



DOSSIER

SKILLS FOR WORK IN LATIN AMERICA AND THE CARIBBEAN

UNLOCKING TALENT FOR A SUSTAINABLE AND EQUITABLE FUTURE



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SKILLS FOR WORK IN LATIN AMERICA AND THE CARIBBEAN

UNLOCKING TALENT FOR A SUSTAINABLE AND EQUITABLE FUTURE

Many developed countries have shown that when a country's labor force responds efficiently to the human capital needs of companies and the economy, labor productivity is boosted leading to higher economic growth. In turn, an individual with the right skills has better chances to access high quality jobs, better incomes, and higher wellbeing overall. A well-functioning skills development system, one that delivers access to quality and relevant training with equity, is the cornerstone to support the future of the region, increasing economic opportunities and productivity while supporting sustainable and equitable economic transformation. Skills for work are undoubtedly a transformative force.

'A well-functioning skills development system is the cornerstone to support the future of the region'

The current situation in Latin America and the Caribbean requires that this topic to be placed at a priority level in the public policies' discussion. The data leaves no doubt. In the region most jobs are informal, more than half of workers lack basic levels of reading comprehension and mathematical calculation, and only 16% have access to tertiary education. All those signs show that the skills gap is a stark reality. In a rapidly evolving world, it is imperative to align what is taught in the education and training systems with the requirements for building successful a career.

In this context, at the IDB we have been working to transform skills development systems to:

- Establish a **new vision**: conceiving them as an engine for productive growth and sustainable development, designed in alignment with national development strategies or climate changes commitments and adapted to productive trends with high-quality training that is accessible to all. Moving from the traditional perception of TVET as basic skills training for low-paying jobs for individuals who cannot or do not want to attend university and need immediate employment.
- Create **new opportunities**: Striving for excellence in the quality of the training provided, offering opportunities for individuals to acquire the skills they need to access high quality jobs, maintain them and progress in their careers at all stages in life. Moving away from the broken promise of offering an income-generating solution in a dead-end job.
- Generate a **new focus**: to improve relevance not only in the design of the training but in the results achieved by individuals and firms. Designed, delivered, and improved in connection with the private sector and aligned with the needs of the labor market.



As part of our efforts and with the financial support of Germany and Switzerland, through the Multi Donor Fund for the Transformation of Technical and Vocational Education in Latin America and the Caribbean (TVET Fund), the IDB is promoting numerous initiatives that propose an innovative solution to at least one challenge of the skills system, working hand-in-hand with the private sector, and demonstrating that they can be scaled up to expand the transformation to the system. With these projects, we also demonstrate how the skills system can face the challenges and take advantage of the opportunities of **FIVE KEY TRENDS**:



FOURTH INDUSTRIAL REVOLUTION

The region, like the rest of the world, has been immersed in a tsunami of new technologies that are changing the way people learn, work, and interact. The new technologies are creating jobs that did not exist before, such as drone pilots or artificial intelligence engineers, they are also changing profoundly the type of tasks performed by individuals in the labor market increasing the complexity, the way many people interact and learn, for example, freelancers who serve their clients online, students having discussion in the metaverse or teachers using adaptative technologies to personalize learning.



AGING

Latin America and the Caribbean will go, in a very short time, from being one of the youngest regions in the world to one of the oldest. This unstoppable demographic process will require a workforce well prepared to face the challenges, keeping themselves active in the labor market for many more years, but also new professionals and technicians in the health and care sectors.



CLIMATE CHANGE

The threat of climate change is palpable, and indeed some of the most vulnerable countries are in Latin America and the Caribbean. By using its competitive advantage and natural attributes in a sustainable way, the region could also be a source of clean energy and healthier food for the world. The success of the green transition will depend on the ability of the workforce to develop the necessary skills. This includes not only the skills needed for emerging jobs, but also the skills needed to perform traditional jobs in a greener fashion. This is already a need in high-growth sectors (e.g., solar energy, electric vehicles, recycling systems), and in traditional sectors such as agriculture, manufacturing, or water management.



GENDER AND DIVERSITY

The transformative force that skills for work represent is enhanced when access is provided to the most disadvantaged populations in the region: women, indigenous peoples, Afro-descendants, people with disabilities, and LGBTQ+ people. This unlocks the benefits of a diverse, more integrated, more inclusive region. Today, it is not only possible to work and live in different places, but also to work and learn based on talents and preferences, in more diverse and multidisciplinary teams.



COVID-19

The pandemic was a turning point in all areas of society. In Latin America and the Caribbean, it showed structural problems in the labor markets and in the skills development systems. It caused educational losses and an unprecedented drop in labor indicators, and it also revealed massive inequalities in access to digital forms of learning. Fixing TVET will also contribute to a faster and more robust recovery in the post-pandemic.

This dossier contains a sample of the initiatives financed by the TVET Fund. These include, for example, the use of artificial intelligence to guide job retraining in Chile, the introduction in modern courses to offer training in green skills to diversify the economy in Belize and Panama, training programs to allow young Salvadorians to work remotely meeting the increasing demand for digital services globally, offering complete skilling programs and support to vulnerable youth in Colombia to bridge the unmet demand of talent in the audiovisual sector, while building successful careers in a growing sector, and many others. These initiatives represent a collective effort to transform education and training systems in the region. **The project sheets that you will find in this document exemplify how all the discussed changes are not an elusive wish, but a concrete, evident and scalable reality.**

Unlocking talent in Latin America and the Caribbean is pivotal for a sustainable and equitable future. As the region embarks on this transformative journey, the pressing need to revamp skills development systems should be recognized, making them engines for growth and sustainable development. Through these collective efforts, we are forging a brighter future for individuals and economies across the region, harnessing the power of skills for work to uplift lives and build a more prosperous, sustainable, and equitable tomorrow.

FOLLOW [OUR BLOGS](#) AND LEARN MORE ABOUT THE IDB'S WORK IN THIS AREA:

[FACTOR TRABAJO](#)

[ENFOQUE EDUCACIÓN](#)





SKILLS FOR WORK:

STEPS IN THE RIGHT DIRECTION

AT A GLANCE



24
Active
Technical
Cooperations



15
Operating
Countries

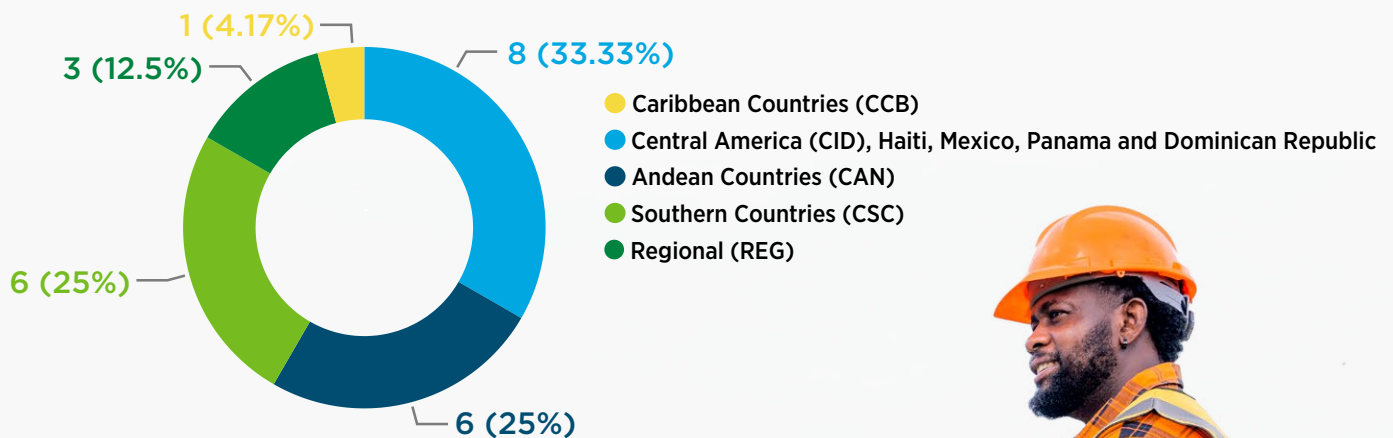


3
Regional
Projects



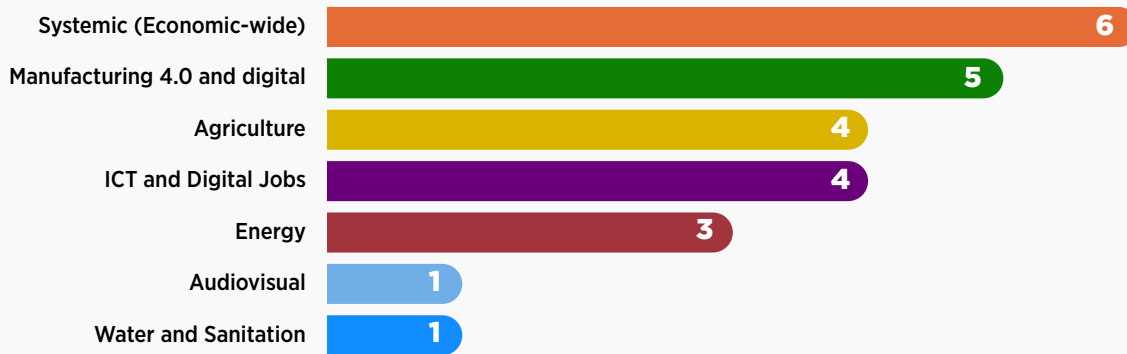
60
Percentage of
Beneficiaries are Youth,
Women and People from
Rural Areas

A REGIONAL IMPACT

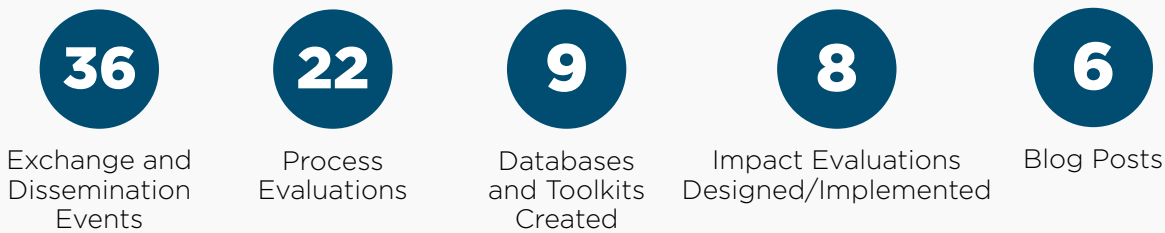




PROJECTS BY ECONOMIC SECTORS



KNOWLEDGE INDICATORS



PRIVATE SECTOR INVOLVEMENT



PROJECTS BY KEY TRENDS

(FOR DETAILS, PLEASE SEE NEXT PAGE)



INITIATIVES ACROSS THE REGION



INTERACTIVE MAP. To read more details of each project, click on the title.





FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Strengthening the technological capabilities in the agricultural and livestock industry

ARGENTINA



500 000 USD

AUTHORS

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Bruno Jacquet (CSD/RND),
Carmine Paolo De Salvo (CSD/RND)

THE INTERVENTION AT A GLANCE

This intervention promotes the use and development of new technologies in the agricultural and livestock sector in Argentina, through the improvement of skills in students at agricultural technical secondary schools, and recent graduates from these schools. The beneficiaries of the program receive virtual training on new food technology and mentoring for field technological innovation. Additionally, they participate in digital simulation scenarios of productive challenges and connect with the country's main innovation production ecosystems.

WHAT IS THE CONTEXT?

The Fourth Industrial Revolution has generated a transformation in productive and management processes of the agricultural and livestock industries. New participants have been incorporated into the dynamic, schemes and existing capabilities have been transformed and, therefore, have redefined competitive variables and added value throughout the agricultural supply chain.

To address the labor market demands generated by these changes, young people in rural areas need to develop new skills that will allow them to fully exploit the potential for productive development and generate anchoring within their territory. However, secondary-level agricultural technical and vocational education (ETP in Spanish) in Argentina has not managed to provide the training required for these new key skills and knowledge demanded by this wave of revolution.

As a result, in Argentina there is a gap between the knowledge and skills that young people possess and those demanded by the job market. Thus, it is urgent to ensure that students graduate from secondary education with the cognitive, technical, and socio-emotional skills that allow them to continue learning during their lives and access high quality jobs. Evidence indicates that only 60% of students in Latin American and the Caribbean graduate from secondary school, and of these, only 19% do so with the minimum basic skills needed to progress in future studies or employment (IDB, 2020). The skills of graduates are not only insufficient and unequal but also inadequate to meet new social and labor demands.



Strengthening the technological capabilities in the agricultural and livestock industry



WHAT DOES THE INTERVENTION CONSIST OF?

The technical cooperation project “Strengthening the Technological Capabilities in the Agricultural and Livestock Industry (ETP acronyms in Spanish)” promotes innovation and development in the agricultural sector through technical training of 12,500 students in the last two years of public agricultural technical secondary schools in the country.

WHO DOES WHAT?

- The National Institute of Agricultural Technology (INTA, acronyms in Spanish) is the beneficiary entity, responsible for all the training activities, mentoring, and technical assistance throughout the project, as well as coordinator with the stakeholders involved.
- The ETP sectors of the different provinces facilitate the training offering between the INTA and the schools.
- The private sector participates in the mentoring proposals and integrates digital tools to the simulation proposal.
- The IDB is the executing agency of the project.

WHAT ARE THE EXPECTED RESULTS?

- Implementation of four online training courses (two in 2022 and two in 2023) as part of the professional internships in agricultural technical secondary schools.
- Over the course of the 30-month project, more than 12,500 students from 100 schools out of the total 433 technical secondary schools in the country, and from 6 different provinces will participate.
- A livestock simulation platform will be launched in August of 2023. It will feature four different productive scenarios, that will be operational and available to schools.
- Throughout the project, there will be a systematic selection of prioritized production issues identified by ETP students in their respective territories, along with proposed solutions based on new technologies.

SCHEDULE





Strengthening the technological capabilities in the agricultural and livestock industry



- A collaborative virtual mentoring platform has been implemented, starting from March 2023. This platform serves as a space for coordination and networking to help students secure their first employment and develop new skills.
- Landscape analysis between students and innovative productive ecosystems through the INTA, throughout the project.
- Publication of an impact evaluation with results of the intervention.

WHY IS THIS INTERVENTION RELEVANT?

