructuring revised the financing plan to reflect changes in the exchange rate (EUR to USD). Specifically, the financing plan was revised to consider the decrease in EU Trust Fund (TF015143) from US$35 million to US$31.32 million due to the loss in the EUR to USD exchange rate. The financing plan was also modified to reflect a borrower contribution of US$0.5 million to finance the secondary teacher certification-based training. Fourth, the restructuring adjusted disbursement estimates to reflect project implementation and the extension of project closing to August 05, 2017. Finally, the restructuring modified the components and their costs to reflect the GoN’s revised strategy for school infrastructure (See explanation under objective #1).

3. The third restructuring (October 2016) extended the closing date of the affiliated Global Partnership for Education (GPE) Trust Fund (TF013232) from October 31, 2016 to August 31, 2017. The purpose of the extension was to allow completion of infrastructure works and the distribution of school furniture for preschools.

4. The fourth restructuring (April 2017) extended the closing to November 15, 2017. The purpose of the extension was to allow sufficient time for completion of remaining infrastructure works.

5. The fifth restructuring (September 2017) revised the total project cost to reflect an increase in the US Dollar equivalent of the European Commission-funded trust fund, which was originally in Euros, increasing the total TF amount from US$31.32 million (after a previous at the cancellation in the amount of US$2.06 million due to prior currency exchange fluctuations) to US$32.68 million. This increase warranted a modification in Disbursement Estimates and Costs per Component and financed activities that had been cancelled and were reintroduced. These activities were the following: (i) aspects within infrastructure works that had been excluded due to budget cuts, such as improved drainage systems, security fences, and food storage rooms (depending on the site); (ii) an increase in the number of secondary school books purchased through the project for rural schools.

3. Relevance of Objectives

Rationale

Relevance of objectives is rated **High**. The project development objectives were relevant to the country context and, particularly, the context of the education sector. At the time of appraisal, preschool, primary, and lower secondary schools had poor infrastructure and teachers lacked adequate qualifications. Overall, the preschool, primary, and lower secondary education systems suffered from low levels of access, retention, completion, and poor learning outcomes. Moreover, the administrative and technical capacity in these systems was weak. Though these problems manifested nationwide, they were more acute in rural than in urban areas. Against this backdrop, the project provided funding to improve access to and quality of preschool and lower secondary education. The Project was designed to complement the World Bank's Second Support to the Education Sector Project (PASEN II), which focused on primary education. At the time of appraisal, the project development objectives were aligned with the Government priorities as expressed in the Education Sector Strategy (ESS) 2011-2015. These priorities were the following: (i) achieve universal completion of primary and lower secondary education; (i) increase access to preschool education; (iii) reduce illiteracy rates; (iv) improve learning outcomes; and (v) strengthen the institutional capacity of the education sector. Likewise, the project development objectives were also aligned with the World Bank's Country Assistance Strategy (FY12 -FY17) whose Strategic Area 1 focused on raising welfare by improving access to quality basic services such as education. At the time of project closing (November 2017), the project development objectives remained relevant to Government priorities as laid out in the

Education Sector Strategy (ESS) 2017-2021. The ICR reports that ESS 2017-2021 includes improving education quality, increasing equitable access and fostering MINED's institutional development among its priorities. IEG could not retrieve ESS 2017-2012 and, for this reason, the ICR claim could not be validated. Finally, at closing, the project development objective was aligned with Pillar 1 ("Investing in Human Capital for Disadvantaged Groups") of the World Bank Country Partnership Framework (FY18-FY22). This pillar had, as one of its objectives, to improve learning conditions.

Rating
High

4. Achievement of Objectives (Efficacy)

Objective 1
Objective

Objective 1: Increase access to preschool education in selected municipalities

Rationale

The theory of change underlying this objective postulated that building additional classrooms to reduce distances to schools and betterment of water and sanitation services in schools would lead to increased access to preschool education in selected municipalities. This theory of change is plausible and well-supported by evidence since supply-side factors, particularly for rural areas, are a major determinant of enrollment according to Nicaraguan household surveys (EMNV 2009). Moreover, evidence from the literature also indicates that the state of school water and sanitation infrastructure influence parents' decision to send kids to school (Serra V., Luis, and Marcia Castillo S. 2003).

