

Technical and Vocational Education and Training (TVET) in Latin America and The Caribbean

A Regional Approach Towards **2030**



Organización
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Oficina de Santiago
Oficina Regional de Educación
para América Latina y el Caribe

BACKGROUND

The international community has drawn up an ambitious **2030 Agenda for Sustainable Development** which objectives, goals and indicators have been agreed upon by all countries in Latin America and the Caribbean (LAC). The 2030 Agenda for Sustainable Development has an integrated focus on development, pursuing poverty eradication in all forms and dimensions, an inclusive and sustainable economic growth, the fight against inequality, earth preservation, and decent work for all men and women.

UNESCO, as an education-dedicated agency of the United Nations, agrees with the 2030 Agenda for Sustainable Development, particularly with the 2030 Agenda's Sustainable Development Goal (SDG) 4 of "ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all". It also promotes the comprehensive and challenging **2030 Agenda on Education** including Education for All (EFA)'s commitment to "leave no one behind".

This new roadmap of the 2030 Agenda on Education, approved in Incheon in May 2015, defines a principal role for Technical and Vocational Education and Training (TVET) in the fulfilment of the aspirations proposed in the Agenda on Education. TVET goals are particularly aimed at contributing to an egalitarian access to quality TVET for men and women, vulnerable people, including the disabled and indigenous peoples, as well as increasing the number of young and adult people having technical and vocational skills for access to employment, decent work, and entrepreneurship, by promoting inclusive and sustainable economic growth and supporting a transition to green economies and environmental sustainability. As 2030 Agenda on Education is an integral part of the 2030 Agenda of the United Nations for Sustainable Development, TVET education goals are now global aspirations for all UN Country Members, challenging national TVET systems to contribute to Sustainable Development, which is capable of meeting present needs without compromising future generations' capacity of fulfilling their own needs.

In order to support TVET prominence in the LAC region within the framework of the 2030 Agendas on Sustainable Development and Education, and based on global commitments, **UNESCO Regional Bureau for Education in Latin America and The Caribbean (OREALC/UNESCO)** prepared this document that analyses TVET existing challenges, revises TVET current state and proposes a set of region-specific guidelines towards 2030. Region-specific guidelines resulted from recognising TVET system diversity in terms of structure, institutionality, and governance in LAC countries and from recognising shared issues and

challenges. Additionally, they are in line with UNESCO's general strategy for 2016-2021 Technical and Vocational Education and Training, aimed at supporting Country Members' efforts to increase their TVET systems' relevance, provide all young and adult people with all necessary skills for employment, decent work, entrepreneurship, and lifelong learning, and contribute to the 2030 Agenda on Sustainable Development as a whole while conforming to ODS 4. The purpose of this document is to encourage and guide governments to work on comprehensive TVET policies that foster TVET's ability to respond to multiple economic, social and environmental requirements arising from this new scenario.

Two conferences organised by UNESCO provided this regional effort with a direct precedent. The first conference was the Regional Forum on TVET called ***Looking towards 2030: Strengthening Skills Development for Employment and a Better Future for All***, held in Montevideo city, Uruguay, in November 2015. The second conference was the Meeting of LAC Experts on TVET, held in Santiago de Chile, in May 2016. Both conferences drew the first lines for shared regional challenges presented in this document, by LAC countries engaging in dialogue, sharing experiences, and identifying common concerns.

This document is divided into two parts. The first part includes regional context and main challenges on sustainable development in LAC that are setting TVET trends as briefly revising TVET origin, evolution, and key areas, as well as TVET persistent issues. The second part shows a set of guiding principles and proposals for progress in challenges for the 2030 Agenda on Education.

Finally, it is pointed out that a look towards 2030 proposed by this document should be considered as a starting point for a broader reflection and discussion, not a static and completed vision, on TVET in Latin America and the Caribbean. TVET changes people, economies, and societies while profoundly impacted by the result from those same changes. In this sense, TVET requires increasing self and context awareness, while keeping constantly evolving in order to be relevant and valuable and contribute to sustainable development.

PART 1

TVET Context and Trends in Latin America and the Caribbean

1.1. A Regional Outlook

The Latin American and the Caribbean region shows significant progress in poverty reduction but pressing challenges on equity and sustainability as well in the *2030 Agenda on Education and Sustainable Development*. LAC as a middle-income region shows a persistent, great heterogeneity in terms of developments levels among countries, and several countries present lags that require urgent attention.

Some of the main trends in the current LAC regional scenario affecting TVET are shown below:

International Integration

Because of heavy price falls in raw materials and lower international demands of goods produced by the LAC region, the triennium between 2013 and 2015 has been the worst period for exportations in eight decades. In order to revert the resulting decrease in foreign exchange earnings due to heavy price falls in primary products, countries need to participate in a more active international integration that prioritises industrial policy, diversification, trade facilitation, and intra-regional integration (ECLAC, 2015). Intra-regional trade agreements (the Pacific Alliance, MERCOSUR, CARICOM) and inter-regional trade agreements (Trans-Pacific Partnership Agreement, General Agreement on Trade in Services) are a fundamental component in reverting the decrease in foreign exchange earnings.