The agricultural and agro-industrial sector is one of the main drivers of the economy of Argentina. According to data provided by the Foundation for Agricultural Development of Argentina (FADA) in 2021, agro-industrial supply chains represented 25.6% of the GDP and 70% of national exports, as well as generated 24% of private employment in the country. This intervention expands the integration opportunities between the ETP and innovative productive ecosystems, which have rapidly expanded throughout the country. It makes available new food production technology knowledge and learning tools for schools, to provide young people from rural areas with the skills associated with the Fourth Industrial Revolution.

This initiative favors the interaction between the productive sectors, especially the private sector that provides services for the agricultural industry based on new technologies (AgTech) and will improve the academic and employment opportunities for those who graduate from these technical schools.

PARTNERS

National Institute of Agricultural Technology (INTA, acronyms in Spanish)

INNOVATIVE ELEMENTS

- This intervention is pioneer in the country as it includes the curriculum of the last years of agricultural technical studies, the new 4.0 technologies (robotics, sensorization, the Internet of Things, blockchain, biotechnologies, among others) for production, centered in global issues that affect the agricultural sector.
- It recognizes which are the productive problems prioritized by future agricultural technicians in their territories. It offers a local vision of problems and potential solutions that will generate technoproductions, based on the INTA's articulation capabilities, through their presence in the territories and in collaborative online spaces.
- It creates simulation spaces in the formative ecosystems of schools, to incentive the technical analysis and recognize digital tools and applications used in production management for decision making.



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Skills to Access the Green Economy

BELIZE



600,000 USD

AUTHORS

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THE INTERVENTION AT A GLANCE

Due to its high dependence on tourism, Belize's economy was severely impacted by COVID-19. To have a greener, more resilient, sustainable, and job-generating economy, the country is committed to increasing the share of electricity generated from renewable energy sources. To address the skills gap and meet market demand, this intervention will train Belize's workforce with the skills needed for renewable energy jobs and will provide the foundation to enable the country to achieve its target of 85% electricity generation from renewable sources by 2030.

WHAT IS THE CONTEXT?

The transition to a green economy offers the potential to develop a more resilient, sustainable, competitive, and job-generating economy. The Government of Belize has begun transition toward this end, including setting the country's renewable energy target at 85%. A [recent assessment](#) of renewable energy potential in Belize projects that with an aggressive energy efficiency approach, between 7,000 to 12,000 renewable energy jobs have the potential to be created over the next 20 years. The adoption and proliferation of green practices and technologies, along with accompanying jobs, however, require the skills to deliver on their potential to facilitate the transition to a green economy. Belize's 85% renewable energy target presents a jumping-off point for this transition and an opportunity for generating new jobs but requires developing a workforce with the skills for the installation, operation, and maintenance of renewable energy and energy efficiency (RE/EE) infrastructure.

WHAT DOES THE INTERVENTION CONSIST OF?

To harness the potential of renewable energy in Belize, this project seeks to address the renewable energy skill gap and support the industry growth by:

- Developing the first renewable energy certificate program in Belize, being piloted at the Belize City Institute for Technical and Vocational Education and Training (ITVET); and,
- Establishing Belize as a green skill hub within the English-speaking Caribbean region.



To develop workforce-ready graduates, the two-year program combines theory with practical hands-on learning and continuous industry enmeshed that draws from industry experts in design and implementation. Given the infancy of the sector in Belize and the need to transform ITVET education to offer student-centered and applied learning, the project combines the pilot with an intensive 1.5-year teacher training program to develop the necessary technical expertise and improve the approach to teaching. Piloting the renewable energy program at the Belize City ITVET marks the institute's first green skills course offering and the beginning of a broader effort to transform the Belize City ITVET campus into a green skill hub.

In addition to modernizing education and green skill development at Belize City ITVET, the project promotes Belize as an innovation lab for green skill development in the English-speaking Caribbean region. The establishment of a digital platform and community of practice leverages expertise being developed in the country to foster the sharing of knowledge, best practices, and resources and support dialogue across the region for developing skills for the transition to green economies.

SCHEDULE

2023

Fully developed digital platform, with a focus on teaching skills for the green economy (RE/EE), directed at the English-speaking Caribbean.

Qualitative evaluation of the program through learning and teaching quality assessment based on detailed in-classroom observations.

2024

First cohort of 12 students graduate in June 2024 with renewable energy certificates and higher employability prospects, having completed 32 courses in two years across six terms.

ITVET and MoECST continue offering the renewable energy program beyond the pilot stage and expand it to other ITVETs in Belize and other more advanced programs.



WHO DOES WHAT?

- The **Nova Scotia Community College** (NSCC) has developed a two-year renewable energy program and is delivering blended training to course instructors to build their RE/EE (renewable energy/energy efficiency) knowledge and capacity to deliver the courses and supporting program implementation through on-site and virtual coaching.
- NCSS is working closely with the **Belize City ITVET** and the **Ministry of Education, Culture, Science, and Technology** (MoECST) to build capacity to sustain the program offering beyond the pilot period, which is being incorporated as part of the ITVET's regular course offerings.
- **Private sector partners** are involved in the development and delivery of the program to ensure courses align with sector needs and to explore opportunities for internal company training. Key partners include Belize Power Connect Limited (BPCL), providing in-kind equipment and expert visits at classes, and Pro Solar, providing technical guidance and contributions to courses and training.

WHAT ARE THE EXPECTED RESULTS?

This program aims to develop the first renewable energy certificate program in Belize to help close the skill gap in renewable energies in Belize. Expected results include:

- Improved teaching capacity in the country to support the development of skills for the green economy with **six teachers trained through a 1.5-year hybrid teacher training and on-site coaching program**. Trained teachers are able to apply their technical RE/EE knowledge, engage students in inquiry- and problem-based learning, and foster entrepreneurship and transferable skill development. Additionally, trained teachers are able to apply inquiry- and problem-based teaching strategies to their broader course load to improve learning beyond the RE/EE program.
- A **two-year renewable energy certificate program piloted at Belize City** with the MoECST able to continue offering the RE/EE program beyond the pilot stage and expand to other ITVETs in the country.
- **Inaugural 2024 graduating cohort of 12 students** (accounting for 17% of 2022 Belize ITVET enrollees) and subsequent graduating cohorts will have the technical skills and competencies for renewable energy technology installation and maintenance, alongside entrepreneurial skills, to reduce the RE/EE skill gap and support sector growth in Belize.

INNOVATIVE ELEMENTS

- The first renewable energy certificate in Belize has been developed in close collaboration with the private sector to ensure industry-responsive course content and design to improve the employability of graduates.
- The project is upgrading the Belize City ITVET system from traditional basic trades to advanced training and moving beyond simply enhancing technical subject matter expertise to transforming the learning environment through hands-on, learner-centered, inquiry- and problem-based pedagogy.
- The project aims to establish Belize as a regional laboratory for innovation in green skill development. Although some institutions in the region have introduced renewable energy courses to partially address the growing labor market demand, these initiatives are not systematized. With its small population, Belize is the perfect country to develop scalable, adaptable, and transferable renewable energy courses that can be implemented in other English-speaking Caribbean countries, closing the skill gap in those countries as well. The government seeks to leverage its expertise and knowledge to share best practices and promote the development of a sustainable green economy in the region through the launch of a digital platform and the establishment of a community of practice.



Skills to Access the Green Economy



- A **RE/EE teacher training model is available for replication and potential scaling** to train other ITVET instructors in the country, contributing to broader green skill output across the education system, including program curriculum and teaching and learning resources.
- **Establishment of Belize as a regional hub in the English-speaking Caribbean** for skills for the green economy through the development and delivery of innovative and market-driven green skill programs, as well as knowledge sharing through dialogue, resources, and teaching pedagogy.

MAIN ACHIEVEMENTS ACCOMPLISHED UP TO TODAY

- **Launch workshop held in early 2021**, bringing together stakeholders from the MoECST, Belize City ITVET, IDB, and the private sector to inform the preliminary design and outline further research needs.
- **Diagnostic assessment undertaken in 2021**, consulting with private and public sector stakeholders to inform the design of an industry-responsive renewable energy program, including the identification of skill needs in RE occupations and recommendations on course content, equipment, certification, graduate profile, and employability.
- **Marketing and branding toolkit developed, and two workshops held with Belize City ITVET in 2022** to improve ITVET's efforts to promote enrollment in the new RE program.
- **Two-year renewable energy certificate pilot program designed and launched in August 2022**, comprising of 32 courses, and aligned to CVQ and national standards. Course materials continue to be developed for upcoming 2023/24 courses. At the end of the first semester in December 2022, 12 students enrolled have completed six courses.
- **Renewable energy equipment procured in 2022**, including solar panels, irradiance meters, storage batteries, and electrical wiring equipment.
- **Teacher professional development program developed and launched in early 2022**, with regular weekly virtual training sessions and periodic in-person training sessions and on-site coaching. Six teachers that make up the renewable energy program staff continue to participate in the program and are working toward achievement of North American Board of Certified Energy Practitioners (NABCEP) standards.
- **Virtual green skill platform launched in 2022** as a resource- and knowledge-sharing platform to support dialogue and the development of green skills initiatives within the region.
- **Ongoing monitoring and adaptive management**, incorporating monitoring across the project life cycle, including teacher and student feedback, and making program adjustments as needed.



WHY IS THIS INTERVENTION RELEVANT?

This intervention offers the opportunity to develop and implement a modern training program in a small economy such as Belize and to transform the national ecosystem for skill formation that better aligns with the country's needs and commitments. The ITVET program creates graduates with the skills needed to meet market demand and to support the government's transition to a green economy, contributing to meeting national renewable energy targets while helping to reduce the Science, Technology, Engineering and Mathematics (STEM) skill gap in the country.

Additionally, it will adapt an evaluation methodology based on classroom observations that has only been conducted in STEM subjects, transferring it to the field, thus filling the gap in terms of evaluating the quality of education provided and assessing the learning in ITVET.

Stemming from the success of the existing IDB-MoECST partnership for this program, IDB and MoECST are now planning the development of two new green skill programs at the Belize City ITVET to increase the workforce capacity beyond RE/EE and to develop Belize City ITVET as a green skill hub within the country.





FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Virtual platform for agricultural labor training

BOLIVIA



350 000 USD

AUTHORS

Manuel Urquidi (SCL/LMK)

THE INTERVENTION, AT A GLANCE

This intervention promotes the generation and transfer of specific skills to the agricultural sector through a digital system of interactive courses and a content scheme designed to update knowledge in rural areas. By the end of the first quarter of 2023, the project will develop courses in the following areas: management of productive units, poultry production, livestock and dairy production. The main objective is to improve the competitiveness of the sector, environmental sustainability and the resilience to climate change by ensuring the competitiveness and sustainability of agricultural systems according to the needs of the 21st century.

WHAT IS THE CONTEXT?

The agricultural sector in Bolivia is a key contributor to the Gross Domestic Product (GDP) and generates a significant number of jobs. Between 2012 and 2021, this sector accounted for 12.6% of Bolivia's GDP, the highest proportion among the Andean countries (Bolivia, Ecuador, Colombia, and Peru). In terms of employment, it represents an average of 29.7% of the country's formal jobs. Nevertheless, the productivity of the sector is low compared to other countries in the region that produce similar crops to Bolivia. A recent publication by the Inter-American Development Bank (IDB) estimates that the variation in Total Factor Productivity (TFP) in Bolivia's agricultural sector between 2010 and 2016 was the second lowest among the Andean countries. Data from the World Bank shows that, as of 2021, the cereal yield in Bolivia is the lowest among the Andean countries, with 2502 kilograms per cultivated hectare, below Ecuador (which follows with 4419 kilograms per cultivated hectare). The IDB identifies various factors that might explain low productivity levels, including the lack of adequate technology usage and the low education of workers in the sector. Training workers in the agricultural sector would promote the adoption of new technologies, enhance productivity, and create opportunities for sustainable production methods aligned with climate change goals in Bolivia.

The agricultural sector in eastern Bolivia plans to establish an Agricultural Skills Training Center as part of a strategic initiative to enhance production, commercialization, and value chain synergies in the region over the next two years. The initiative aims to enhance productivity, promote wellbeing, drive socioeconomic growth, and foster workforce development and best practices within the agricultural sector, recognizing them as crucial factors for success.



Virtual platform for agricultural labor training



WHAT DOES THE INTERVENTION CONSIST OF?

A virtual job training pilot program is being implemented, offering six courses focused on poultry, livestock, dairy, pig farming, and cotton sectors. The program aims to equip agricultural workers with new skills to improve management and production practices in the sector. Furthermore, it aims to enhance resilience to climate change impacts. In the meantime, multiple experienced service providers have been identified to offer participation certificates in agricultural and livestock training until the establishment of the Agricultural Training Center. The training curricula have been developed collaboratively with the private sector, specifically representatives from 16 sectors associated with the Eastern Agricultural Chamber (CAO, acronyms in Spanish). These curricula prioritize skills identified by employers as highly demanded or difficult to find.

The pilot program is directed to 500 workers or job seekers in the sector, including producers, field workers, owners, and middle managers of agricultural productive units. Each sector selects the instructors and, in some cases, the technical teams, who define and design the contents, which are broadcast through digital content capsules.

During 2022, the project focused on the design of computer-based resources that enable the development of a labor training platform that will allow the implementation of virtual courses, fulfilling the remote accessibility requirements. The virtual courses were designed using a micro-learning framework, consisting of content capsules that focus on specific topics. These capsules are formatted in a way that allows easy accessibility through any electronic device. By 2023, similar versions of the virtual courses on management of productive units will be implemented, with the participation of the local chambers of Cochabamba and Beni.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- A virtual platform has been designed and implemented in order to execute the virtual pilot program for vocational training.
- To the current date, over 700 beneficiaries, including producers, field workers, owners and agricultural productive unit mid managers, have used the platform and have registered for the pilot courses. The completion rate is nearly 50% of participants.
- The “Agricultural and livestock management and administration” course has been implemented. The course has been replicated three more times due to the high demand in these sectors.
- A diverse offering of six virtual courses has been implemented, including topics regarding productivity in the poultry, livestock, cotton production, and porcine animal health and wellbeing sectors.

SCHEDULE

2023

Develop a job seeking proposal for the agricultural sector, initially composed of participants in the skills development courses.

Create a group of teachers to support the skills development provided by the online remote courses.

“Agricultural and Livestock Skill Training Program” sustainability study.

2024

Study the impact of the experience, to identify the effects of the courses on the learning level of participants.