Outputs

• The number of preschool classrooms built / rehabilitated and equipped in selected municipalities was 110. Target: 106 (achieved). The original target value was 200 (mostly achieved). The ICR reports that the target was revised down at the second restructuring (February 2016) to reflect a change in the Government of Nicaragua infrastructure strategy that included increased complementary investments per school (in terms of water and sanitation, security, recreational facilities, and electricity) as well as an increase in the price of materials compared to original estimates and a loss in the exchange rate of euros to dollars. The change in the Government strategy led to less classrooms rehabilitated but ensured that the rehabilitated classrooms had an appropriate environment where to function since they were paired with complementary investments that improved the quality of the intervention. Moreover, these complementary investments also benefited the entire primary schools where these classrooms where located, thus also benefiting primary education students that were being targeted by the World Bank financed Support to Education Sector Project II (P126357)

Outcomes

- The gross enrollment rate for preschool in selected municipalities increased from 40% (May 2013) to 50% (November 2017). Target: 44% (exceeded). The original baseline and target value were 41.7% and 48% (exceeded). Given that the project addressed one of the main constraints to preschool enrollment, it is plausible to argue that the project contributed towards achieving the target. However, judging the magnitude of the contribution is hard in the absence of data on the total stock of classrooms in selected municipalities before and after the intervention. Because of this shortcoming, efficacy for this objective is rated **Substantial** notwithstanding the fact that the project surpassed its gross enrollment target for preschool education.

Rating
Substantial

Objective 2

Objective

Objective 2: Increase access to lower secondary education in selected municipalities

Rationale

The theory of change underlying this objective assumes that supply side factors such as the shortage of schools or individuals' distance to schools are the main factors that affect the decision to enroll in lower secondary education. Based on this assumption, the project supported the construction and / or rehabilitation of schools and classrooms.

Outputs

- 74 core schools (K-9) built and / or rehabilitated. Target: 75 (achieved). The original target was 200 (partially achieved). The target was revised down at the second restructuring (February 2016) to accommodate a change in the Government of Nicaragua infrastructure strategy. The original plan was to rehabilitate 2 classrooms per school whereas the revised strategy required 8 classrooms per school.

Outcomes

- The gross enrollment rate for lower secondary education in selected municipalities increased from 47% (May 2013) to 57.2% (November 2017). Target: 54% (exceeded). The original baseline value was 48.6% and was revised at the second restructuring to reflect updated school year data based on 2013 figures. By and large, it is plausible to argue that the project contributed towards increasing the gross enrollment rate for lower secondary education. However, two factors cast doubts on the magnitude of the reported contribution. First, the project only addressed a supply-side factor. Yet, the PAD indicates that demand-side factors such as lack of resources or the need to work dominate the decision to enroll in lower secondary education (PAD, p. 74). Second, the absence of data on the total stock of schools in selected municipalities makes it impossible to judge the magnitude of the project's contribution. Considering these two factors, efficacy for this objective is rated **Substantial** even though the project surpassed its gross enrollment target for lower secondary education.

Rating

Substantial

Objective 3

Objective

Objective 3: Improve preschool education learning conditions nationwide

Rationale

The theory of change underlying this objective postulated that learning conditions can be improved through (i) the development of an updated and unified curriculum for preschool education (ii) certification of preschool teachers; and (iii) distribution of learning material package in preschools. The updated curriculum would improve learning outcomes through improved pedagogical theory that relies on updated neuroscience principles whereas a unified curriculum would ensure the successful transition of children through the three grades of preschool, as well as into primary school. Certification would reduce the high share of untrained teachers in preschool education and, thus improve teacher quality which is, according to empirical evidence, the most important input affecting learning in developing countries (ICR, p. 66). Finally, evidence also indicates that learning materials such as textbooks have positive effects on learning outcomes (ICR, p. 66).

Outputs

• 2,321 preschool teachers nationwide became certified. Target: 2,300 (achieved). The original target value was 2,700 (mostly achieved). The target value was revised down at the second restructuring (February 2016) to reflect the increased investment per teacher due to higher costs of participation than expected. Specifically, the project faced high transportation costs for teachers from remote areas such as the Caribbean cost (ICR, p. 34). According to MINED data provided by the World Bank team, the project certified preschool teachers in the country's fifteen departments and two autonomous regions. No data at the municipal level was provided. Overall, the project contributed to raising the nationwide number of preschool certified teachers from 44% in 2011 (n=9,296) to 61% in 2017 (n=11,625). On average, the project certified 20% of preschool teachers in the fifteen municipalities and autonomous regions.

