



RESTRUCTURING PAPER  
ON A  
PROPOSED PROJECT RESTRUCTURING  
OF  
TRANSFORMATION OF THE TERTIARY TECHNICAL AND TECHNOLOGICAL INSTITUTES PROJECT  
APPROVED ON NOVEMBER 23, 2016  
TO THE  
REPUBLIC OF ECUADOR  
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EDUCATION

LATIN AMERICA AND CARIBBEAN

Regional Vice President:	Carlos Felipe Jaramillo
Country Director:	Marianne Fay
Regional Director:	Luis Benveniste
Practice Manager/Manager:	Emanuela Di Gropello
Task Team Leader(s):	Diego Angel-Urdinola, Nelson Gutierrez



**ABBREVIATIONS AND ACRONYMS**

ACARP	Adaptive Computer-Assisted Student Remediation Program
DESCAES	<i>Desarrollo y Evaluación General de Competencias para el Aprendizaje en Educación Superior</i>
EOD-PRETT	Deconcentrated Operating Entity for the Program of Transformation of Tertiary Technical and Technological Public Education in Ecuador ( <i>Entidad Operativa Desconcentrada Proyecto de Reconversión de la Educación Técnica y Tecnológica Superior Pública del Ecuador</i> )
GoE	Government of Ecuador
INEC	National Institute of Statistics ( <i>Instituto Nacional de Estadística y Censos</i> )
IST	Tertiary Technical and Technological Institutes ( <i>Institutos de Educación Terciaria Técnica y Tecnología</i> )
MEF	Ministry of Economy and Finance ( <i>Ministerio de Economía y Finanzas</i> )
PAD	Project Appraisal Document
PDO	Project Development Objective
PRETyT	Program of Transformation of Tertiary Technical and Technological Public Education in Ecuador. Also called PRETT ( <i>Programa de Reconversión de la Educación Técnica y Tecnológica Superior Pública del Ecuador</i> )
SENESCYT	Secretariat of Higher Education, Science and Technology ( <i>Secretaría de Educación Superior, Ciencia y Tecnología</i> )
VAT	Value Added Tax



**BASIC DATA**

**Product Information**

Project ID P157425	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 23-Nov-2016	Current Closing Date 31-Dec-2021

**Organizations**

Borrower Ministry of Economy and Finance	Responsible Agency SENESCYT, Deconcentrated Operating Entity (EOD) - PRETT SENESCYT
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**Project Development Objective (PDO)**

Original PDO

The objectives of the Project are: to increase enrollment and persistence in public technical and technological programs designed and implemented in collaboration with Employers, and to strengthen the institutional management of Tertiary Technical and Technological Education.

**Summary Status of Financing (US\$, Millions)**

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IBRD-86670	23-Nov-2016	22-Dec-2016	22-Mar-2017	31-Dec-2021	52.10	12.47	39.63

**Policy Waiver(s)**

Does this restructuring trigger the need for any policy waiver(s)?

No



## I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

### A. Project Status

1. **Overall Project Implementation Progress and Progress towards achievement of Development Objectives are moderately satisfactory. The overall risk is moderate.** Significant progress has been achieved in all Project components in recent months, as shown by the increase in the disbursement rate from 5.4 percent in June 2020 to 24 percent in March 2021. The Project Implementation Unit (Deconcentrated Operating Entity for the Program of Transformation of Tertiary Technical and Technological Public Education in Ecuador - EOD-PRETT) has been successfully executing an implementation plan to attain project activities before project closing. Given the calendar of execution of civil works, disbursements are expected to accelerate after April 2021. The procurement of all major activities supported by the Project is ongoing and will be completed by May 2021, which will ensure a smooth project implementation in the event of changes in technical counterparts following the presidential elections in April 2021.