A bigger challenge is nevertheless the adjusting, such as investing in new technologies and infrastructures, improving production processes and human capital development, countries are required to make in order to stop playing this restrictive raw-material exporter role in a global market.

The LAC Region and the Middle-Income Trap

Many economies in the LAC region have fallen into the middle-income trap. Wage costs are too high to compete with countries having a low-cost workforce, and competing with developed countries at the top of the value chain is impossible.

In order to free themselves from the middle-income trap, countries need a structural remodelling allowing them to diversify their production matrix and innovate, as well as better production standards and good quality jobs. They have to make a transition to economic models that are more related to knowledge and skills. Compared international experience shows that countries able to accumulate a bigger stock of quality human capital will have better chances of avoiding the middle-income trap (Eichengreen, Park and Shin, 2013).

Productivity, Research & Development (R+D), and Innovation

According to estimations by the Inter-American Development Bank (IADB), productivity in Latin America and the Caribbean is half of its potential, is significantly lower than in countries such as China or India, in the European Union (EU-12), and in the average number of emerging and developing countries. It is also lower than average productivity at the global level (IADB, 2016).

Increased productivity required by LAC countries is very closely related to policies promoting R+D, innovation, and human talent management. Implementation of such policies involves taking a series of actions, such as linking research to production activities, correcting the lack of coordination among different stakeholders in innovation systems, promoting training required for technological innovation, fostering competition tools such as resource allocation instruments for innovation at universities and TVET centres, and assessing results and impacts.

When compared to OCDE countries, the LAC region shows a low investment in R+D and has a low private sector participation in R+D. Main exportations has little to do with technology and innovation, and direct foreign investment is not oriented to high technology sectors, opposite to the case of Asia with the same investors. In order to improve low investment and participation in R+D, knowledge accumulated by the workforce should transform into an engine activating innovation and increasing investment and participation intensity. This requires institutions to be open to perceive changes in a production context and transformation into knowledge.

Demographic Trends

Countries in the LAC region face equity and sustainability gaps within a framework of demographic trends with a characteristic joint convergence to low fertility levels and a long-life expectancy leading to a change in the age group structure of the population. By

the end of 2010, the region of Latin America and the Caribbean lowers its large youth population, and it turns into an adult and young-adult population, just like previously in Europe and North America (ECLAC, 2015).

On another note, a regressive trend in migration flows to another regions is present with a reinvigorating intra-regional migration. From 2000 to 2010, the number of Latin American people living in countries different to their countries of birth increased in 32% mainly due to some destination countries' political stability and economic improvements (Martínez and Orrego, 2016).

Income Distribution and Poverty

Between 1990 and 2015, poverty rate in the LAC region decreased from 48% to 30% because of policies implemented in a prosperous decade. However, countries in Latin America and the Caribbean still jointly have one of the worst income distributions. Income for the richest 10% is 14-fold higher than the poorest 40%, and other inequalities such as gender and urban-rural remains despite of Gini coefficient decreasing from a 3.2% to a 0.8% annual rate between 2010 and 2014 (ECLAC, 2015).

On another note, while LAC is especially an urban region, a big part of the LAC population is still living in the countryside, where informal rural economies are led by women in precarious working conditions and persistent poverty. Poverty in rural populations decreased only from 62% to 49% during the last decade (2002-2011) despite of an increase in the exportation of agricultural products, of a growth in agriculture, and of economic growth.

Employment

Progress in required structural changes also involves confronting existing deficiencies in employment and decent work. In 2015, open unemployment rate significantly increased for the first time after five years in 2010.

Short-term indicators are not very optimistic, and demand for labour is still very low. Employment rate, which started to show negative year-to-year variations from the second quarter 2013, continues in this trend after ten quarters. Unemployment for women also increased considerably, reaching 8.2% (compared to 5.9% in men) in the third quarter. Additionally, youth unemployment started to increase in 2013 — 3-folding adult unemployment in average) — reaching 15.3% in the third quarter 2015.

Education level in LAC labour force, however, has increased. Percentage of employed people having secondary education increased from 43.2% to 48,5% between 2005 and 2014, while employed people with higher education increased from 14.5% to 20.5% (ILO, 2015a). Despite of this, labour market informality remains and continues to influence 47.7% of employed people. Data from ILO suggest a LAC region with 20% of higher income population showing 30% of people in informal employment, whereas 20% of lower income showing 73.4% of people in informal employment.

Micro and Small Enterprises (MSEs)

Latin America and the Caribbean region have always had a high number of MSEs and a very low number of middle enterprises. Current data available show 11 million enterprises having at least 1 worker other than the employer, where most (around 10 million) of them are MSEs and only 1 million are middle and large enterprises. MSEs creates 47% percent of the jobs, i.e. 127 million people. Additionally, 76 million people are self-employed, representing 28% of the job supply in LAC. MSE workers and self-employed people conjunctively represent three-quarters of the job supply in LAC. Five percent of the jobs are supplied by housekeeping services, and 19% by middle and large enterprises.