- The project supported the development of a Preschool unified curriculum as planned. Target: Yes. (achieved).
- 1,941 preschool teachers were trained in the use of the new curriculum (Source: World Bank Team based on 2017 MINED statistics). As per MINED data provided by the World Bank team, the project trained teachers in all the country's fifteen departments and two autonomous regions. On average, the project trained 17% of the preschool teachers in the fifteen municipalities and autonomous regions. The data provided by the MINED was not disaggregated at the municipal level, thus this review could not verify the number of municipalities reached by the project.
- 8,903 preschools received learning material packages. Target: 8,500 (exceeded). The original target was 14,000 (mostly achieved). However, at the second restructuring (February 2016), the target was aligned with updated data on number of preschools. The 8,903 preschools that received learning material packages account for all the preschools in the country.
- The Directorate of Preschool education was equipped for project implementation and supervision activates. Target: Yes (achieved). Specifically, the Directorate received equipment, a vehicle to supervise project activities, and computer to develop curriculum and classroom guides.

Outcomes

- 62% of preschools nationwide have at least met 3 out of the 4 following conditions: (#1) preschool teachers trained in the use of unified curriculum; (#2) revised classroom learning instruments available in preschools (100% of nationwide preschool schools); (#3) preschool teachers certified; (#4) preschools have received a package of learning material. Target: 50% (exceed).
- The project supported the design and piloting of a system to evaluate early childhood development outcomes in preschool and preschool-age learning outcomes. Moreover, a system validation was conducted in a sample that included a group of 43 selected municipalities. The results of the validation were published.

An analysis of the composite indicator used for measuring the achievement of the objective shows that the distribution of revised classroom learning instruments (#2) and learning materials packages (#4) reached 100% of public and community-based preschools (N=8,906) (Source: World Bank Team). In addition, evidence indicates that the project met its targets and achieved nationwide scope with respect to teacher certification (#3) and training in the use of unified curriculum (#1). Given this achievements, overall efficacy for this objective is rated **Substantial**.

Rating
Substantial

Objective 4
Objective

Objective 4: Improve lower secondary completion rates nationwide

Rationale

The theory of change underpinning this objective postulated that teacher certification and in-service teacher training coupled with student textbooks and teaching guides distribution can improve the quality of education and that this improved quality will increase the perceived value of education and make students less likely to drop out from lower secondary schools.

Outputs

- 969 lower secondary teachers certified through university-based certification programs. Target: 750 (exceeded). The original target was 900 (exceeded). The original target was revised down at the second restructuring (February 2016) to reflect attrition in the completion of the university-based certification programs. The project relied on past trends to revise the target down. Although the objective was formulated with a nationwide scope, the university-based certification programs benefited only uncertified teachers (called "empíricos") in the 43 municipalities (ICR, p. 54). With the university-based certification programs developed under the project, MINED certified 2,613 additional lower secondary teachers using national resources (Source: World Bank Team). Overall, the share of certified lower secondary teachers in the country increased from 43% in 2011 (out of a total of 7,807) to 87% (out of a total of 7,931) in 2017. The ICR did not present evidence to verify that the project certified lower secondary teachers in the 43 municipalities. MINED data provided by the World Bank team indicates that the project certified lower secondary teachers in all the country's department and autonomous regions. However, coverage of prioritized municipalities only reached 23 out 43. The total number of certified teachers in these municipalities was 176.
- 1,529 lower secondary education teachers participated in a 22-day in-service teacher upgrade training based on the secondary curriculum. Target: 1,600 (mostly achieved). The original target was 1,640 (mostly achieved) which was revised at the second restructuring (2016) to reflect updated data on the number of teachers in the 43 targeted municipalities. Although several sections of ICR report that quality improvements were targeted nationwide, the teacher training program only benefited the selected municipalities. The World Bank team explained that improvements in these municipalities were expected to contribute raising nationwide lower secondary completion rates. As per MINED data provided by the World Bank team, the project provided in-service training to lower secondary education teachers in 31 out of the 43 prioritized municipalities, thus reaching 1,135 lower secondary teachers in these municipalities.
- 1,703,860 secondary textbooks distributed in lower secondary schools. Target: 1,500,000 (exceeded). The original target value was 1,100,000 (exceeded). The original target was revised up at the second restructuring (February 2016) to align it with updated data on the number of students in public lower secondary education. The ICR reports that textbooks reached all students in public lower secondary schools (ICR, p. 14). In addition, the project also provided the following: (i) 200,000 textbooks in 5 subjects to all students in grades 10 and 11 in public upper secondary schools; (ii) 386,700 textbooks to distance education students enrolled in secondary school living in rural areas; and (iii) 10,500 textbooks in 5 subjects to all teachers in grades 7, 8, 9, 10, and 11 in public secondary schools.