2. **The EOD-PRETT has significantly improved its implementation capacity since October 2020.** The EOD-PRETT staff is now fully familiarized with World Bank's processes and procedures related to Project implementation, procurement, financial management and safeguards. Several consultants currently support the Secretariat of Higher Education, Science and Technology (SENESCYT) in developing new technical programs, and information systems, micro-planning, and monitoring and evaluation aspects. This strengthening of the Project Implementation Unit enabled the hiring and adequate management of infrastructure and consultancy contracts. The World Bank and the technical teams in SENESCYT have reached a consensus (regarding policy and technical aspects) in all planned Project activities. Safeguards specialists have also demonstrated the capacity to identify, assess and address challenges in a timely manner. The interaction between SENESCYT and other line ministries, including *Planifica Ecuador* and the Ministry of Economy and Finance (MEF), has improved due to the designation of a focal point to speed up and monitor administrative and budgeting activities. A budget allocation for US\$ 39 million has been approved by the MEF and certifications have been awarded. Completing these financial procedures will allow the EOD-PRETT to continue with the hiring processes of remaining consultancies/goods and the timely payment of civil works contracts.

3. **This will be the Project's fourth restructuring.** In April 2019, a first restructuring was completed in response to a request from the MEF to cancel US\$18 million from the original allocated amount. The restructuring mainly affected investments in infrastructure under Component 1, but also presented an opportunity to strengthen teacher training and information systems activities. In January 2020, the Government of Ecuador (GoE) requested to amend its entire World Bank Group portfolio in an attempt to address implementation delays and to allow the use of loan proceeds to finance the Value Added Tax (VAT). This restructuring was approved by the World Bank on March 19, 2020. A third restructuring, approved on June 1, 2020, included a partial loan cancellation of US\$ 20.4 million, changes in budget allocation across Eligible Expenditure categories, and changes in the results framework.

4. **Component 1: Optimizing and Upgrading the Supply of Technical Programs and Courses in Targeted Provinces.** Important progress has been achieved in this component since the last restructuring when the architectural studies for the civil works were completed. To date, all civil works (as well as the



supervision contracts) have begun, and teams are actively working on the ground (i.e., Technical and Technological Training Institute – ISTs in Manta, Machala, Lago Agrio, and Yavirac). The bidding process for laboratory equipment of all ISTs is undergoing, and contracts are expected to be signed in May 2021.

**5. Component 2: Improving Programs’ Relevance, Quality of Teaching, and IST Management Capacity.** The Project is currently supporting the development of 24 new technical programs, as established in subcomponent 2.1. The procurement processes for a series of consultancies to train over 1,000 teachers in vocational fields is undergoing and the training will be carried out between July and November 2021; training participants will receive an industrial certification issued by the productive sector (subcomponent 2.2). The Project will also procure a consultancy to design occupation Profiles for Technical Education Teachers and a series of teacher assessments to guide and structure teacher training and teacher career development policies under this subcomponent; it is expected the consultancy will be finished by October, 2021. Under subcomponent 2.3 the Project financed the development of the Information and Administration System - SIGA 1.0, the first system for technical institutes to manage student academic enrollment and progression centrally and in real time. The system is being rolled out nationally and additional functionalities (SIGA 2.0), such as the ability to automatize the process of micro-planning (i.e., using labor demand data to optimize academic offering) and to monitor students’ education to employment transitions will be included before project closing. The Project is financing hardware purchases and software installation to ensure the information system becomes operational in all institutes countrywide. Finally, a consultancy to quantify the costs of delivery of technical education courses is being carried out.

**6. Component 3: Strengthening Mechanisms for Institutional Coordination, Boosting Students’ Demand for Technical Educational Services, and Management, Monitoring and Evaluation of the Project.** The Project is currently supporting the mobilization of consultative councils at the local level to design academic programs in close coordination with local employers (subcomponent 3.1). The consultative councils are established in all 22 provinces and are fully operational. The Project supported a consultancy to estimate labor demand in 7 provinces, which was completed in December 2019 (subcomponent 3.2). The agreement between the SENESCYT and the National Institute of Statistics (*Instituto Nacional de Estadística y Censos* - INEC), also under subcomponent 3.2, has been modified to include the following activities: (i) strengthening INEC’s capacity to estimate and monitor labor demand; and (ii) analysis, use and transfer of administrative data from SENESCYT and INEC to track the transition of graduates into the labor market.