Satisfaction Survey to agricultural business owners.



Virtual platform for agricultural labor training

- The course contents can be downloaded from the virtual platform and are accessible from rural areas, through a digital application designed specifically for this purpose, for easy access to the virtual courses.
- Two technical specialists per sector participated in the definition of the courses to be presented. They provided the content and materials to produce the courses in training capsules in the format, which present the content and practical modules in a suitable format for mobile devices.
- A base line and other monitoring instruments have been implemented to monitor and follow the learning progress of the participants.

WHY IS THIS INTERVENTION RELEVANT?

The development of new skills plays an essential role in the integral and green progress that Bolivia has determined in their plans and agenda for national development. This intervention offers courses for agricultural workers to develop specific skills within their own work scope. It utilizes alternative tools and remote learning, providing content aligned with sector employers' needs. This opens opportunities to recruit new employees with specific skills, improving workforce productivity in the sector, particularly for rural agricultural workers.

WHAT ARE THE EXPECTED RESULTS?

- In 2023, the execution of a course for the dairy sector and the design of a training plan driven by the CAO are scheduled as part of the activities of the Agricultural Training Center. Likewise, a sustainability study of the Agricultural Labor Training Program will be conducted.
- The development of a job placement proposal for the agricultural sector, initially including the participation of the skills development courses.
- Implement replicated versions of the “agricultural and livestock management and administration” course in the departments of Cochabamba and Beni, respectively, including participation of other agricultural chambers, to show national replicability.
- The development of a group of teachers to support the skills training provided by the virtual courses. This group would be composed by the specialists who designed the courses, as well as men and women participants who obtained the highest grades in the courses.

INNOVATIVE ELEMENTS

- The design of an interactive digital course system and a downloadable content structure for workers to update their knowledge in agricultural and livestock rural sectors.
- Good agricultural practices development that improves competitiveness, environmental sustainability and climate change impact resilience.
- Promotion of the transfer of specific skills from the agricultural sector through new technologies to workers in geographically isolated regions.
- Creation of a line of work-skills trainers with the participants in the pilot courses.



Virtual platform for agricultural labor training



- In early 2024, a results evaluation will be carried out to study the effects of the intervention and identify the outcomes of the courses in participants' learning. This analysis will be complemented with a systematization of the experience to describe and analyze the lessons learned regarding the process and identify what worked and what did not.
- Transfer the knowledge and lessons learned to the Ministry of Labor for their analysis, review, and implementation for potential job seekers.
- A satisfaction survey is scheduled to be completed during the quarter prior to the end of the technical cooperation. This will allow the understanding of performance improvements observed in workers within agricultural and livestock productive units.

WHO DOES WHAT?

- The Inter-American Development Bank (IDB) is responsible for the execution of the project, together with the agricultural sector associations of Bolivia. The IDB oversees the virtual platform for the workers training and the production of downloadable content designed for interactive remote courses. On the other hand, the agricultural associations define the contents and skills required by employers.
- The local associations propose the potential candidates to participate in the training courses, they coordinate the course certifications and provide the hosting for the platform and courses, within their current goal and Agricultural Training Center development framework.
- The Eastern Agricultural Chamber (CAO, acronyms in Spanish), in their role as President of the National Agricultural Confederation, impulse and coordinate the execution of the labor training virtual courses at a national level.

PARTNERS

Plurinational State of Bolivia through the intermediary of the Ministry of Planning and Development (MPD, acronyms in Spanish) and the Ministry of Labor, Employment and Social Protection (MTEPS, acronyms in Spanish) and the Eastern Agricultural Chamber (CAO, acronyms in Spanish).



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Modular TVET in Sao Paulo's digital industries

BRAZIL



600 000 USD

AUTHORS

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Graciana Rucci (SCL/LMK)

THE INTERVENTION, AT A GLANCE

The intervention includes an app that aims to spark interest in digital industry careers among secondary school students. The app has two goals: i) recommending career paths based on students' preferences and skills, and ii) providing information on information technologies (IT) careers like mobile app development, data science, and information security. It will also offer video testimonials, employment information, job requirements, and free course sources.

WHAT IS THE CONTEXT?

With the new secondary school reform in Brazil, São Paulo's Secretariat of Economic Development (SDE, acronyms in Spanish) have actively explored innovative approaches to promote technical education, particularly in the digital sector. This sector faces high demand for professionals, but the availability of skilled individuals is limited, leading to challenges for technology companies in talent acquisition. São Paulo alone is expected to account for 36% of the annual demand for 70,000 professionals in Brazil between 2019 and 2024. To improve the labor market and provide access to quality jobs for young people, it is crucial to demonstrate that digital careers offer valuable paths for individuals with diverse skills and educational backgrounds. This approach will not only enhance diversity in the digital sector but also expand opportunities for a wider range of individuals.

WHAT DOES THE INTERVENTION CONSIST OF?

- Facilitate the connection between technical education students and the demands of the productive sector to enhance their responsiveness to the job market.
- Stimulate the students' interest to pursue careers in digital industries by giving them information about the technology industry and the different job opportunities, highlighting the multiple profiles required in the industry.



Modular TVET in Sao Paulo's digital industries



- Provide students with recommendations on the various ways they can acquire the necessary skills for their education and professional success. Through the “Seu Futuro Novotec” application, students have access to a new vocational test, which will provide information about their profiles and professional trajectories based on the test results.
- Promote gender diversity and inclusion within the actions and results of the intervention. For example, target communicational efforts towards afro-descendent girls and monitor if this population is using the application.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- The application has reached 16.507 registered users by June 2023, of which 34.6% of users are between the ages of 15 and 17 years old, and 31% are between 18 and 24 years old. The students evaluated the application with an average grade of 4.3 out of 5 points.
- Out of the 16.507 users, 3072 gave information about their gender, and 3024 gave information about their race. This sample showed that, among those who provided the information, 56.8% identified as women/females, and 54% identified as brown and black.
- The application developed a vocational test to help young people understand which area of technology they can develop in, whether in technical courses, professional qualification or even higher education. The tests reached a scope of 7390 participants. Of those participants, 81% completed the test and 83% of the surveyed participants qualified the application with a score of 7 or above.
- Launch of the Minimum Viable Product (MVP), a minimal version of the product (*app*), built to test the resulting product with the target audience.
- Finalization of the first stage of application development.
- Mobilization of partners and communication for the use of the “Seu Futuro Novotec” application. The conversations were developed through meetings with the contracted company, CIEDS and possible partners. The broadcasting and mobilization of the usage of the application were developed with the specific goal of moving partner institutions that serve young people and generating more strategies to reach the target audience. 33 institutions were identified, 27 dialogues were established, and 23 organizations signed on to the initiative.
- To broadcast and promote the application, a promotional program was presented on YouTube, with the participation of representatives from Inter-American Development Bank (IDB), Itaú Education and Employment (IET), São Paulo's Secretariat of Economic Development (SDE, acronyms in Spanish), Secretariat of Education (SEDUC), Brasscom and the target audience. The objective of the programs was to serve as a broadcasting tool, informing about the project's objectives and reaching students and other interested audiences. Watch the video launch.

SCHEDULE

End of 2023

Launch of the final version of the application.

Evaluation of frequency of use of the application based on user characteristics.

More young people are incentivized and better informed to access high value jobs in the digital industry.



Modular TVET in Sao Paulo's digital industries



- Creation of a classroom plan document for schools and institutions serving a young audience to promote awareness and generate discussions about project-related topics such as technology careers, gender profiles in these careers, self-awareness for selecting courses or schedules, and more. This requirement from the SDE aims to enhance the application's diffusion and usage in educational settings.
- A workshop on Theory of Change of the project was developed together with Clear and Getúlio Vargas Foundation (FGV, acronyms in Spanish), to structure the hypothesis and map out the possible expected results in policies, to formulate value-generating questions that could direct future program evaluation studies.
- An impact evaluation plan was developed by Clear and FGV to present feasible evaluation alternatives. The conclusions drawn from the document's findings and functionality will serve as guidelines for future decisions concerning the expansion of training schedules in other sections of the *App*. Moreover, these findings will inform potential expansions to other federal units or even other countries.
- A workshop was developed with the productive sector to identify the demands for specific competencies in the technology sector, developed by Generation Brazil. The event featured 18 companies based in São Paulo, conducting research on employment challenges for young people in the technology and green sectors. It aimed to identify opportunities, obstacles, and challenges in integrating inexperienced youth into the information technology job market.
- A consulting service was used for the psychometric analysis of the tool with professional interest, to identify valid evidence for the utilized test in the *Seu Futuro Novotec* application.

INNOVATIVE ELEMENTS

- An application designed to incentivize secondary school students to follow careers in the digital industry.
- A digital tool that orients students through vocational tests and gives support on their road to professional education.
- Use of artificial intelligence tools to give students recommendations about their potential career paths and that are aligned with their interests and skills.

WHAT ARE THE EXPECTED RESULTS?

- A second workshop with the productive sector to align digital market expectations with the technical qualifications offered by the State Government of Sao Paulo.
- Develop a document with the results and frequency of use of the application based on user characteristics.
- Young people between the ages of 15 and 24, including secondary school and technical students, who are motivated and well-informed about high-value career opportunities in the digital industry.



WHY IS THIS INTERVENTION RELEVANT?

This intervention provides an opportunity to address the shortage of professionals in the productive sector and helps prepare young people for better job opportunities. The initiative promotes economic and social progress, ease of access and creation of capabilities to adopt digital tools and contribute to more diversity in the information and technology industries. Considering the intervention is based on a digital tool, it is easily scalable to other areas, as well as to other states or countries. In a context of generally low employment, particularly among young people, this strategy can offer alternatives that can enhance livelihoods and boost the country's productivity by strengthening an expanding sector like the digital sector. Additionally, it aims to ensure racial and gender diversity in the utilization of this tool.

WHO DOES WHAT?

- São Paulo's Secretariat of Economic Development (SDE, acronyms in Spanish) oversees the promotion of the application amongst students and other partners offering technical education.
- Itaú Education and Employment (IET, acronyms in Spanish) is responsible for developing the profiling and application tool.

PARTNERS

São Paulo's Secretariat of Economic Development (SDE, acronyms in Spanish), Itaú Education and Employment.



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19



Relink: smart job retraining

CHILE



500 000 USD

AUTHORS

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THE INTERVENTION, AT A GLANCE

Relink seeks to guide and support individuals and companies in Chile in the face of changes in the labor market. To do so, it considers their labor and education history, skills and interests, guiding them towards their job reconversion. The system, integrated into a new taxonomy (MapHa), enables the management of a large volume of data regarding workers and job vacancies. This allows the identification of formative and training routes to close gaps between individuals' current skills and future occupations. This way, Relink proposes training alternatives, whether for specialization or career transitions, to promote worker's development.

WHAT IS THE CONTEXT?

In 2018, several studies for Chile indicated that the digital transformation was underway, and that in the coming years, a job reconversion would be necessary for a large part of workers, generating 2.2 million new jobs that would require new skills (National Productivity Commission, 2018). The COVID-19 pandemic accelerated this process. In response to this reality, Chile has initiated labor market prospecting through the National Labor Prospecting Strategy, which aims to build a prospecting and monitoring system of labor market mismatches to train individuals in the skills demanded by the market and improve labor matching through the National Employment Exchange (BNE per its acronym in Spanish). Relink complements these efforts by providing people with a better job retraining route.

WHAT DOES THE INTERVENTION CONSIST OF?

The Relink platform aims to connect the skills accumulated by individuals throughout their work and formal education experiences with the new labor demands indicated by organizations and different industries. Thus, it guides individuals, firms, and the government towards updating, specializing, and retraining the skills required to switch contexts. This facilitates and shortens the transition between occupations.



Relink: smart job retraining



During 2022, Relink worked closely with 7 companies that completed the process on the platform, obtaining information on the skills gaps of their workers in regard to the future occupational profiles defined by each company. More than 3,470 individuals received a skills diagnosis. Moreover, 6 workshops were conducted with companies to emphasize the importance of recognizing skills for achieving successful job retraining. A total of 30 specific occupational profiles were customized and designed in collaboration with companies based on the occupations available in MapHa, resulting in training proposals with the development of 9 training plans.

In 2023, the Relink platform is integrated into the new MapHa taxonomy. Its use enhances and expands the data structure of this taxonomy, which, in turn, allows individuals to fully recognize the skills accumulated throughout their experiences and how they connect with different occupations in the labor market according to the local context.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- More than 3,500 individuals have received, through the platform, a skills diagnosis, and a skills gaps report with regard to the targeted profile. Out of these 3,500, 1,038 are employees of companies that have collaborated with Relink.
- MapHa: It is Chile's first taxonomy that classifies occupations and identifies skills for the future of work. It encompasses a database of over 3,000 occupations and 14,000 skills, based on ESCO (European Skills, Competences, Qualifications and Occupations) and complemented with those skills that are specific to Chile and are not contained in the taxonomy and ontology identified from the sectoral work with companies and unions.
- Skills identification and updates to complement the MapHa taxonomy in 9 sectors, which has allowed to identify more than 2,300 skills.
- More than 90 future occupations identified with more than 400 skill-based training modules designed for specialization or reconversion projects.
- Launching of 5 sectorial reports and the process of recognizing and identifying skill gaps: technology, maintenance 4.0, advanced manufacturing, supermarkets, and telecommunications.

SCHEDULE

Beginning of 2023:

Liaison work with 9 productive sectors: digital, advanced manufacturing, logistics, maintenance, supermarkets, telecommunications, wood and creative industry.

Start of retraining and specialization evaluation pilot program with 4 companies and 130 workers.

Mid 2023:

Launch of the MapHa portal: Skills and occupations map for Chile.

Implementation of labor intermediation pilot program through the MatchSkills platform.

Design and development of transversal skills for employability model.

End of 2023:

Results of the evaluation of the retraining and specialization pilot.