• 22,800 secondary school teachers received teaching guides which represents all secondary teachers of public and semi-private schools nationwide. Target: 16,300 (exceeded).
• 3 General Directorate of School Infrastructure (GDSI) offices were created in Boaco, Leon, and Zelaya Central. Target: 3 (achieved). The offices were critical for conducting pre-feasibility studies as well as for overseeing civils works.

Outcomes

• The nationwide grade 9 completion rate increased from 64% (May 2013) to 71.9% (November 2017). Target: 71% (achieved).

The project delivered student textbooks to all students in public and semi-public lower secondary schools and teaching guides to all secondary teachers in public and semi-public schools. In addition, the project met its targets with respect to lower secondary teachers' certification and in-service training. However, as per MINED data, the project did not reach all the municipalities where preschool and secondary education indicators were the worst and poverty levels the highest. As explained by the World Bank team, reaching these lagging areas was critical for having an impact in nationwide grade 9 completion rate. Notwithstanding this shortcoming, efficacy for this objective is rated **Substantial**.

Rating
Substantial

Objective 5

Objective

Objective 5: Improve lower secondary education quality nationwide

Rationale

Outputs

Outputs related to this objective were as listed under Objective 4.

Outcomes
The project planned to measure the achievement of this objective through two indicators: (i) percentage of grade 9 students achieving intermediate, advanced or above proficiency levels in standardized evaluations of Spanish language; (ii) percentage of grade 9 students achieving intermediate, advanced or above proficiency levels in standardized evaluations of Mathematics. The project measured the baselines for the two indicators through the National Learning Assessment carried out in 2010. The expectation was to gauge

progress through a follow up assessment in 2015. The 2015 assessment took place, but the project could not use its results due to concerns regarding the quality of the measurement (ICR, p.33-34).

The project delivered outputs that the education literature associates with quality improvements. However, the project was unable to measure whether these outputs translated into improvement in learning outcomes. In the absence of evidence on improved learning outcomes, efficacy for this objective is rated **Modest**.

Rating
Modest

Rationale

Except for objective #5, efficacy for the rest of the objectives is rated substantial. Given these ratings, overall efficacy is rated **Substantial.**

Overall Efficacy Rating
Substantial

5. Efficiency

The project conducted an ex-ante and ex-post cost benefit analysis.

Appraisal

At appraisal, the project conducted an ex-ante cost benefit analysis that covered the entire project (100% of project funds). The analysis assumed that the project would generate two categories of benefits:

- First, increased in enrollment in the targeted municipalities. The analysis assumed that the project would increase the supply of preschool and lower secondary education in the 43 selected municipalities and that this increased supply would lead to higher enrollment. More specifically, the analysis assumed that preschool enrollment would increase from 41.7% to 53% whereas lower secondary education enrollment would increase from 49.6% to 59%. The analysis assumed that the increase in enrollment rates would translate into 16,472 new students attending preschool and 13,052 new students attending lower secondary schools after 5 years of project implementation. This higher enrollment, the analysis assumed, would lead to increased average years of schooling which, in turn, would translate into increased lifelong earnings. The analysis estimated that the increased enrollment in preschool education would increase average educational attainment from 6.1 to

6.9 years in targeted municipalities whereas the increase in lower secondary enrollment would lead to an average rise from 6.4 to 6.6 for all students and a rise from 10 to 10.6 for those students that have reached lower secondary. Using labor market data, the analysis estimated that the 6.1 to 6.9 years increase would be associated with a US$922 increase in lifelong earnings whereas the 10 to 10.6 years would be associated with a US$3,153 increase in lifelong earnings.

- Second, the analysis assumed that the project activities would lead to nationwide quality improvements benefiting 243,134 preschool students and 329,900 lower secondary students after 5 years of project implementation. The analysis assumed that the preschool quality improvements would reduce preschool repetition and dropout rates by 5% which, in turn, would lead to an increase in average educational attainment from 8.1 to 8.4 years. This higher educational attainment would translate into increased lifelong earnings of US$392 and it would have an associated cost of US$19 (measured at age 3 with a discount rate of 5%). With respect to the quality improvement in secondary education, the analysis assumed that the they would lead to an 8 percentage-point increase in completion rates that would bring the average years educational attainment for all students from 8.1 to 8.9 and from 11.5 to 11.9 for those that reach secondary education. As per labor market data, the analysis assumed that these improvements represent an increase in lifelong earnings of US$468 with an associated cost of US$25 (measured as student leave grade 6 and with a discount rate of 5%).