**7. Rapid-response initiatives to curtail the dropout rates resulting from the pandemic and the fiscal crisis are under implementation.** A contract to provide high-speed internet access for public ISTs was signed with an internet service provider and is under execution to offer students higher connectivity and better digital learning opportunities. The Project will finance this measure until the Project closes, but the government expects to continue to provide these services with fiscal financing or other donors’ financing. The Project is also supporting the application of the standardized assessment “Skills Development and Evaluation for Higher Education Learning” (*Desarrollo y Evaluación General de Competencias para el Aprendizaje en Educación Superior*, DESCAES) to measure students' and teachers' communication, problem-solving, and information analysis skills. To date, the assessment has been applied to all teachers in public ISTs (over 3,000 teachers) and is expected to be applied to all first-year students in public ISTs by June 2021. DESCAES results, expected in September 2021, will help build an "early warning" system to identify students with the highest probability of dropout. Based on these assessments' results, the Project will also provide teacher training and technical assistance to develop



institutional strengthening plans to improve these skills in both teachers and students and curtail dropout rates. The implementation of the improvement plans would occur after Project closing. The Bank team will work with the SENESCYT to develop an implementation plan, including possible financing sources. The Project also redirected resources from lower priority activities to implement an adaptive computer-assisted student remediation program (ACARP) on mathematics. A total of 5,993 students from 39 public ISTs are part of the program, which is currently ongoing. ACARPs are a promising approach to improve learning outcomes and decrease student dropout, as they can "personalize" education by providing content tailored to students' learning needs, therefore improving higher education students' academic readiness at scale and in a cost-effective manner.

**8. The team is monitoring the rapid-response initiatives closely to curtail the dropout rates, to ensure they implement in a timely fashion.** Also, the government is considering the introduction of new strategies to curtail dropouts. The team is recommending the government use of nudging text messages to encourage technical students to stay enrolled. Personalized text message campaigns providing information to students on the impact and importance of staying enrolled in college have proved to be a cost-effective strategy to improve permanence among low-income college students. Although dropout rates may continue to persist in the short run, the ongoing efforts and expected economic recovery in 2022 will probably ease the trend and contribute to improving the progression rates after the crisis.

#### **B. Rationale for Restructuring:**

**9. Ecuador's fiscal crisis and the COVID-19 pandemic hampered technical and technological students' capacity to remain in the education system, indirectly affecting the Project's ability to achieve one of its development objectives.** One of the Project's main goals is to support the SENESCYT in developing technical and technological programs (e.g., adjust their competency profiles and curricula) with inputs from employers. Project Development Objective (PDO) Indicator 1, *"Enrollment in public technical and technological programs designed and implemented in collaboration with employers"*, monitors the number of students enrolled in such programs, which is attributable to government actions supported by the Project, such as (i) increasing the academic offer in such programs and (ii) creating new programs in collaboration with employers. PDO Indicator 2, *"Persistence rate in technical and technological programs designed and implemented in collaboration with employers"*, seeks to increase the "Persistence rates" in such programs, which is a reasonable objective to pursue in times of healthy economic growth.<sup>1</sup> Nonetheless, international evidence indicates that persistence rates, especially in post-secondary education settings, are highly affected by the economic cycle. Indeed, in times of economic downturn, technical students, who generally belong to vulnerable households, are often pressed to join the labor market and cannot afford the costs associated with studying (e.g., books, transportation, tuition).