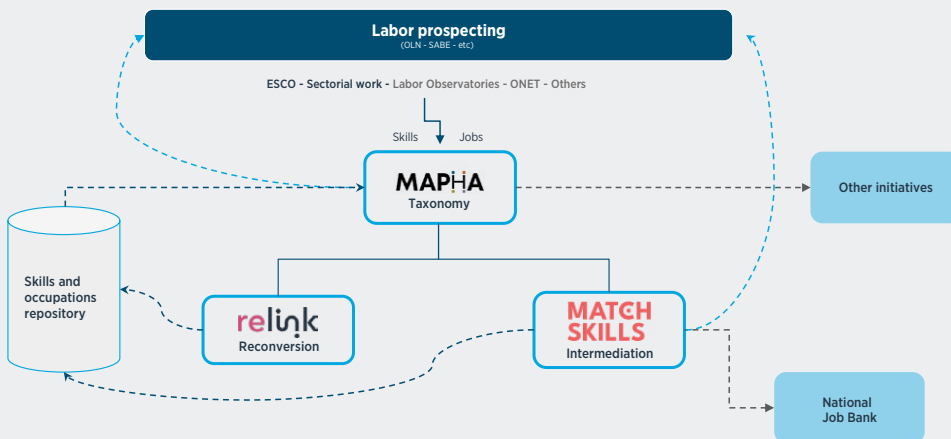
WHAT ARE THE EXPECTED RESULTS?

- More than 90 future occupations identified, with more than 400 training modules associated with formative and training routes for different occupations. As well as, the expansion and assessment of skills for at least two new productive sectors, adjusted to a scenario of technological evolution that enhances future employability
- Implementation and evaluation of four pilot programs for retraining 130 workers in companies that are undergoing transformation and requiring skills recognition and training processes.
- Optimized Relink and MapHa platforms: (1) in terms of performance and data processing capacity, (2) in skills inventorying, predictability of matching against new occupations, and proposing training for skill gaps, (3) in their reporting capabilities for individuals, companies, and public projects, and (4) in the potential for interoperability, consumption, creation, and availability of the MapHa taxonomy.
- Design and development of an intersectoral skills model for employability and productivity, including basic, socio-emotional, and management competencies, aimed at improving workers' career trajectories across different roles and levels, complementing Relink's current service.
- Launch of the new MapHa platform containing the classification of skills and occupations for Chile.
- Pilot implementation of a new job intermediation platform called MatchSkills, based on skills matching between workers and job vacancies. This platform is associated with the Digital Talent initiative for Chile.
- Navigable website for open use of MapHa.
- Launch of labor intermediation platform, MatchSkills, designed, developed and delivered by the National Employment Service.

INNOVATIVE ELEMENTS

- A platform that, based on individuals' skills, previous experience and learning potential, identifies skills gaps with occupational profiles required by the productive sectors. It also offers advice regarding training routes to acquire skills that could increase their employability.
- Training modules to facilitate job retraining, identifying specific skills to each occupation and reducing the training time to achieve occupational profile on demand.
- Collaboration with the private sector by providing opportunities for upskilling and reskilling to their workers and limiting the risk of unemployment for a vulnerable segment of the workforce.
- First skills and occupational taxonomy platform for Chile based on the ESCO classification adjusted to the local reality through sectoral work with companies and unions. This taxonomy has the potential to expand to other countries in Latin America and the Caribbean
- First skills-based labor intermediation portal that allows matching between skills accumulated from workers' training and work experiences, with the skills required by employers.

Ecosystem for labor market intelligence from Relink





WHY IS THIS INTERVENTION RELEVANT?

Relink provides individuals with the best possible information regarding their potential for job retraining and career routes. It supports and guides companies in their digital transformation by facilitating the updating and reskilling processes of their workers. Additionally, Relink enhances the efficiency of training and workforce development resources provided by the government, contributing to the generation of more employment opportunities.

The design and implementation of the new MapHa platform, which is open for public use and reflects the local labor reality along with future-oriented occupations, has the potential to be used not only by Relink, but also by other initiatives in Chile, as well as by other countries of Latin America and the Caribbean. For example, it has the potential to bridge the gap between the labor market and the educational sector, enhance the job selection and matching systems, promote job training based on skills, and enable the development of digital platforms that can leverage this information.

With this initiative, it is expected to generate knowledge and capacities in Chile for the successful labor retraining of individuals. Relink will also contribute to the development of modern technical and professional training ecosystems, with leadership from the productive sectors, providing individuals with the portable skills to have a prosperous career path throughout their lives and thus closing the knowledge gap of job retraining in the skills of work.

Services



Design of occupational profiles



Skills Inventory



Matching potential



Training design

How does Relink integrate with MapHa?



- Uses data with the intelligence of its algorithms
- Stores data regarding adaptations/client transformation of occupations for companies, based on their more specific needs.
- Feeds the MapHa taxonomy.

Stores and allows to update:

- Skills
- Occupations

Potential to be used by other platforms (ex. Job market portals).



WHO DOES WHAT?

Relink is a public-private alliance that seeks to respond to the job market transformation. Considering the great ambition of the project, an extensive network of public and private stakeholders must be developed to integrate both perspectives. The project contemplates a governance system based on a board of directors whose main objective is to strengthen the initiatives' connection with the public and private sectors. The Board of Directors will include the National Training and Employment Service (SENCE as per its Spanish acronym), the Sub secretariat of Labor, Federation of Chilean Industry (SOFOFA as per its Spanish acronym), OTIC SOFOFA and the IDB.

At a strategic level, OTIC SOFOFA and the IDB finance different stages of the initiative. SOFOFA, the Sub Secretariat of Labor and SENCE participate in the Board of Directors. The private sector (unions and firms) is involved in the identification of occupational profiles, inventory projects, and the matching of skills for specialization or job retraining processes.

At an operational level, Relink has a team of experts from the Upskills consulting firm, which manages and administers the components of the initiative and also guides companies in the design and implementation of their training projects and processes.

PARTNERS

Sub Secretariat of Labor, National Training and Employment Service (SENCE as per its Spanish acronym) , Federation of Chilean Industry (SOFOFA as per its Spanish acronym), OTIC SOFOFA - Human Capital, and IDB.





FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Palmipilos: employment and educational prospects for young people

COLOMBIA



600 000 USD

AUTHORS

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THE INTERVENTION, AT A GLANCE

Through the training of students in developing skills the regional job market requires, the Palmipilos program addresses the issue of youth unemployment and the lack of access to higher education for young people. To achieve this, it provides relevant technical training to enable them to quickly transition into the workforce or continue their higher education studies through the credit validation process starting from their school stage.

WHAT IS THE CONTEXT?

Palmira, the twentieth largest city in Colombia, surrounded by six sugar mills that generate employment and offer a wide range of technical, technological, and professional opportunities. Compared to other cities, Palmira achieves the best results in the standardized tests conducted at the national level. However, in 2020, young adult unemployment rates reached 33% (6% above the national average), its net educational coverage is 48% and only 21% of students that complete their secondary school education access higher education. Palmira is an ideal scenario to implement a technical education pilot program that will allow students to improve their quality of life and their early integration into the job market or to higher education institutions.

WHAT DOES THE INTERVENTION CONSIST OF?

The Palmipilos program aims to provide high-quality technical programs that meet the human capital needs of the agro-industrial sugar value chain. The programs provide technical content with activities to level basic skills, anti-dropout strategies, development of socio-emotional and job-related skills and internships structured at local companies.

In addition, the program facilitates access to higher education for students within the program through agreements with local universities and technical institutions of higher education through secondary school credit validation and having a closer relation with professors and the methodologies of these higher education organizations. The program consists of implementing 5 technical programs at 8 public secondary schools in Palmira.



Palmipilos: employment and educational prospects for young people



Also, this initiative allows continuous dialogue and articulation between the productive sector demands, the public secondary school education offered curriculum and higher education. Since the program's design, different communication spaces have been created between different stakeholders, discussion boards with the productive sector have been implemented, strengthening the spaces and instances of exchange.

To ensure project sustainability, the program will also reinforce pedagogical strategies, align with institutional educational projects, and train educational professionals focused on developing socio-emotional skills and pedagogies centered around entrepreneurship. Moreover, it finances the adaptation and provision of learning environments where students can practice the theoretical learning they've received in the classroom. The implementation experience will allow the lesson establishment and will define strategies for model replicability in other schools of the city.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- 48 teachers have been formed in pedagogical strategies focused on innovative methodologies of Project Based Learning (PBL), with the purpose of guiding the project development in the sugar industry and in the development of socio-emotional skills.
- Two higher education institutions linked to the project are working together with each other and the municipality's Secretariat of Education, designing programs to offer at public schools, with professors of these institutions and willing to do credit validation from schools.
- Strategies and programs that reinforce technical formation in the eight schools which are developed and implemented by the agreement between the Pontificia Bolivariana University (UPB, acronyms in Spanish) and the Instituto Agrícola Técnico Instituto (ITA, acronyms in Spanish).

SCHEDULE

Beginning of 2023

Educational and learning environments hiring process.

Mid 2023

Competencies certification ceremony after the first formation semester.

Adaptation and equipping of laboratories as learning environments completed in the eight schools.

Students begin internships at local companies or production projects in response to the local industry needs.

End of 2023

Students graduate from the program.

Program evaluation results.



Palmipilos: employment and educational prospects for young people

WHAT ARE THE EXPECTED RESULTS?

- Approximately 600 students with a competencies certificate validated by UPB and ITA (June, 2023).
- Complete the equipment and establishment of laboratories as a learning environment in the eight schools (September 2023).
- Approximately 600 students are expected to graduate from Palmipilos (December 2023).

Once students complete their internships at local companies (Second semester, 2023):

- Lower dropout rates among the enrolled students.
- Higher expected employment rates as students improve their skills, which are aligned with the local productive sector.
- Quantitative and qualitative impact evaluation results of the program to be analyzed by evaluating socio-emotional skills and employment perspectives (December 2023).
- Distribution of lessons learned document during the design and implementation of the intervention.

INNOVATIVE ELEMENTS

- High quality technical professional development pilot program, aligned with the needs of the sugar industry value chain.
- It is the only program in Palmira that offers technical professionals with software development and multimedia knowledge for the sugar industry, goods and services business logistics, cooking and restoring, and agricultural production.
- An innovative model that provides ease of access to higher education for students from vulnerable environments.
- Improved employment trajectory for recently secondary school graduate students offering programs accordingly.





Palmipilos: employment and educational prospects for young people



WHY IS THIS INTERVENTION RELEVANT?

This intervention will improve the quality of life of many recently graduated secondary school youth in the city of Palmira, as it will provide the opportunity to further their higher education studies and graduate with the skills, knowledge and competencies required in one of the most important economic sectors and with higher development projections of the Valle del Cauca department.

WHO DOES WHAT?

- The Palmira Mayor's office implements the program directly, incentivizing dialogue between the stakeholders and adjusting the educational programs for secondary school students in their schools.
- The Cali Chamber of Commerce, the Colombia Sugar Cane Growers Association (Asocaña), The Colombian Association of Cane Sugar Producers and Suppliers (Procaña), the Colombian Cane Sugar Center for Research (Cenicaña), Manuelita Sucroal Mill, Nutresia and Celsia, the energy company, support in identifying the needs for human capital in the sugar industry, validate the formation programs content in order to guarantee the alignment with local industry needs, as well as to identify and offer internship opportunities for recent program graduates, and support the use of supplies that strengthen the intervention. The IDB finances the program through a Multidonor Fund for the Technical Education Transformation in Latin America and the Caribbean, and manages the technical support, as well as closely overseeing the project implementation.
- The temporary union of the UPB and the ITA allows the offering of technical programs with their corresponding professors and are responsible for giving students the formation they need to complete their high school education.
- The Palmira technical team in the field is closely connected to the articulation learning board and the Luker Foundation. This collaboration ensures the effective mitigation of execution issues, fosters dynamic learning curves in each program phase, and contributes to impactful outcomes across different regions of the country.
- The Vice Ministry of Higher Education of Colombia is presenting the Palmipilos program as a reference for new building public policies that the National Government is currently working on, to impulse promotion and articulation programs in technical matters with technical professionals.





Palmipilos: employment and educational prospects for young people



PARTNERS

Local Government of the city of Palmira (Office of the Mayor), Chamber of Commerce of the city of Cali, leading companies and associations from the sugar cane industry -Cenicaña, Asocaña, Procaña and Ingenio Manuelita-; National ONGs, Luker Foundation and Corona Foundation- and Colombia's National Learning Service (SENA).



[Access video here](#)



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

More and better jobs for teenage and vulnerable mothers

COLOMBIA



500 000 USD

AUTHORS

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Juliana Sánchez (SCL/LMK)

THE INTERVENTION, AT A GLANCE

The Juanfe Foundation (FJ, acronyms in Spanish) provides the 360 Model for teenage mothers, offering training in technical and soft skills, along with psychosocial support and job placement assistance. The impact evaluation of the 360 Model shows increased job income and employment opportunities for participants. This intervention aims to enhance the model, enabling adolescent mothers to access higher-income occupations and high-demand sectors that would typically be out of their reach.

WHAT IS THE CONTEXT?

FJ's beneficiaries, primarily mothers, face limited employment opportunities in sectors like hospitality, tourism, and beauty that were severely impacted by the pandemic. Additionally, confinement has increased the risk of abuse and domestic violence. To address these challenges, the intervention model needs to be strengthened. This involves redirecting training towards emerging sectors with better job prospects, reinforcing psychosocial support, and enhancing the pedagogical model to provide essential skills and 21st-century skills to a highly vulnerable population with low levels of education.

WHAT DOES THE INTERVENTION CONSIST OF?

- Strengthen the pedagogical model of the FJ components by: i) developing 21st century and core skills (for example, software development, healthcare management, and technology management); and ii) psychosocial support.
- Reorienting the training towards occupations in high-demand and high-wage sectors such as the technology development sector.
- Implement a pilot test of the strengthened model and evaluate the adjusted model based on employment, formality, and income indicators of the beneficiaries.
- Develop a cost-effectiveness analysis of the model.
- Develop an analysis of the scalability opportunities at a national and international level.



More and better jobs for teenage and vulnerable mothers

WHO DOES WHAT?

- The FJ leads the test reinforcement and implementation of the model's adjusted pedagogical pilot program, giving training within emerging occupations, psychosocial support, sexual and reproductive health support, and job insertion services for adolescent mothers.
- The Latin American Center for Business Sustainability (Clase, acronyms in Spanish) supports the human and productive resources reorganization, and the transformation of the employment office at the Center for Employment and Opportunities (CEO, acronyms in Spanish) of the FJ.
- The University of los Andes, Laura Liévano (PhD candidate), and the London School of Hygiene and Tropical Medicine support the design of strategies for the management and prevention of sexual and domestic violence.
- The Center of Integral Psychology (CPI, acronyms in Spanish) trains the psychosocial team and builds the guidelines for the intervention regarding the most important problems that these young women suffer (suicidal thoughts, depression, anxiety, behavioral disorders, among others).
- Profamilia leads the strengthening of sexual and reproductive rights in the 360 Model.
- Private sector partners support by identifying post pandemic emerging occupations and highly demanded skills. This information directs the training of adolescent mothers based on the needs of businesses.