With respect to project costs, the analysis estimated two categories of costs. First, the increased educational attainment would also bring associated higher education costs. Using per pupil costs from administrative information of the MINED, the analysis estimates the cost of improved attendance at US$279 for preschool students and US$307 for lower secondary school students. The analysis used a discount rate of 5 percent to estimate net present value of these benefits and costs. Second, the cost associated with the project's infrastructure investments. The analysis assumed that these investments will have a 20 years life-span.

Using the estimates mentioned previously, the analysis estimated that the net present value of the benefits stream (US$ 305 million) far outweighs the net present value of the costs stream (US$ 49 million) and that the internal rate of return is 11%.

Closing

At closing, the project conducted an ex-post cost benefit analysis that covered components 1 and 2 (96% of project funds). Although the ICR noted several of the assumptions used in the analysis (p. 48), it lacked information on several assumptions and a discussion of how these assumptions compare to the ones used at appraisal. The ICR reported an IRR of 7.21% and a benefit-cost ratio of 5.63 using an 8% discount rate. The analysis conducted a sensitivity test using a 10% discount rate and found that the benefit cost ratio (3.17) still shows that the benefits of the project outweigh the costs.

Implementation Efficiency

By and large, the project was implemented efficiently though two shortcomings can be noted. First, the administration arrangements between the European Union and the World Bank were not fully defined at the time of project approval, thus leading to a lengthy negotiation process to settle the terms of the agreements that delayed project implementation. Second, inefficiencies in the civil works markets as well as limited implementing agency capacity to process the volume of civil works also led to implementation delays. Overall, these implementation issues motivated that the project had to request an 18.5 months extension in its closing date from 30 April 2015 to 15 November 2017. Notwithstanding these shortcomings and considering the positive results of the cost benefit analysis, overall efficiency is rated **Substantial**.

Efficiency Rating
Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	11.00	100.00 ☐Not Applicable
ICR Estimate	✓	7.21	96.00 ☐Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The PDO was highly relevant to country conditions and to Government priorities. Moreover, the PDO was also aligned with World Bank strategies at appraisal and closing. Overall efficacy and efficiency are rated substantial. Given the previous ratings, the overall outcome is therefore rated **Satisfactory.**

a. **Outcome Rating**
Satisfactory

7. Risk to Development Outcome

This validation identifies 3 main risks to development outcome:

- **Government commitment**. At the time of project closing, the project objectives were aligned with the Government priorities as indicated in the Education Sector Strategy (ESS) 2017-2021. Moreover, the ICR reports that, to ensure project continuity, the GoN agreed to finance future recurrent costs. Overall, the evidence suggests that the Government commitment to the results achieved and the sector in general is not likely to decrease in the future. The risk is considered low.

- **Sustainability of institutional capacity gains**. The project strengthened MINED's capacity for preschool and secondary education both in terms of its capacity to develop curricular instruments, train teachers, and perform fiduciary controls and audits. This increased capacity is unlikely to be reversed. To the contrary, capacity will be further augmented through the World Bank-financed Alliance for Education Quality Project (P161029) approved in April 2017.The project will continue supporting the development of teachers and MINED's technical and fiduciary capacity. This is risk is considered low.

- **Sustainability of infrastructure gains.** The project invested in preschool and lower secondary infrastructure. Several risks could jeopardize the project's infrastructure gains. First, lack of legal ownership of schools where infrastructure was built. To address this risk, the project ensured that MINED had legal ownership of those schools where infrastructure works were carried out. Second, the sustainability also hinges upon the quality of materials and the presence of adequate maintenance arrangements. The address these risks, the project purchased long lasting school furniture and elaborated a school maintenance guide that is used by the GoN as part of its school maintenance program. Finally, natural disasters could damage or destroy the project's supported infrastructure. To mitigate this risk, the project erected infrastructure that can withstand such events (ICR, p. 27). Overall, this risk considered low.

8. Assessment of Bank Performance

a. Quality-at-Entry

The World Bank developed an adequate technical design for the project that built on the lessons from its longstanding engagement with the GoN in the education sector through project such as the First Support to the Education Sector Project (PASEN I) (P07899) and the First and Second Basic Education Projects (P050613 and P007783). The PDO formulation was clear and relevant to country priorities as reflected in Nicaragua's Education Sector Strategy (ESS) 2011-2015. Likewise, the PDO was also relevant to the World Bank's Country Assistance Strategy (FY12 -FY17) at appraisal. Another positive design feature is that the project implementation arrangements relied on existing institutional mechanisms and built on previous and adjacent World Bank operations to increase both ownership and implementation quality. Moreover, the World Bank ensured that the necessary financial management and procurement staff were hired at entry as per the legal covenants.