**10. In 2020, it became evident that the fiscal crisis affected student progression rates substantially.** By the end of calendar year 2017, after a decade of positive and sustained economic growth, progression rates of Ecuadorian students enrolled in technical and technological programs reached 78 percent for the overall system. Given the information available at the time of Project design, the target for PDO Indicator

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<sup>1</sup> PDO 2 is calculated as number of students enrolled in the last semester of a program designed and implemented in collaboration with the employers, divided by the number of students enrolled in the first semester of these same programs in year t-2 and t-3 for the technical and technological programs, respectively.



2 was set at 74 percent for 2021.<sup>2</sup> However, a baseline was not established in the Project Appraisal Document (PAD) due to a lack of information on student progression in programs designed in collaboration with employers. In 2020, after the SENESCYT reported data on academic progression for the academic year 2019, it became evident that the fiscal crisis was having a profound effect on technical students' progression rates, as student progression rates reached 68 percent for the overall system in 2019. By the time of the latest Project restructuring in June 2020, the final target for PDO Indicator 2 was revised from 74 percent to 68 percent to reflect the available information. The assumptions were that (i) the actions supported by the Project would contribute to maintaining stable progression rates, serving to contain the adverse effects of the ongoing fiscal crisis, coupled with the COVID-19 pandemic; and (ii) that progression rates of students enrolled in programs designed in collaboration with employers would be similar to that of the overall system.

11. **The SENESCYT was able, for the first time, to calculate progression rates for students enrolled in courses designed in collaboration with employers by the end of the year 2020.** In January 2021, the SENESCYT provided the World Bank with actual data on student progression rates in programs designed in collaboration with employers. This rate was only at 59 percent for the academic year 2019, about eight percentage points below the national average. Such a rate was much lower than that originally anticipated.

12. **Moreover, the adverse effects of COVID-19 on student progression rates prove to be even worse than those of the fiscal crisis. SENESCYT counterparts are witnessing massive student dropout rates similar to those observed in other education systems in the region. These have seen reductions in the students' progression rates of between 10 to 15 percentage points.** Despite this trend, enrollment is increasing (i.e., the number of students who sign up at the beginning of the semester). Interim results from the first semester of 2020 show that persistence rates for students enrolled in programs designed in collaboration with employers dropped to 52 percent during the first semester of 2020.

13. **As a result, PDO Indicator 2 requires substantial adjustment.** The adjustment considers that, provided available data on trends and international benchmarks, the SENESCYT expects the progression rates of students enrolled in programs designed in collaboration with employers to drop to 40 percent by the end of the academic year 2021. These projections consider all the ongoing actions to prevent and curtail student dropout described in the previous section. Without these actions, progression rates may decrease even further. Finally, it is worth mentioning that enrollment rates are on the rise due to expansionary government actions to offer students more possibilities for admission into the system. As a result of this trend and the Project's proactivity to develop new programs in coordination with employers, PDO indicator No. 1 is not likely to be affected.

## II. DESCRIPTION OF PROPOSED CHANGES

14. **This proposed restructuring will revise the targets for PDO Indicator 2 for the years 2020 and 2021 from 68 percent to 40 percent considering that:**

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<sup>2</sup> Although the programs designed in coordination with employers were more appealing to students given their relevance for the labor market, these programs were also more complex given their emphasis on mathematics and science. The assumption was that student dropouts from these "relevant programs" due to their difficulty would be offset by their appeal. Therefore, the progression rates would be similar to those of the system on average.



(i) student progression rates for students designed in collaboration with employers reached 52 percent during the first academic period of 2020; and

(ii) based on available data and regional benchmarks, student progression rates are expected to decrease further (by between 10 and 15 percentage points) due to the pandemic.

15. **These changes are mainly the result of the combined economic effects of the fiscal and COVID-19 crises**, which are beyond the direct control of the SENESCYT and exogenous to the Project's interventions.

16. **Intermediate Results Indicator (IRI) 8, "Percentage of programs implemented that have been designed in collaboration with employers" will also be eliminated**, given that it is duplicative of IRI 5, "Percentage of programs designed in collaboration with employers".