SCHEDULE

First semester 2023

New pedagogical model pilot program

First semester 2024

Evaluation of the new pedagogical model pilot program will provide data regarding employment status, employment formality and income level of beneficiaries.

Cost effectiveness analysis of the new pedagogic model.

Study regarding scalability strategies and export possibilities of the intervention model at a national and international level.



More and better jobs for teenage and vulnerable mothers

WHAT ARE THE EXPECTED RESULTS?

- A pilot evaluation of the new pedagogical model will be implemented in the FJ.
- A pilot evaluation of the new pedagogical model will provide evidence regarding employment opportunities, employment formality and income of the beneficiaries.
- Cost effectiveness analysis of the new pedagogical model.
- An evaluation of the possible intervention scalability and export possibilities of the model at a national and international level.
- Design and implementation of a new technical-labor management training program with emphasis on technology in Cartagena.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- New training programs have been established in emerging sectors with high labor demand, thereby expanding job opportunities that offer higher income levels.
 - New training program on software development. Two training groups were initiated with 65 young participants.
 - Commercial and Service Support training, with 37 young participants.
 - Healthcare management training, with 52 young participants.
- New alliances were developed with the private sector to guarantee formative internships and trainings in software development for young students. 39 women from the first group began their internship at companies such as Renting, Tigo, Bex Technology, Bgt Pactual and Sodexo.
- The intervention was reinforced in human and productive development areas, sexual and reproductive rights, and gender-based violence prevention.
- A document was created identifying different sectors and emerging occupations in the job market of Cartagena and Medellin.
- Reinforcement of the pedagogic model components through FJ internal and external focus groups.

INNOVATIVE ELEMENTS

- The program is oriented to the transformation of jobs traditionally fulfilled by adolescent mothers, and designed so that they can access job opportunities with higher income expectations in high demand sectors.
- The offered technical education is a complete package that includes 21st century skills development and psychosocial support for a population with multiple dimensions of vulnerability: women, youth, mostly Afro-descendant single mothers, of low-income level.
- The intervention has been adapted to the restrictive job opportunities due to COVID-19, including virtual remote modules.
- The intervention is evaluated to determine the return on investment for the public sector as well as the private sector, resulting in a scalability proposition with blended financial sources.



More and better jobs for teenage and vulnerable mothers



WHY IS THIS INTERVENTION RELEVANT?

This intervention promotes access to better job opportunities for a population that is traditionally excluded: adolescent mothers who, in most cases, correspond to a low-income, low educational level, ethnic minority. This intervention is aligned with the gender and diversity agenda of the IDB, and supports actions that strengthen social, economic, and productive empowerment of young afro-descendant women. This project also provides the opportunity of creating a pilot and evaluation process of the new pedagogic model designed to allow traditionally excluded social groups to find high quality jobs, with academic, social, and economic growth possibilities, and good long term job growth opportunities. It is also important to highlight the supplies this project will provide towards studying and defining strategies for scalability and exporting the model at a national and international level.

PARTNERS

Juanfe Foundation (JF, acronyms in Spanish), Latin American Center for Business Sustainability (Clase, acronyms in Spanish), University of Los Andes, London School of Hygiene and Tropical Medicine, Center of Integral Psychology (CPI, acronyms in Spanish), Profamilia.

RELATED PROJECTS

- Employment Policies Strengthening Program (CO-L1250, CO-J0010).
- Public Private Financing for Juvenile Employment in Buenaventura (CO-T1642).



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19



Public-private alliance for juvenile employment in Buenaventura

COLOMBIA



400 000 USD

AUTHORS

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THE INTERVENTION, AT A GLANCE

EmpleaTura is a technical education training program for vulnerable youth in Buenaventura, Colombia. The initiative aims to integrate young people in high-quality jobs in sectors of high productivity, such as the port sector, commercial logistics and business process outsourcing. The private sector is involved with the training of young people through their participation in the design of training curricula to ensure its relevance, alignment with their needs and facilitate employability of young people. Additionally, the initiative develops innovative tools to scale training services and secure funding from public and private sector. For example, the return on investment in training is measured for employers and students.

WHAT IS THE CONTEXT?

Buenaventura is a municipality that faces significant challenges in key social and economic indicators of Colombia. In 2018, while the incidence of multidimensional poverty in Colombia was 19.6%, in Buenaventura it reached 41% (DANE 2018, CNPV). In 2021, while the national unemployment rate stood at 13.7%, the unemployment rate in Buenaventura was 27.9% (DANE 2021, GEIH).

Within this context several diverse local and regional initiatives have emerged to promote access to high-quality jobs, especially among the youth population. EmpleaTura takes it a step further developing a sectoral training strategy, aimed at individuals with low educational levels, providing them with training for high-quality jobs in specific industries or occupational clusters, with high labor demand and opportunities for career development.

EmpleaTura presents a strategy that seeks to create a successful long term job trajectory for young people in this region of Colombia. The program is based on evidence from experimental evaluations indicating that sectoral training programs lead to sustained increases in beneficiaries' income over time. This is achieved through an increase in the likelihood of employment and access to better salaries associated with occupations in dynamic high-income industries (Katz, 2008).



Public-private alliance for juvenile employment in Buenaventura

WHAT DOES THE INTERVENTION CONSIST OF?

- Identify sectors with the potential to generate high-quality employment in Buenaventura and offer customized training that meets the needs of the productive sector.
- Promote a public-private partnership for sector-specific training for 250 vulnerable youth, that will allow them to access successful long-term career paths. Three programs will be developed: (i) granting a technical degree in port labor, (ii) a technical degree in logistics, and (iii) business process outsourcing. The first two will have a duration of one year, with six months dedicated to theoretical topics and another six months for practical internships. The business process outsourcing program will have a duration ranging from two to ten months depending on the participant's English proficiency level (A1 lasts 10 months, A2 last six months, and B1 lasts two months).
- Evaluate the return on investment for beneficiaries and the productivity gains for employers in order to determine the feasibility of scaling up this type of model to a public-private collaboration as a public policy.

WHO DOES WHAT?

- ProPacífico is the executing entity of the project, which coordinates the private partners involved in the intervention.
- The Social Security Management entity Comfenalco Valle designs the training curricula and provides training to the youth.
- The Chamber of Commerce of Buenaventura leads the management of business alliances and facilitates the placement of young people in high-quality jobs.
- The University or Research Center: will evaluate the model through estimating the return on investment.

WHAT ARE THE EXPECTED RESULTS?

- At least 250 young beneficiaries in the vocational training program aligned with the needs of the productive sector.
- With a dropout rate of technical education programs in Colombia of over 46%, this intervention aims for expected graduation rates of 86% and a job placement rate of 60%.
- Estimation of productivity gains for employers and labor income for young people.

SCHEDULE





Public-private alliance for juvenile employment in Buenaventura



- Design of the public-private financing model and analysis of its viability for scaling up as public policy.
- Installed capacity in the Chamber of Commerce of Buenaventura to facilitate the scaling of the project in the region.

WHY IS THIS INTERVENTION RELEVANT?

Sector-specific training can significantly improve the career trajectory of vulnerable youth by integrating them into high-productivity sectors and high-quality jobs. However, given the intensity of this type of training, its financing and sustainability can present significant challenges during implementation. Therefore, in addition to developing a sector-specific training program, this intervention seeks to explore opportunities to ensure its sustainability through public-private financing.

Through this pilot and the measurement of the return on investment in training, sufficient evidence will be generated to guide local and national authorities in public policy decision-making to achieve job inclusion for this difficult to allocate population.

Generate installed capacity in the region thanks to knowledge transfer to the private sector partners, especially the Chamber of Commerce of Buenaventura, a key stakeholder able to identify sectors with high employment potential in the city and provide opportunities for young vulnerable people by replicating the sector development model.

PARTNERS

ProPacífico, The Social Security Management entity Comfenalco Valle, The Chamber of Commerce of Buenaventura.

INNOVATIVE ELEMENTS

- Youth in poverty and vulnerability will have access to sector-specific technical education training with the opportunity to enter the job market in high-demand sectors with competitive salaries.
- An evaluation of the return on investment will be conducted to determine the benefits for participants and the gains in productivity for the private sector. This evidence will support public policy decision-making that allows for the scaling of these types of interventions.



Public-private alliance for juvenile employment in Buenaventura



RELATED PROJECTS

The following projects also focus on training vulnerable individuals:

- CO-T1595 “More and Better Jobs for Teenage Mothers in Vulnerable Conditions”
- CO-T1668 “Sandbox: Developing creative talent to diversify job opportunities in Colombia.”



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Sandbox - Audiovisual Developing creative talent to diversify job opportunities in Colombia

COLOMBIA



1 050.000 USD

AUTHORS

Fernandez Coto, Raquel Auxiliadora (SCL/EDU),
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THE INTERVENTION, AT A GLANCE

The Inter-American Development Bank, the Ministry of Culture of Colombia and Netflix join forces to invest in the future of creative talent in Colombia, providing training and support to vulnerable youth, providing training and support to young people in vulnerable situations in some of the districts with highest poverty rates and presence of armed conflict. The goal is to facilitate their access to employment opportunities in the audiovisual industry. This collaboration promotes an innovative public-private partnership program under the label “Sandbox-Audiovisual” that aims to inspire other countries interested in investing in their creative talent in this industry.

For its implementation, the project has renowned allies in the audiovisual sector such as: the Colombian Academy of Films Arts and Sciences, Crehana, Media Factory and Congo Films. It also includes other supporting organizations that promote broadcasting, such as: District Cinematheque of Bogota, the Arts District Institute of Bogota, She Is Foundation, Detonante, Algo en Común, SocialLab, GirlUp, Hack Málaga, and the Autonomous Western University.

WHAT IS THE CONTEXT?

In 2019, \$5,7 million was invested in audiovisual productions, driving the creation of over 1.6 million direct and indirect jobs in the region. In Colombia, the export of audiovisual services grew 20% annually between 2013 and 2018, resulting in \$48.2 million exports in 2018, placing Colombia as the fourth country with highest exports in Latin America and the Caribbean. The industry employed 71,702 people in Colombia in 2019 and it is projected to reach 1% of the global audiovisual market within five years. However, this industry faces challenges in the country due to a lack of human capital to successfully fill job vacancies. The strong national political commitment and growth potential of the sector have attracted significant players like Netflix to invest in Colombia. Between 2014



Sandbox- Audiovisual

Developing creative talent to diversify job opportunities in Colombia

and 2021, Netflix invested over \$175 million in the production of audiovisual content in Colombia and aimed to produce 30 new local series, films, documentaries, and specials between 2021 and 2022. Additionally, Colombia has identified the industry as a source of opportunities for its youth, who currently represent 25% of the population (12.4 million) and experienced an increase in the unemployment rate from 15.9% prior to the COVID-19 crisis in 2018 to 25.3% in 2020.

WHAT DOES THE INTERVENTION CONSIST OF?

The Sandbox-Audiovisual aims to empower young people to be the main actors in the productive development and cultural transformation of Colombia to consolidate the audiovisual ecosystem with a strong focus on social equality. The objective is to provide training and support to vulnerable young people to gain access to growth opportunities in the audiovisual industry, taking advantage of its job creation potential. This pilot will benefit 1500 vulnerable youth (Afro descendant, indigenous population, women, immigrants, and the LGBT+ community) between the ages of 18 and 30 years old within six priority districts in Colombia (Cauca, Chocó, La Guajira, Putumayo, Sucre and Cundinamarca, Bogotá D.C), this last one is where 90% of the productions are developed in. The program has a special focus on gender and its objective is to reduce the gender gap in the audiovisual sector in Colombia.

The project will be developed in four stages:

- 1. Lights:** to be able to motivate more than 1500 young people in the national territory, through stories, sharing the potential of job opportunities that exist behind cameras.
- 2. Camara:** offer 750 young people specific technical training in the audiovisual sector and 21st century skills through the EdTech platform.
- 3. Action:** together with producing firms and local professionals, offer practical training and internships at production firms being developed in Colombia for over 1000 young people.
- 4. Roll:** Offer young people a mentorship program where key stakeholders of the industry will support the young people through connecting to entry level job opportunities in the continuously growing audiovisual industry in Colombia.

WHO DOES WHAT?

- Partner 1:** IDB (Division of Education, project executor, in collaboration with the Labor Market Division (SCL/LMK) and the Culture and Creativity Unit (ICC/KIC). The IDB leads the design and implementation of the Sandbox and supports the consolidation

SCHEDULE





Sandbox- Audiovisual

Developing creative talent to diversify job opportunities in Colombia

of the local educational production and audiovisual ecosystem. It also ensures technical support to guarantee the participation of prioritized populations and quality implementation. Additionally, the IDB is responsible for the evaluation and dissemination of lessons learned, with the potential for scaling up and replication in Colombia and/or other countries/contexts.

- **Partner 2:** Netflix co-finances the project with a contribution of USD \$300,000, validates the training needs of the industry for the design of the training offer, provides internship opportunities for beneficiaries to have a real experience within their productions, and contributes to identifying and mobilizing other key players in the entertainment industry to contribute to the project.
- **Partner 3:** Ministry of Culture of Colombia is the project beneficiary, responsible of supporting the identification of competency gaps in the audiovisual sector, project socialization through their network of stakeholders within the territory and the incorporation of other public sector actors within the sandbox.

WHAT ARE THE EXPECTED RESULTS?

- 1,500 trained vulnerable youth (Afro descendant, indigenous population and women, immigrants, LGBT+), with opportunities to access the job market through the audiovisual industry.
- 100 young people with internships at Netflix.
- Developed mentorship program to promote educational and career trajectories in the audiovisual sector.
- Impact evaluation (qualitative and quantitative), evaluated at a perceptions, learnings, and employability level of participants.

WHY IS THIS INTERVENTION RELEVANT?

- It exposes the social and economic value of careers in the cultural and creative industries, inspiring young people to expand their development trajectories.
- It exposes young people to practical training and internships in the audiovisual sector, with the possibility of connecting with local producers and expanding their future employment options.