Despite the previously mentioned positive aspects, quality at entry had shortcomings. First, the theory change had objectives that lacked commensurate activities. For instance, under objective #4 the project aimed to improve preschool education learning conditions nationwide through teacher certification and training. Yet, teacher training and certification were only aimed at prioritized municipalities. Second, the monitoring and evaluation framework was inadequate for measuring and demonstrating nationwide quality improvements in preschool and lower secondary education. Third, the project design inadequately forecasted schools' infrastructure requirements. More precisely, the project relied on a sample assessment that resulted in an underestimation of the needs of schools. Because of this underestimation, the investment per school had to be considerably revised up during implementation. Fourth, the project design overestimated the implementing agency capacity to manage infrastructure works. Because of this overestimation, the high volume of works quickly overwhelmed staff and lead to bottlenecks in implementation. Fifth, project design did not include coordination arrangements between the WB-GPE and the EU, thus leading to a lengthy negotiation process after approval that translated into implementation delays. Finally, the project design relied on the Indigenous People Plan (IPP) that had already been prepared for another World Bank project supporting primary education (Second Support to the Education Sector Project PASEN II - P126357). This IPP was not fully aligned with the needs of the project's indigenous populations and had to be updated during implementation. Considering these shortcomings, quality at entry is rated **moderately satisfactory.**

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

The World Bank systematically and adequately supervised the project through standard procedures such as aide-memoires, back-to-office reports, and implementation and supervision reports. This performance reporting was candid, and the World Bank used performance ratings to early flag problems, bring attention to them, and proactively solve them through corrective actions and project restructurings if needed. For instance, throughout implementation, the World Bank downgraded the ratings for financial management, procurement, and safeguards. These candid downgrades were critical for bringing attention to these issues and eventually solving them. To improve supervision considering the implementation delays, the World Bank transferred task team leadership from HQ to a specialist based in the country office in July 2015. Moreover, the World Bank strengthened the team supporting the project through the hire of a local Infrastructure Specialist to provide constant feedback to the infrastructure unit, and a local Project Implementation Specialist to provide guidance and supervision to the client's M&E unit (ICR, p. 26). The only supervision shortcoming is perhaps the high turnover of World Bank staff. The project had four different task team leaders (TTLs). The Borrower noted that this high turnover negatively affected the continuity of World Bank supervision and caused some delays. Nonetheless this shortcoming, the overall quality of supervision is rated **satisfactory**.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The PDO clearly articulated the outcomes sought by the project with respect to preschool and lower secondary education. For preschool education, the project sough to increase access in selected municipalities and learning conditions nationwide. For lower secondary education, the project sought to improve access in selected municipalities and nationwide quality and completion rates. By and large, the M&E design was adequate for measuring results for objectives #1 and #2. However, the M&E design was inadequate for demonstrating nationwide quality improvements in preschool (objective #3) and lower secondary education quality and completions rates (objectives #4 and #5). To address these shortcomings, the World Bank team provided IEG with additional data at the ICR Review stage.

b. M&E Implementation

By and large, the project successfully implemented the M&E system and systematically collected data for the indicators included in the results framework throughout the life of the project. This is evidenced in management assessments which rated M&E as moderately satisfactory or satisfactory throughout project implementation. Moreover, throughout implementation, the team proactively adjusted baseline and targets when new and more accurate data became available. Nonetheless the overall successful implementation performance, some shortcomings can be noted. First, perhaps the main shortcoming in the implementation of the M&E systems was the failure to collect adequate data for PDO indicator #5 (i.e. percentage of grade 9 students achieving intermediate, advanced or above proficiency levels standardized evaluations for Spanish and math (ICR, p. 15). Because of this shortcoming, the project was unable to demonstrate results for objective #5 (i.e. improve lower secondary education quality nationwide). Second, the ICR noted lack of coordination in the implementation of the project’s management and information system (MIS). For instance, MINED did not have direct access to verify whether school materials reached schools since municipalities were responsible for final deliveries. Following World Bank requests to improve monitoring, MINED developed a new verification mechanism whereby municipalities would inform the project’s M&E unit. Moreover, the verification was also supplemented with physical monitoring missions to ensure adequate delivery of materials.

c. M&E Utilization

The ICR presented evidence and examples indicating that the World Bank and MINED routinely used project data to inform implementation and decision making. For instance, the ICR reported that the GoN used project data to engage with stakeholders, through biannual meetings to present the project’s progress to donors. Moreover, M&E findings informed the design of World Bank financed Alliance for Education Quality (ACE) Project (P161029) approved in April 2017. Finally, through component 1, the project supported the development of an integrated ECD M&E system. The ICR reported that this system has enabled the use of feedback loops to improve the quality of education at the preschool level.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