**III. SUMMARY OF CHANGES**

	Changed	Not Changed
Results Framework	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
PBCs		✓
Components and Cost		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Disbursement Estimates		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓





Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓
Economic and Financial Analysis		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓

**IV. DETAILED CHANGE(S)**



**Results framework**

**COUNTRY:** Ecuador

**Transformation of the Tertiary Technical and Technological Institutes Project**

**Project Development Objectives(s)**

The objectives of the Project are: to increase enrollment and persistence in public technical and technological programs designed and implemented in collaboration with Employers, and to strengthen the institutional management of Tertiary Technical and Technological Education.

**Project Development Objective Indicators by Objectives/ Outcomes**

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
<b>Increase enrollment &amp; persistence in public IST programs designed and implemented.</b>							
PDO Indicator 1: Enrollment in public technical and technological programs designed and implemented in collaboration with employers. (Number)		10,629.00	15,491.00	13,229.00	16,740.00	13,165.00	14,613.00
PDO Indicator 2: Persistence rate in technical and technological programs designed and implemented in collaboration with employers. (Percentage)		0.00	0.00	0.00	59.30	40.00	40.00
<b>Action: This indicator has been Revised</b>	<p><b>Rationale:</b>  <i>The 2020 and 2021 targets for this indicator are being revised downward. The COVID-19 health emergency, coupled with the country's poor economic performance (further aggravated by the oil price plunge), has had a substantial adverse effect on student progression rates. In June 2020, the target was revised from 71 percent to 68 percent for year 2020 and from 74 percent to 68 percent for year 2021, which assumed that Project interventions would maintain progression rates at pre-crisis levels. However, real data from the year 2019 showed a persistence rate in pertinent careers of 59.33 percent (vs. the</i></p>						





Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
IRI 3: Number of ISTs fully equipped in the targeted provinces. (Number)		0.00	0.00	0.00	0.00	0.00	4.00
<b>Component 2: Improving Programs Relevance, Quality of Teaching and IST Management Capacity.</b>							
IRI 4: Number of teachers and management staff trained. (Number)		0.00	0.00	0.00	0.00	0.00	750.00
IRI 5: Percentage of programs designed in collaboration with employers. (Percentage)		34.00	34.00	34.00	34.00	34.00	40.00
IRI 6: Development and implementation of the administrative and academic management system of ISTs. (Yes/No)		No	No	No	No	Yes	Yes
<b>Component 3: Strengthening Mechanisms for Institutional Coordination, Boosting Demand, and Management, Monitoring and Evaluation of the Project.</b>							
IRI 7: Development and implementation of the module to track graduates. (Yes/No)		No	No	No	No	Yes	Yes
IRI 8: Percentage of programs implemented that have been designed in collaboration with employers (Percentage)		0.00	0.00	0.00	0.00	34.00	34.00
<b>Action: This indicator has been Marked for Deletion</b>	<b>Rationale:</b> <i>This indicator is being marked for deletion given that it duplicates information presented in IRI 5, in an effort to simplify the Project's Results Framework.</i>						



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
IRI 9: Percentage of graduates tracked out of total graduates in the administrative and academic management system (Percentage)		0.00	0.00	0.00	0.00	10.00	70.00
IRI 10: Implementation of Gender Plan. (Text)		Very Limited gender specific information available	Very Limited gender specific information available	Very Limited gender specific information available	Very limited information	-Diagnostic of access, persistence and graduation rates disaggregated by gender and program-Design, based on the diagnostic results, of gender specific actions to guarantee equality of opportunities in technical and technological education for women and men as needed-Implementation of the gender specific actions previously defined.	Monitoring access, persistence, and graduation by gender and program through the administrative and academic management system.
IRI 11: Survey on beneficiary communities' satisfaction in the targeted provinces regarding: (a) the process of social management and (b) the results of the implemented new ISTs (Text). (Text)		Not available	Not available	Not available	Not available	Not available	Four published reports.



**The World Bank**

Transformation of the Tertiary Technical and Technological Institutes Project (P157425)

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