INNOVATIVE ELEMENTS

- The first pilot project for the development of creative talent in Colombia carried out through a public-private collaboration in partnership with one of the globally renowned talent development streaming platforms (Netflix).
- Training in technical skills and 21st century skills for entry-level positions in the audiovisual industry, combining virtual and in-person learning; and practical training and internships in real productions. Content validated by industry experts and student mentoring by leading audiovisual industry professionals.
- Inclusive approach targeting populations in vulnerable conditions who are typically excluded from the industry, aiming to integrate new voices such as women, Afro-descendant communities, indigenous people, and members of the LGBTIQ+ community.
- Project derived from a knowledge product “Behind the Scenes: Creativity and Investment for Latin America and the Caribbean: Lessons learned from a conversation with key voices in the audiovisual sector,” which enhances the connection between theory and action.
- It has a rigorous impact evaluation (qualitative and quantitative), which will measure the impact of the interventions on participants’ perceptions, learning and employability, as well as the project’s potential for scalability.



Sandbox- Audiovisual

Developing creative talent to diversify job opportunities in Colombia

- It is an innovative project, developed together with the industry. It has a rigorous impact evaluation process that will allow to measure the impact and lessons learned to be replicated in Colombia and/or other contexts.
- Develops a public-private collaboration between the IDB and Netflix, uniting resources from both sides. It is also conceived as a solution to closing the identified gaps through the creation of knowledge between both organizations.
- It is an example of internal communication between the IDB divisions (Social Sector, Education and Job Markets Division, and the Culture and Creativity Unit).

PARTNERS:

- Partner 1: Inter-American Development Bank (IDB), through the Education Division (EDU/SCL), The Job Market Division (LMK/SCL) and the Culture and Creativity Unit (ICC/KIC).
- Partner 2: Netflix
- Partner 3: Ministry of Culture of Colombia



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19



Support for the transformation of professional training

COSTA RICA



300 000 USD

AUTHORS

David Rosas (SCL/LMK),
Sofía Yglesias (SCL/LMK)

THE INTERVENTION, AT A GLANCE

The Costa Rican labor market has shown signs of recovery after COVID-19. Although unemployment has decreased compared to the pre-pandemic levels, it remains higher than the regional average. In this context, improving workforce skills is crucial to restore employment levels. This intervention supports the efforts of the National Learning Institute (INA, acronyms in Spanish), the country's most important vocational training institution, to improve the relevance and quality of its offerings.

WHAT IS THE CONTEXT?

To address and improve their employment situation, the Costa Rican government is implementing different measures to generate job insertion and reinsertion opportunities. The National Learning Institute (INA, acronyms in Spanish) plays a key role in this project but faces significant limitations in terms of relevance and the quality of its offerings. Currently, only 39% of their graduates with no prior work experience have been able to secure employment. These results can be attributed mainly to a weak connection with the productive sector, inadequate competency development and curriculum, lack of a clear profile for teachers outlining required competencies and their own possessed competencies, deficient evaluation mechanism, limitations of their institutional management model, and their Educational and Information Management Systems (SIGED, acronyms in Spanish). To tackle these issues, in January of 2021, a new more efficient management system was adopted which was aligned with Revolution 4.0. Also, in 2022, the institution moved towards developing actions that would improve the pertinence and quality of their educational offerings.



Support for the transformation of professional training

WHAT DOES THE INTERVENTION CONSIST OF?

Support the INA transformation process to improve the relevance and quality of their educational offerings and the efficiency of their management system through:

1. Updating and improving the institutional model and the SIGED of the INA.
2. Training teachers to improve their skills and the quality of the education they are providing.
3. Support the design of a new model of interaction with the productive sector, using the supply chain methodology. This methodology is used to identify roles, competencies, and qualifications within a supply chain together with the productive sector, to develop or improve the educational offering according to the elaborated qualifications and formative trajectories within the supply chain. A fundamental part of this initiative is developing a pilot program in three economic sectors: agroindustry, information technology (IT) and tourism. This way the model will provide the supply for an updated educational offering by INA.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- The SIGED of the INA was updated.
- Recommendations were made to improve the management model of the INA.
- 25 INA teachers (2% out of the total of INA's instructors), participated in a pilot training program of 215 hours, with a learning methodology based on projects/problems (ABP) adapted to their needs. The process began with a needs assessment. During the training each of the five working groups developed a project using the new pedagogical tools and methodologies. The five projects were: (i) digital evidence portfolio; (ii) digital toolbox for teachers on active learning; (iii) Use of the ABP methodology in a specific course; (iv) implementation of the flipped classroom methodology; (v) compilation of "best practices" in the cooperation with the job market for the INA. Several of these projects were incorporated into the formal teacher training processes of the INA.
- A qualitative evaluation of the pilot was developed that demonstrated the effectiveness of the intervention to identify and develop improved docent and educator capabilities within the INA. This evaluation is useful for the INA as a decision-making tool with updated information.
- Training-Laboral routes were designed for the three participating economic sectors, using the supply chain methodology, which was validated by 20 chambers and associations, 20 small and medium businesses, and more than 25 technical workers and professionals. The respective qualitative standards were also approved.

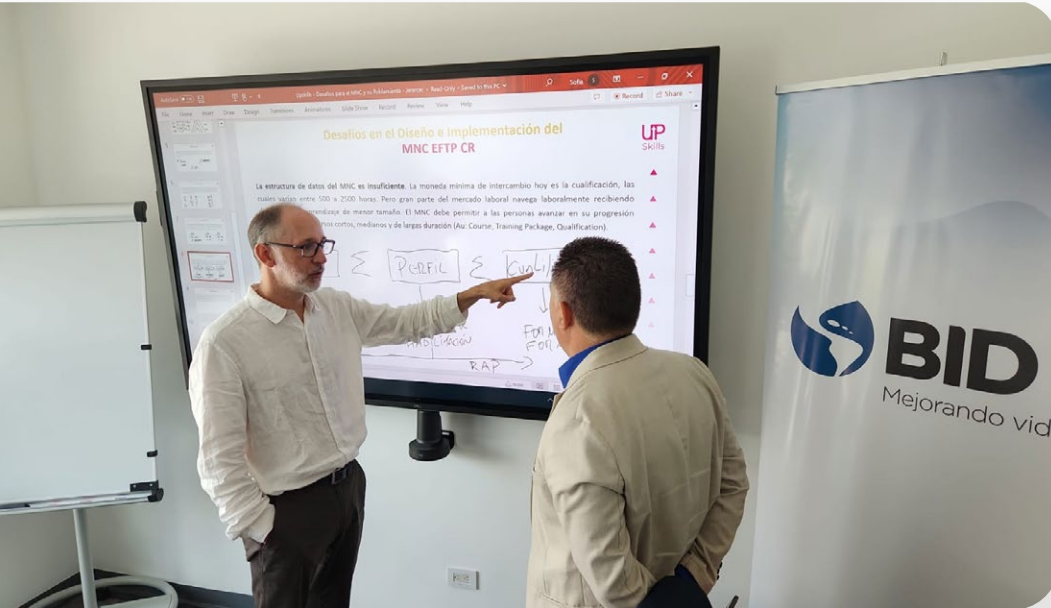
SCHEDULE

2023

Development of three new curricular offerings for the agroindustry, information technology and tourism industries.



Support for the transformation of professional training



INNOVATIVE ELEMENTS

- New professional development model based on the interaction with the productive sector.
- New teacher training model based on a project-based learning methodology. Improvement of the institutional management model and the Educational and Information Management System (SIGED, acronyms in Spanish) implemented by institution staff under expert supervision.

WHY IS THIS INTERVENTION RELEVANT?

This intervention supports the development of professionals in the most important institution of Costa Rica, which is key for the economic reactivation and post pandemic employment recovery. Even though this type of institution in Latin America and the Caribbean is known for their broad scope, due to the large number of resources it manages and the ample service variety it offers, (development, entrepreneurship, certifications, labor mediation), their offerings usually present certain limitations in terms of quality and relevance. Due to this, the INA transformation will be an example for similar institutions aiming to improve and strengthen their professional development.

WHAT ARE THE EXPECTED RESULTS?

- Sectorial governance functioning in three sectors (agricultural industry, tourism, and information technologies), sectorial occupational pathways designed and validated, and identified occupations.
- By 2023, the complete development of three curricular offerings (one for each sector) is expected.
- By 2023, an improvement in the relevance and quality of the training offerings of INA is expected.



Support for the transformation of professional training



WHO DOES WHAT?

- The company Upskills supports the INA with the design of the new model for interaction with the productive sector, and the implementation of the pilot model.
- The University Consortium HAMK/Novia developed a training course with 25 teachers using the project-development based methodology.
- An array of experts contributed to the analysis of results of the teacher training program and offered technical support to the INA team in charge of improving the SIGED and the institutional management model.



PARTNERS

National Learning Institute (INA, acronyms in Spanish).





FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Certifications for Industry 4.0 in the Post-Pandemic Era

COSTA RICA



700 000 USD

AUTHORS

María Loreto Biehl (SCL/EDU)

THE INTERVENTION, AT A GLANCE

The education system in Costa Rica, a country that aspires to lead the way in taking advantage of digital technology, has traditionally shown weaknesses in providing young people with relevant skills for the labor market. This intervention seeks to contribute to the improvement of young human capital and their employability, ensuring that students in the public system graduate with certifiable skills recognized by the industry.

WHAT IS THE CONTEXT?

57% of Costa Rican employers state that young people are not fully prepared to enter the labor market and 35% report facing difficulties filling their job vacancies. These numbers demonstrate the urgency to equip young people with relevant technical, soft and digital skills, and to provide students with valid certifications recognized by the labor market. However, the country does not have mechanisms to offer these certifications to students in secondary education. In addition, there are no hybrid educational models (combination of remote and face-to-face education) to ensure educational continuity. This poses an even greater challenge for technical training, whose focus on hands-on learning further complicates remote learning.

WHAT DOES THE INTERVENTION CONSIST OF?

- Develop and implement a certification model in technical secondary education, which serves young people between the ages of 15 and 18, offering industry-validated certifications in the areas of Industrial Electronics, Web Development and Configuration, and Support for Communication Networks and Operating Systems. The program also supports the creation of a certification center in the province of San José.
- Implementation of a Hybrid Pedagogical Model for the development of certifiable skills, allowing students to obtain industry-recognized certifications.



Certifications for Industry 4.0 in the Post-Pandemic Era

WHO DOES WHAT?

- The Omar Dengo Foundation will develop the certification model and, in coordination with the Ministry of Public Education, will be responsible for teacher training. In addition, it will operate the Certification Center.
- Cinde will bring together the most important companies in Costa Rica and mobilize them continuously to validate and update certifiable skills and certifications.
- The IDB will offer technical support, monitor the implementation and evaluate the project.

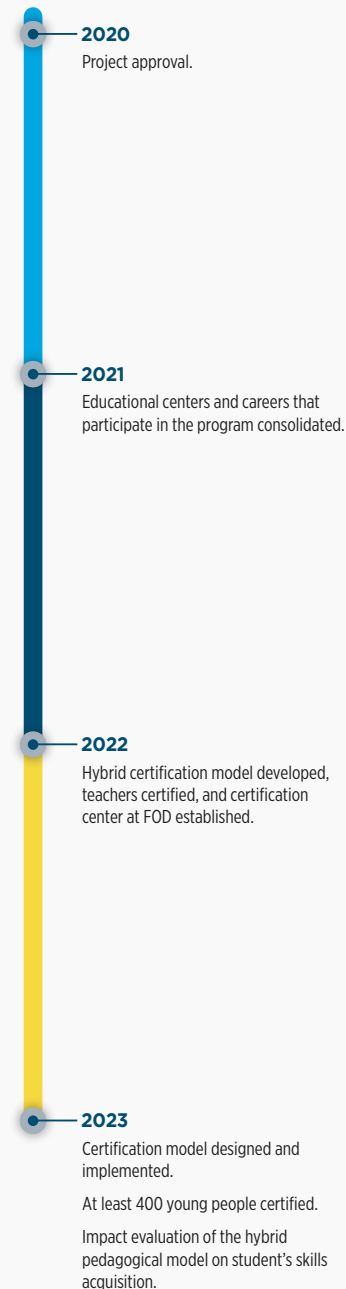
WHAT ARE THE EXPECTED RESULTS?

- Educational centers and careers that participate in the program consolidated.
- Hybrid certification model developed, teachers certified, and certification center at the FOD established.
- Certification model designed and implemented
- At least 400 young people certified.
- Impact evaluation of the hybrid pedagogical model on student's skills acquisition.

WHY IS THIS INTERVENTION RELEVANT?

This intervention will facilitate the labor market insertion of young people, whose economic situation has been worsened by the pandemic. This is relevant in the long-term as being unemployed during youth is correlated with high rates of informality in the labor market throughout life. This certification model also build capacities within the Ministry of Public Education (through teacher training), which will promote an increase in the quality of this type of education in the country. Similarly, the creation of a hybrid education model in technical education will ensure the continuity of the educational service and will serve as a basis for hybrid models in other contexts and types of education.

SCHEDULE





Certifications for Industry 4.0 in the Post-Pandemic Era



PARTNERS

Omar Dengo Foundation (FOD), Ministry of Public Education (MEP), Costa Rica Investment Promotion Agency (Cinde).

INNOVATIVE ELEMENTS

- First country in Latin America to establish a model that develops certifiable and industry-recognized skills as part of public secondary technical education.
- First hybrid technical education model in Costa Rica and one of the first in the region.



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

E-lancing skills for online jobs in a global economy

EL SALVADOR



400 000 USD

AUTHORS

María Victoria Fazio (SCL/LMK)

THE INTERVENTION, AT A GLANCE

How can we connect the local human talent of the region with the growing opportunities offered by digital platforms at a global level? The project develops a training model with on-hands practice that allows workers to connect with the demand for digital services globally. This intervention lays the groundwork for economies like El Salvador to be able to connect young people with these work experiences and develop globally demanded skills, while generating new ways of diversifying economic activities in countries with limited job opportunities.

WHAT IS THE CONTEXT?

The job market in El Salvador was already facing several challenges prior to COVID -19. Even though the country has one of the lowest unemployment rates in Latin America and the Caribbean, the job market is still highly informal, with high levels of instability and unemployment. Less than 30% of employees were contributing to social security before the pandemic, and between February and July 2020, there was a nearly 9% decrease in the formally employed population in the country.