Environmental Safeguards

The project was rated Category “B” as per OP/BP 4.01, as it involved many small civil works spread across the country. To mitigate potential environmental and social impacts of project activities, the project prepared an Environmental Management Framework (EMF). The ICR noted that, during the first half of the Project, the implementation the EMF was not properly implemented (ICR, 23-24). Because of this shortcoming, Management downgraded the rating for Environmental Assessment OP/BP 4.01 implementation from satisfactory to moderately unsatisfactory in June 2015 (ISR Sequence 4). To address this issue, the World Bank and the implementing agency agreed on an action plan to strengthen implementation and monitoring arrangements. Because of this plan, Management upgraded the implementation rating to moderately satisfactory by December 2015 (ISR Sequence 5) and to satisfactory by June 2016 (ISR Sequence 6). The project closed with a satisfactory implementation rating for OP/BP 4.01 and the ICR stated that it complied with environmental safeguards policies (ICR, paragraph 67).

Social Safeguards

The project triggered OP/BO 4.10 (Indigenous Peoples) and OP/BP 4.12 (Involuntary Resettlement). With respect to OP/BO 4.10 (Indigenous Peoples), the project relied on the Indigenous People Plan (IPP) that had already been prepared for a World Bank project supporting primary education (Second Support to the Education Sector Project PASEN II - P126357). The IPP has some minor shortcomings in its design since, throughout implementation, it was discovered that certain actions included in the IPP were not aligned with the project’s component. Despite these minor shortcomings, the Management assessments rated implementation of OP/BO 4.10 (Indigenous Peoples) as either satisfactory (ISR sequences 1, 2, 3, 4, 5, 9) or moderately satisfactory (ISR Sequence 6,7, 8) through project implementation.

With respect to OP/BP 4.12 (Involuntary Resettlement), the project prepared a resettlement Policy Framework (RPF) to address issues related to land acquisition and potential displacement or restriction of access to resources. During implementation, it was determined that the civil works will only require temporary relocation. During the first half of the project, the RPF suffered from implementation weaknesses and, therefore, management downgraded the implementation rating for OP/BP 4.12 from satisfactory to moderately unsatisfactory in 2015 (ISR Sequence 4). The implementing agency tackled these weaknesses by establishing clear responsibility lines and by developing an instrument for temporary relocation (i.e. Temporary Relocation Plans). The measures proved effective and performance was reestablished as evidence by management assessments rating implementation of OP/BP 4.12 as either moderately satisfactory (ISR sequences 5, 6, 7, 8) or satisfactory (ISR Sequence 0) throughout project implementation. The ICR stated that the project complied with all social safeguards policies (ICR, paragraph 69).

b. Fiduciary Compliance

Financial management

As per management assessments, financial management was rated satisfactory at the onset of the project (ISR Sequence 1 – October 2013) since the unit responsible for financial management within the implementing agency (Administrative and Financial Division) had experience managing World Bank funds with the First Support to the Education Sector Project (PASEN I) (P07899). In addition, project recruited the nine (9) financial management full-time staff included in the legal covenants of both Grant Agreements. In May 2014 (ISR Sequence 2), the financial management of the project was downgraded to Moderately Satisfactory because the implementing agency experienced significant delays in payments of consultants and submission of Statement of Expenditures (SOEs) to the World Bank. To address this issue, the implementing agency and the World Bank agreed to hire local consultants for enhancing internal controls and tackling implementation bottlenecks. However, financial management challenges were compounded in September 2014 when the Government of Nicaragua reorganized the implementing agency. The reorganization triggered a downgrade to Moderately Unsatisfactory (ISR Sequence 3 – November 2014) since key financial management positions in the implementing agency, including several mandated by the Grant Agreements were left vacant. The absence of key financial management staff jeopardized the implementing agency's capacity to provide timely and reliable financial management information critical for managing and monitoring the implementation. Moreover, the absence key staff made it impossible to quickly address the 2013 audit report that came with qualified opinions after a long delay. After the reorganization, financial management improved, and World Bank management upgraded its financial management rating to moderately satisfactory for the remainder of the project life. The final project external audit issued an unqualified opinion on project financial statements.