Digital remote work platforms are an alternative to expand opportunities for young Salvadorans. Online work through these platforms is becoming increasingly common and representative of the future of work, where a digital economy is generated based on projects and tasks executed remotely. These types of platforms can be defined as digital markets that facilitate the transaction of goods and services between buyers and vendors, offering opportunities for people with different levels of digital skills. Studies developed prior to COVID-19 estimated that by 2025, digital platforms would contribute to the Global GDP by US\$ 2.7 billion and would create 72 million new jobs. El Salvador's government has a strategy to: i) expand access to global economy opportunities for people who already have the required digital skills; and ii) generate new career opportunities for young Salvadorans.



E-lancing skills for online jobs in a global economy

WHAT DOES THE INTERVENTION CONSIST OF?

The project includes a virtual training model in *e-lancing* skills to learn how to work as an online freelancer, with theoretical and practical content in English. This way, young people with digital skills can be oriented on how to work on digital remote platforms with clients abroad. The *e-lancing* training consists of eight modules throughout eight weeks (such as how to create an online profile, getting to know digital platforms, planning, job opportunity search with customers, proposal presentation, interviews, negotiation, information security management, legal and financial aspects of remote working, how much to charge for services and contract closing). The training model also includes the ongoing support of 13 teachers for 350 students, in order to guide them through the process of transitioning towards a *freelancer* career, how to develop their profiles and connect with real customers. The program will also have a diversified range structure with a score system as they advance in each level and provide levels of recognition. For the first time, this type of intervention will include an impact evaluation process to analyze the effects of this type of initiative.

WHO DOES WHAT?

- The Ministry of Economy of El Salvador co-designs the intervention and establishes alliances with local and international stakeholders.
- Wisar is responsible for the development and implementation of the training, due to their experience in the national and international digital platforms environment.
- The IDB co-designs the intervention and evaluates the impact, as well as supply financial and technical assistance, and impulse scalability opportunities of these programs.
- Global digital platforms provide technology and access to practical development (the most used platforms in practical training are Freelancer and Upwork).

WHY IS THIS INTERVENTION RELEVANT?

This intervention offers the opportunity to develop and implement an innovative virtual training program in a digitally focused area of work that has great potential but is little known and explored in the region. The local implementation model is expected to be sustainable and cost effective. Moreover, this project provides the opportunity to scale up the pilot of 100 people which has already been developed in El Salvador, with excellent results reaching almost 100% of participants satisfaction, who contacted 70 new customers and secured more than 12 job contracts with clients abroad, such as United

SCHEDULE

Beginning of 2023

Data collection to elaborate an impact evaluation.

Ending of 2023

Impact evaluation results will highlight the effectiveness of these programs or will present necessary adjustments for their expansion to a larger scale in the region.

Expansion and sustainability recommendations for the programs presented in the intervention.



E-lancing skills for online jobs in a global economy

States, Germany, Australia, Israel and Vietnam, without the need to migrate to develop these tasks. It is also important to highlight that this intervention will help understand, for the first time in the region, the impact evaluation results that will show the effects of these trainings in the digital job market and available online platforms at a global level.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- Virtual course platform developed with eight modules in e-lancing skills, English reinforcement, and tutors.
- Training for 13 tutors.
- The program's call for applications has received over 4652 submissions so far.
- Virtual training pilot in e-lancing skills executed, including English language reinforcement training and mentor support.
- 350 participants in the *e-lancing* course (people over 18 years old).
- Participants obtaining job contracts with customers in United States, Canada, United Kingdom, Spain, Costa Rica.
- Design of an experimental impact evaluation, baseline data compilation.
- Final report on lessons learned to be used in the design of future interventions.
- Data gathering of the present impact evaluation (with data about current jobs, income, online contracts, among others).
- Local intervention sustainability model developed, establishing a potential business model function to escalate the training intervention together with local educational organizations and the integration of an *e-lancing* curriculum in their programs.
- Final report with lessons learned and recommendations for escalation.
- Broadcasting results and lessons learned within the country and abroad.

INNOVATIVE ELEMENTS

- First *e-lancing* course in the region, to connect young people with remote working and bring their digital skills to international markets.
- First *e-lancing* Initiative impact evaluation in the region.
- Knowledge transfer to universities and other local allies to ensure program sustainability.



E-lancing skills for online jobs in a global economy



WHAT ARE THE EXPECTED RESULTS?

- Impact evaluation of the trained *e-lancing* skills when preparing youth for their work on said platforms, including reply rate to potential customers, job application time, and perceived income at the end of the training.
- Increased knowledge regarding the potential effects of training more people for online freelancing.
- Final impact evaluation and recommendations for expansion and sustainability of these programs with local partners.

PARTNERS

Ministry of Economy of El Salvador (MINEC, acronyms in Spanish), local universities, digital platforms with local and international scope, Wisar.



MINISTERIO
DE ECONOMÍA





FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Best trainers in virtual scenarios

GUATEMALA



350 000 USD

AUTHORS

Yyannú Cruz Aguayo (SCL/LMK)
Carolina Echeverri (SCL/LMK)

THE INTERVENTION, AT A GLANCE

This intervention aims to improve the English language skills of young population through the development of virtual and hybrid teaching methods targeted at instructors and trainers in technical and vocational education who teach English.

WHAT IS THE CONTEXT?

In Guatemala, there is a low rate of youth employment (47%) and a high proportion of companies that cannot find workers with the required skills (43%). One of the main causes of this gap is the lack of certain skills in young people, which is a result of an inefficient education system with obstacles of access and quality education.

One of the productive industries in Guatemala suffering an unsatisfied high labor demand is the Contact Center & Business Process Outsourcing Industry (CC & BPO), which has been identified as one of the industries with higher employment creation potential for the country prior and after the pandemic. However, the companies in the sector report that the main limitation to satisfy their labor demands and improve productivity is the lack of English knowledge amongst applicants.

WHAT DOES THE INTERVENTION CONSIST OF?

- Design and implement a technical and pedagogical skills evaluation mechanism of English instructors.
- Design and execute a module to improve pedagogical skills in instructors in hybrid or remote environments.
- Develop a rigorous impact evaluation process to provide a baseline for the design of training programs for remote participants in Guatemala and the rest of the region.



Best trainers in virtual scenarios

WHO DOES WHAT?

- The pilot focuses mainly in generating technical, methodological, and pedagogical skills necessary in the training of English teachers from the Technical Institute of Training and Productivity (INTECAP, acronyms in Spanish).
- The IDB, with organizations specialized in pedagogical and methodological training of instructors, will oversee the design, implementation and evaluation of the pedagogical training modules, with emphasize in remote learning for English instructors at the INTEPAC.
- The government and the private sector will deliver the necessary modules to serve English teachers with the necessary pedagogical skills to complete their training.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- Diagnosis of the current evaluation system of potential English teachers.
- Diagnosis of the current pedagogical and technical training model for English teachers.
- Diagnosis of the current English skill baseline of more than 200 teachers.

WHAT ARE THE EXPECTED RESULTS?

- Nearly 400 teachers will benefit from the design and implementation of an evaluation system of the technical and pedagogical skills in English teachers.
- Nearly 400 teachers will benefit from the design of a pedagogical skills acquisition model.
- Nearly 300 teachers will participate in the pilot program to train teachers.
- Rigorous evidence as a result of the impact evaluation of teacher training in the acquisition of pedagogical and technical skills.
- A technical note will be developed containing lessons learned and recommendations for policies aimed at adapting the intervention model for other topics or countries.

SCHEDULE

2023

Design and development of the Pedagogical Skills Evaluation Model for trainers.

Design of the pedagogical skills acquisition model.

Registered trainers baseline information.

Completed trainers training pilot program.

Tracking information recorded.

2024

Impact evaluation of the training pilot for the acquisition of skills by English trainers.

Lessons learned and recommendations for policies aimed at adapting the intervention model for other topics or countries.



Best trainers in virtual scenarios



WHY IS THIS INTERVENTION RELEVANT?

Guatemala's population is young, and even though there are work opportunities in the country, such as call centers, the low English proficiency among applicants does not allow them to partake in these positions. The region faces a challenge in generating the market demanded skills, already a problem in the past, and continues to observe the effects of COVID-19 by delaying the conversion from in-person to an online or hybrid scenario. On the other hand, the quality of teachers is the most important factor of success for these training courses: a good teacher needs to know about the subject they are teaching and be able to share it (pedagogy). This intervention aims to provide evidence of efficient ways of improving pedagogical capabilities of teachers in online or hybrid scenarios. The lessons learned from this pilot will be adapted and used in other countries and subjects.

PARTNERS

- Guatemala's Ministry of Economy
- Instituto Técnico de Capacitación y Productividad (INTECAP, acronyms in Spanish).

RELATED PROJECTS

- Education quality and coverage improvement program (GU-L1087).
- Employment and online education programs to reduce the gap between unemployment and women's economic empowerment in Guatemala (GU-T1303).

INNOVATIVE ELEMENTS

- This is a pioneer intervention in the region, and trains instructors and teachers of technical and vocational education so that they can teach English language in a successful way in online and hybrid scenarios.
- This program offers a combination of pedagogical and technical tools and skills regarding the subject to be taught and has been adapted to an online scenario.
- This is the first rigorous online training impact evaluation process, targeting instructors in Guatemala and is one of the few existing programs of this style in the region.



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Technical professional training for the Fourth Industrial Revolution

MEXICO



350 000 USD

AUTHORS

Oliver Azuara (SCL/LMK),
Fernando Pavón (SCL/LMK)

THE INTERVENTION, AT A GLANCE

This project develops micro-courses and certificates for young people enrolled in Technical and Technological Education in Mexico (TVET) specifically in management and comprehension of written documents, as well as in collaborative work in a professional environment, which will prepare them for jobs in higher value industries and will train them in new tasks in the professional environment. The project will provide key evidence to restructure the traditional TVET programs and adapt them to remote education modalities. The broadcasting of these micro-courses is done through digital platforms, with a variety of options, to determine their efficiency compared to other alternatives.

WHAT IS THE CONTEXT?

There is uncertainty regarding the changes that the Fourth Industrial Revolution will bring to work structures. The use of technology is replacing workers with low job qualifications. In Mexico, 23% of people with jobs prior to the pandemic left the work force completely, especially young people who were just completing their compulsory education (ENOE-INEGI, 2021). The difficulties that young people are encountering when looking for a job has become more evident, and when they do find job prospects, half the time they encounter vulnerable situations due to low salaries or the lack of Social Security (ENOE-INEGI, 2022). On the other hand, the skills and competencies they possess are not enough to cover the productive sector needs, and at the same time, employers are finding it difficult to fill their vacancies and to finance investment in training for employees.

Even though the industries have been active participants in the design of training plans to empower their workers and turn them into the pillars of their transformation process, so far these efforts have been focused on executive levels that generally cover traditional higher education. For those pursuing technical and technological education, these options are limited or nonexistent, making it essential to start exploring new training methods that bring opportunities closer to young people to take advantage of job opportunities, especially in industries receiving high levels of investment and increasingly require employees with this type of training.



Technical professional training for the Fourth Industrial Revolution

WHAT DOES THE INTERVENTION CONSIST OF?

- Identify the gaps regarding skills and knowledge between the demand from productive sectors and the supply of technical training in Mexico.
- Develop micro-courses to address the demand of these different industries.
- Support in the delivery, guidance and certification of micro-courses based on new technologies and adapted to the Latin American context. This includes technological support and virtual guidance necessary for the proper delivery of the micro courses.
- Perform an impact evaluation of the effectiveness of the micro-courses on learning, according to the training modality.

WHO DOES WHAT?

The Monterrey Technological and Higher Education Institution, in coordination with the IDB, oversees the intervention activities: identify the gaps, development of the micro-courses, and development of the impact evaluation.

WHAT ARE THE EXPECTED RESULTS?

- Gap diagnostics reported between the productive sectors and the technological training supply in different regions of Mexico.
- Developed micro-course technical content to respond to business demands in different industries. The common topics selected across different industries are: written document comprehension and management, and collaborative work in a professional environment.
- Development of two micro-courses teaching written document comprehension and management, including three programs to support young beneficiaries, to compare their effectiveness in the learning process and in the beneficiaries' experience overall.
- Technical note of the lessons learned during the implementation of the intervention.
- Impact evaluation on the effectiveness of the diverse learning modules in the successful completion of the course and beneficiaries' acquisition of new skills.

SCHEDULE

End of 2023

Development and launch of two micro-courses to satisfy the business demands of different industries.

Statistics related to students registered in the micro-courses:

- Demographic information such as age, gender, and geographic location.
- Initial test results to identify skills or previous knowledge of registered students.
- Micro-course completion rate, what percentage of students successfully completed each module.

End of 2024

Technical note with lessons learned during the implementation of the intervention.

Effectiveness impact evaluation of the diverse micro-course modules, in the successful completion of the course regarding acquired skills of the beneficiaries.



Technical professional training for the Fourth Industrial Revolution



WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

- Three learning diagnostic evaluations developed in 2021 and 2022 with potential students participating in the micro-courses to understand the learning gaps.
- Profound interviews with business leaders from the manufacturing, commerce, and services sectors, to identify the most urgent skills needs, actions taken to develop these skills, identify tendencies and changes in labor market, validate previous findings regarding the need for certain skills and establishing potential alliances.
- A variety of profound interviews with academics responsible for the technical development at institutions to obtain the curriculum and the skills taught, identify difficulties faced by these institutions, alignment with the job market requirements and explore collaboration opportunities with businesses.
- Design and implementation of a survey for students of the technical formation institutions with a sample of 1410 interviews. The survey focused on 2nd and 3rd year students, in the states of Aguascalientes, Chihuahua, Nuevo León and Querétaro. The objective was to understand the experiences and challenges that the students face regarding the required skills in the job market.
- Two surveys directed to human resources employees of certain businesses belonging to the services, commerce, and manufacturing sectors, which represent the largest portion of economic activity in the selected states. The objective was to obtain information about the most valued skills and competencies by companies at the moment of hiring young people. As well as to identify the difficulties they face when finding candidates with the necessary skills and how to face these gaps through recruiting, training, and development strategies.
 - Survey to human resources employees in companies from the Aguascalientes, Chihuahua, Nuevo León, and Querétaro states, with a sample size of 244 participants.
 - Survey to human resources employees in companies from the state of Nueva Leon with a sample size of 550 participants.
- The content of two micro courses for the development of skills, designed between 2022 and 2023:
 - Comprehension and management products developed.
 - Collaborative work in a professional environment
- 120 trained facilitators and 6000 beneficiaries.
- An impact evaluation designed based on the results of diagnosed skills at the beginning of the micro-course and those at the end of the course¹.

INNOVATIVE ELEMENTS

- Micro-course training aligned with the needs of new technical areas demanded by employers, specifically designed for work purposes.
- Cumulative credentials. Certified Modular courses that can be used by students to improve their employment trajectory or as credits to continue a career.
- Information obtained from the beneficiaries to be used in the incorporation of new technical and formative educational training. It will provide fundamental information on how to reform technical education and professional development through conduct barrier identification that influence the decision of consuming online education.

¹ The impact evaluation process will be after finalizing the courses.



Technical professional training for the Fourth Industrial Revolution



WHY IS THIS INTERVENTION RELEVANT?

This intervention will allow the understanding of the gap between the skills demanded by the productive sectors and the technical training supply in Mexico. It will also allow the gathering of information regarding the willingness to participate in complementary technical training modules through micro courses. Finally, the intervention has a high level of relevance when assessing the impact and effectiveness of the delivered micro-courses, providing information on their relevance and effectiveness in comparison to other types of training.

PARTNERS

The Monterrey Technological and Higher Education Institution.

Business Chambers of: Nuevo León, Querétaro, Chihuahua and Aguascalientes.



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Support for technical transformation to promote the energy transition in Panama

PANAMA



350 000 USD

AUTHORS

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THE INTERVENTION, AT A GLANCE

The Government of Panama is making progress in the development and implementation of their strategic energy transition agenda (ETA) with ambitious goals for electric mobility, energy efficiency, and the incorporation of distributed and centralized renewable energies. In this context, this intervention seeks to train Panama's workforce in electric mobility (EM) and distributed generation (DG), through a blended training modality that includes a mobile classroom to promote the energetic transition of the country with participation of the private sector. The program focuses on testing mechanisms of retraining in new capabilities related to EM and DG for individuals working in traditional areas of the energy sectors, who, without retraining their skills, could be displaced by the introduction of new technologies related to the energetic transition.

WHAT IS THE CONTEXT?

The proposed strategies have ambitious goals to support the decarbonization of the sector and generate green jobs. By 2024, the ETA aims to achieve 4.3% of installed capacity of DG facilities up to 2 MW, compared to the current 1% (view graph 1). As for electric mobility, there are currently only 30 units in the country, representing a penetration of 0.005%, and the ETA's main goal is to increase this percentage to 10% in 2024¹. Focusing on the mobility sector is crucial as it is responsible for 51% of the national emissions in the Greenhouse Gas Inventory of the Energy Sector in 2017. Achieving all ETA goals would result in the creation of an additional 15,687 net jobs by 2024, representing a 0.5% increase compared to the baseline scenario. This would lead to a reduction in the unemployment rate of -0.4% in 2024.

¹ The Panama Electric Mobility National Strategy's goal is that by 2030 the following will all be electric: 10%-20% of the total private vehicle population, 15%-35% of buses within the authorized concessions will be electric, 25%-50% of public buses.



Support for technical transformation to promote the energy transition in Panama

To reach these goals the energy sector is required to close the skills gaps in the workforce, as 76% of the vehicle distributors in Panama lack sufficient personnel trained in electric cars diagnostics and maintenance, to satisfy the company's needs. It is also an urgent need to train technicians in safety measures related to electric, battery and electric motor failure. Finally, 42% of companies in the solar energy sector do not have personnel for the installation and maintenance of solar distribution systems required by their companies².

	2020	Business as usual (BAU)		ETA Scenario	
		2024	2050	2024	2050
Distributed generation installed capacity (Solar PV < 2MW)	1 %	2 %	3.5 %	4.3%	5.3 %
Penetration of Energy Efficient equipment	-	20 %	20 %	35%	72 %
Solar thermal installed area (m ²)	1,500	13,299	567,430	13,299	1,017,173
Fleet of electric vehicles (including 2-wheeled buses)	30	46,394	542,751	112,015	1,313,041
% of total vehicles	0.005%	4.1%	30%	10%	71.6%

Graph 1. Energy Transition Agenda Goals

- DG installed capacity.
- Penetration of Energy Efficient equipment
- Thermal Solar installed area (m2)
- Electric vehicle float (including 2 wheeled buses)
- * Total Vehicle percentage

SCHEDULE



2 Interviews to 21 vehicle distribution companies and 7 Panama Solar Energy companies.



Support for technical transformation to promote the energy transition in Panama

WHAT DOES THE INTERVENTION CONSIST OF?

- Design and implementation of two technical training programs, in coordination with the Government of Panama and the private sector, focused on: (i) retraining automotive mechanics in the diagnosis and maintenance of electric vehicles; and (ii) training technicians for the installation and maintenance of distributed solar generation and electric vehicle chargers. The programs will be implemented and incorporated by the National Institute of Vocational Training and Human Development (INADEH, acronyms in Spanish) of Panama.
- Design and implementation of train-the-trainer programs for INADEH on topics related to technical transformation to drive the energy transition in Panama.
- To enhance the learning outcomes and employability of program participants, the possibility of internships in companies will be considered. 95% of the automobile distributors interviewed and 100% of the solar installation companies expressed interest in developing internships.

WHO DOES WHAT?

- The National Institute of Vocational Training and Human Development (INADEH, acronyms in Spanish) will support the design and will incorporate the developed programs into its training offerings, as well as implement the training.
- The National Secretariat of Energy (SNE, acronyms in Spanish) will support throughout the process, organize, and facilitate the dialogue amongst the public and private sector.
- The private sector partners will provide technical support in the development of the academic curriculum, its validation, and will support the implementation of the first generation of training programs.

WHAT ARE THE EXPECTED RESULTS?

- 100 graduates in the first cohort of the training programs.
- Academic curriculum and materials for the training programs aligned with the INADEH norms, developed.
- First cohort of 15 trainers and 5 tutors from the INADEH in key topics related to in Panama's energy transition central topics trained.
- Effectiveness' evaluation of the program implementation through analyzing changes in technical knowledge and employment status developed.

INNOVATIVE ELEMENTS

- Two technical training courses in training and retraining for electricity mobility and solar distributed energy at the country's public training institution.
- Hybrid theoretical and practical pedagogical training adapted to the country's job markets' needs.
- Blended training model: Mobile classroom and online classes.
- Sustainability and scaling of training with public education and training institutions. The training program will be developed with the INADEH, together with the Higher Education Institute (ITSE, acronyms in Spanish). This will allow a larger group of participants, without any cost for the beneficiaries. To achieve this, an academic curriculum will be developed for each training course and the first educators will be trained, this way the program will still be offered by both institutions even after the financing of the program ends.

Support for technical transformation to promote the energy transition in Panama

WHY IS THIS INTERVENTION RELEVANT?

This intervention offers the opportunity to design and implement training programs that strengthen the provision of technical training in Panama's energy transition central topic. It enables the development of technical skills to support this transition for country workers, allowing them to participate in job opportunities in electric mobility and solar energy distribution. Additionally, it will help keep technical professionals in relevant industries up to date, as they may be impacted by technological changes.

The intervention is presented as an innovative blended training program. The training program will make use of virtual classes and a mobile classroom that will travel to rural regions to deliver the practical part of the technical courses. This mechanism will be designed taking into consideration the lessons learned from the Solar Bus Program, where a mobile classroom was used for the Termosolar Panama project, which offers the Installation and Maintenance of Solar Water Heater Systems course, developed by INADEH.

PARTNERS

The National Institute of Vocational Training and Human Development (INADEH, acronyms in Spanish), The National Secretariat of Energy (SNE, acronyms in Spanish), the Panamanian Chamber of Solar Energy (CAPES, acronyms in Spanish), the Association of Vehicle Distributors of Panama (ADAP, acronyms in Spanish), other private sector partners.

RELATED PROJECTS (IF APPLICABLE)

The creation of training programs for energy transition was tentatively included as a condition in the "Support a Fair, Clean, and Sustainable Energy Transition" program (PN-L1181).



FOURTH INDUSTRIAL REVOLUTION

AGING

CLIMATE CHANGE

GENDER AND DIVERSITY

COVID-19

SKILLS FOR WORK

Automation processes training

PARAGUAY



400 000 USD

AUTHORS

Manuel Urquidi (SCL/LMK)

THE INTERVENTION, AT A GLANCE

This intervention seeks to contribute to the strengthening of the labor training system in Paraguay by analyzing the effectiveness of the use of virtual reality in training processes. In addition, it will implement a pilot training program in mechatronics, complementary to the dual program of the Ministry of Labor, Employment and Social Security (MTESS, acronym in Spanish), aiming to promote process automation skills for small companies.

WHAT IS THE CONTEXT?

Paraguay has major challenges regarding access to quality jobs. In 2018, labor informality was 59%, 64% of workers earned a labor income equal to or below the minimum wage, and on average, the employed population has less than 10 years of education. One of the main causes of problems in the access to quality jobs is the skills gap in the labor force. Twenty-nine percent of employers in Paraguay say that the lack of skilled labor poses a barrier to the growth of their companies. The skills and technicians that are most in demand are related to mechanical, electrical, welding, and electromechanical areas, with a special emphasis on automation processes. With companies increasingly using more advanced machines and equipment, there is a need to train the workforce in specific skills related to those specific areas.

Based on the interviews conducted with public and private companies within the scope of the intervention, it was determined that the most relevant aspect is to train a mechatronics machinery operator who can be effectively integrated into specialized production processes. It is a consensus and a clear need expressed by the interviewees from the companies that any training for young technicians should include a strong component for the development of soft skills and workplace competencies. Employers expressed that with new workers, it is easier to teach them what they lack from a technical standpoint rather than teaching them behaviors and habits. Given the dual training modality and this new specialization in companies, that may not have previously participated in such processes, it is necessary to provide tutoring training before the students' training begins. Similarly, it is possible that companies may not have the technologies and processes (associated with specific areas of knowledge), so it should be assessed whether it will be necessary (and then design the modality, if applicable) for students to acquire knowledge and skills that they may not be able to practice in the company where they undergo their training (for example, in workshops at the National Professional Promotion Service or in companies that can provide these spaces).



Automation processes training

WHAT DOES THE INTERVENTION CONSIST OF?

The intervention designs and implements two workforce training actions. The first one focuses on the use of virtual reality for training processes, while the second one involves defining content for specific mechatronics skills. In both actions, a minimum percentage of women is established since they are currently underrepresented. Additionally, the proposed skills are associated with job opportunities that offer higher salary levels.

WHAT HAVE THE MAIN ACHIEVEMENTS BEEN SO FAR?

The development of a proposal for the creation of a mechatronics training curriculum in Paraguay. In 2022, a comparative analysis of the mechatronics training curriculums was conducted, including those from international sources as well as Paraguay. This analysis led to the proposal of a standard curriculum framework based on the key elements identified for the development of specific skills in mechatronics training.

In March of 2023, with the support of technical employees from the National Service of Professional Advancement of the Ministry of Labor and Employment and Social Security (MTESS, acronym in Spanish), the first analysis was supported by interviews with employers and trainers of 12 private companies and 2 public companies specialized in professional development, which facilitated the comprehension of the content for the final proposed design of the curriculum under the Paraguayan Model of Dual Professional Development (MoPaDual, acronym in Spanish), in the mechatronic specialty, as well as the online welding curriculum. The mechatronic training curriculum includes 36 modules which at the same time include activities, classroom learning content, as well as practical development in a job environment. It includes the extension in hours, associated equipment and infrastructure, instructors' profiles, learning objectives and the graduated student profile. It also includes a six-module proposal for the welding specialty in its online version (based on simulators).

WHAT ARE THE EXPECTED RESULTS?

It is expected to provide guidance on the implementation of the mechatronics specialization in other forms of education and provide support, as well as recommendations, for the modular and post-secondary implementation. As well as the implementation of welding in virtual reality mode.

SCHEDULE

August 2023

The Government of Paraguay changes, and presentation of the project to new authorities.

Approval (by new Paraguay Government Authorities) of the mechatronic proposed training curriculum, organization of the welding course and impact evaluation requirements.

November 2023

Pilot program implementation for the first group begins.

December 2023

The beginning of the impact evaluation report designed to measure the effectiveness of virtual reality in acquiring new abilities in trained people.

March 2024

Virtual reality effectiveness in people learning abilities analysis workshop.

First trimester 2025

Presentation of intervention results.



Automation processes training

Impact evaluation of the virtual reality training course. The intervention aims to analyze the effectiveness of the use of virtual reality and labor training processes and expects to develop an impact evaluation of nontraditional educational environments such as virtual reality which, in this case, will be applied to a welding course implemented at the Servicio Nacional de Promoción Profesional (SNPP). A difference between traditional physical equipment training versus virtual reality equipment, or by combining both environments is expected to be observed at an acquired-skills level. Then, with the conclusions of the evaluation, it will be possible to determine the relevance of using virtual reality in vocational training.

WHO DOES WHAT?

IDB will oversee the project execution, due to their experience in this type of project.

The Government of Paraguay is the beneficiary entity through the Ministry of Labor, Employment and Social Security (MTESS), which will contribute to defining the content and the skills required by employers, will coordinate with the associated companies so they can nominate candidates for the workers and job seekers training, will make companies commit to providing internship and practical training spaces, and will coordinate the certification process of training companies.

WHY IS THIS INTERVENTION RELEVANT?

This intervention will improve the skills of job seekers by developing an additional job training curriculum, ensuring that the contents are aligned with the needs of the private sector and evaluating the possibility of using virtual reality as an alternative to the purchase of equipment and supplies for job training. This is in response to the problems of updating equipment and the cost of inputs in training that includes a practical part. The information on the feasibility of using virtual reality and the design of an impact evaluation, as well as the process of designing curriculum together with the private sector, are also inputs for the subsequent expansion of training capacities of the Ministry of Labor, Employment and Social Security of Paraguay, which can be used to inform other countries and contexts.

INNOVATIVE ELEMENTS

- Evaluation of the effectiveness of the use of virtual reality in labor training processes.
- Implementation of a pilot training program in mechatronics, complementary to the dual program of the Ministry of Labor, Employment, and Social Security (MTESS).



Automation processes training



PARTNERS

National Service of Professional Advancement of the Ministry of Labor and Employment and Social Security (MTESS).