Procurement

Management gave a satisfactory rating to procurement performance at the onset of the project (ISR Sequence 1 – October 2013) since the unit responsible for procurement within the implementing agency (Procurement Division) had experience with World Bank procurement procedures. In addition, the implementing agency hired the 3 full-time procurement staff included in the legal covenants of both Grant Agreements who received direct training from the World Bank. Despite these positive initial steps, procurement performance was downgraded to unsatisfactory by November 2014 (ISR Sequence 3). Several factors explain the downgrade. First, the implementing agency was responsible for handling the procurement for this project and another World Bank project focusing on primary education (Second Support to the Education Sector Project PASEN II - P126357). The two simultaneous projects and their associated high level of infrastructure works soon overwhelmed the staff capacity of the implementing agency, thus creating bottlenecks. Second, the implementing agency lacked adequate capacity for dealing with the complexity of procurements task. For instance, there were delays associated with incomplete pre-investment studies, granting of No Objections, out-of-date procurement plans, and errors in the bidding process. Third, the Government of Nicaragua reorganization of the implementing agency (September 2014) affected the MINED Procurement Division leading to vacancies in the positions mandated by the Grant Agreements. While the positions being vacant, civil works processes were not launched and several infrastructure works were halted due to delays in payments. After the reorganization, the implementing agency filled the required positions, improved procurement plans, and conducted an independent procurement review to identify weaknesses that were later addressed through World Bank training. The combination of these actions improved procurement performance and World Bank management upgraded its procurement rating to moderately satisfactory by December 2015 (ISR Sequence 5) and to satisfactory by June 2016 (ISR Sequence 6) for the remainder of the project life.

c. Unintended impacts (Positive or Negative)

The ICR reported several unintended outcomes and impacts (ICR, p. 19). First, the infrastructure strategy implemented benefited also primary education students that were beyond the scope of the project (See explanation under objective #1). Second, the project benefited indigenous populations and Afro descendants through the development of an updated and culturally sensitive curriculum. Moreover, the project supported the construction of a school in an indigenous community that led MINED to later build four (4) other schools in indigenous communities. Third, the project supported the certification of secondary school teachers. MINED relied on the project success to expand the reach to additional beneficiaries through inter-institutional agreements with universities to cover the payment of professors that provided the training, thus reaching far more teachers than originally envisaged. Moreover, the ICR reports that the training motivated many teachers to go beyond certification and obtain university degrees. The exact numbers of teachers that obtained university degrees is nor reported though. Finally, the project also stimulated and increased coordination between donors and between the Government of Nicaragua and donors. Specifically, the project helped to ensure that the World Bank, the Global Partnership for Education (GPE) the European Union (EU), and the Government of Nicaragua worked together towards the same goals.

d. Other

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11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---
Bank Performance	Satisfactory	Moderately Satisfactory	Quality at entry is rated moderately satisfactory
Quality of M&E	Substantial	Substantial	---
Quality of ICR		Substantial	---

12. Lessons

The ICR lists six lessons (p. 28). Among these, IEG highlights and adapts the following:

Ensuring donor coordination at entry in multi-donor projects and ensuring that design is aligned with implementation capacity are critical for avoiding implementation delays. On the one hand, the lack of agreement between the WB and the EU at entry led to a lengthy negotiation to settle the terms of the agreements that delayed implementation. On the other hand, the project design overestimated the implementing agency capacity to manage infrastructure works. This overestimation led to important implementation bottlenecks that required intense supervision to be corrected.

In addition, IEG also add another lesson related to monitoring and evaluation:

Demonstrating nationwide education quality improvements requires evidence that school resources and teacher quality inputs reached a critical mass of schools and teachers in all school districts. In the absence of this data, the credibility of a project achievements with respect to nationwide education quality improvements can be diminished. Given data constraints, the ICR did not include this data which had to be later provided by the World Bank team to strengthen the results narrative.

13. Assessment Recommended?

Yes

Please explain

Yes, to verify that the project reached all the prioritized municipalities and to assess the quality and efficacy of the in-service training.

14. Comments on Quality of ICR

The ICR provided a thorough description of the project with a well written narrative that breaks down the PDO into five distinct objectives. In addition, the ICR included a schematic figure describing the project result's chain (ICR, p.7) that helps readers quickly understand the intervention logic. Finally, the ICR also presented an adequate description of implementation challenges, how they were addressed, and an annex (ICR, p. 68) with the detailed changes introduced in the results framework by the second restructuring (February 2016). However, the results narrative had a shortcoming, namely the absence of data to demonstrate that quality improvements under objective #3 and #4 had nationwide scale and they reached a critical mass of schools and teachers in all municipalities. Notwithstanding this shortcoming, the quality of the ICR is rated **Substantial.**

a. Quality of ICR Rating

Substantial