MSEs and self-employment prevalence in LAC production structure and a lack of middle enterprises keep production and quality jobs from increasing. Due to this MSE and self-employment structure, 80% of labour force works in sectors having a production level that is lower than average in LAC, and only 20% of labour force works in sectors having a production level higher than average, directly resulting in inequalities in the labour market (ILO, 2015b).

Green Economy and Green Jobs

Green economy is defined as a set of inclusive and comprehensive-production models considering environmental and social variables. Green economy is an economic-strategy-based model as it focuses on environmental impact and an efficient use of resources and intends to be socially inclusive. It focuses on disassociating economic growth from the use

of natural resources and from adverse environmental impacts; therefore, green economy is a promising strategy to ensure prosperity for the future (CAMPOS, MELINA, 2010).

The LAC region has still a long way to go in terms of effective national commitments for green economy. However, there are promising efforts such as the Green Jobs Initiative jointly launched by the United Nations Environment Programme (UNEP), the International Labour Organisation (ILO), the International Organisation of Employers (IOE), and the International Trade Union Confederation (ITUC). The Green Jobs Initiative supports agreed efforts implemented by governments, employers, and trade unions in order to promote consistent environmentally sustainable policies and efficient programmes to create green Jobs and decent work for all in a world challenged by climate (ILO, 2012). It also focuses on hemispheric training efforts on this issue, made by the Inter-American Institute for Cooperation on Agriculture (IICA) that works together with 34 country members in the American continent and is based in Costa Rica.

Education

On the education front, schooling rates in primary school have increased; transition and participation rates in secondary school have also increased but, in absolute terms, they vary in the region and get lower when finishing. Gross rates of schooling in lower secondary school are 73% in the Caribbean and 99% in Latin America, while gross rates of schooling are 47% and 77% respectively in upper secondary school (UNESCO, 2015b). Likewise, differences in educational achievement rates in upper secondary school are also extreme. In 2013, 80% of youngsters in the fifth quintile completed secondary school, while only 34% in the first quintile completed it (Trucco and Ullmann, 2015).

A World Bank study carried out in 8 LAC countries reveals the main reason why students drop out in secondary school: “they were not interested in going to school, or subjects were not interesting to them”, which raise a question about how relevant subjects are (Székely, 2015) or what education means to this populations in their lives.

Consistently with previously mentioned data, it is noticed that percentage of 15-year-old and older youngsters attending school decreases. School dropout presents together with an increase in labour market access and, when unsuccessful, by an increase in young people who are not in education nor working. Young people not working are more than 20 million in the region, representing 20% of youngsters between 15 and 24 years, out of which

women are two thirds, and almost 60% of them come from poor and vulnerable homes, contributing to perpetually transfer gender and income inequalities from one generation to another (De Hoyos, Halsey, and Székely, 2016).

Regarding young people in the school system, PISA 2012 shows that, while youngsters' secondary school performance has improved more than average amount of OECD country, there is a considerable margin for progress. Eight countries participating in PISA 2012¹, continues to show low results in the three tested subjects (mathematics, sciences, and reading), positioning themselves in the lowest third (over 65 countries) (OECD, 2014). The gap between the poorest quartile and the richest quartile in each country, which equals to a two-year schooling difference.

Results from TERCE 2013² shows a similar scenario in primary school. It states that regional performance is low comparing to SERCE 2006³ despite of some improvements made. One-third of 3rd grade students put in a poor performance in mathematics tests, while results in science tests are higher than 45%. Therefore, education challenges in the region are way beyond coverage and grade retention, since they are associated with qualitative aspects in the education experience (UNESCO, 2014).

Supply and Demand of Skills

In direct relation to education quality, there is a profound disconnection between training provided by the educational system and skills demanded by the production sector. Among emerging regions, Latin America and the Caribbean region presents most difficulties related to skills demanded by the market, with 36% of companies in the formal sector recognising problems with finding an adequately trained labour force. This result contrasts with 21% global average and with 15% in OECD countries. Companies with intensive production processes in skills training face most severe difficulties, especially those companies in sector with higher levels of sophistication, connectivity and complexities in the set of tradable industries (OECD, 2014). This is challenging, considering that those sectors might be critical

¹ Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, and Uruguay.

² Third Regional Comparative and Explanatory Study by OREALC-UNESCO, where 15 Latin American countries and Nuevo León state of Mexico participated.

³ Second Regional Comparative and Explanatory Study by OREALC-UNESCO.

to the structural transformation process in the region, which production matrix is focused on low value-added industries and low productivity.

Our Way Forward

TVET plays a key role in driving connections, complementarity, and updating of training provided by the educational system, together with labour market demands and demographic trends. Particularly, TVET is called to accompany structural production matrix change required by the region in order to overcome extreme inequalities. For this to happen, investment in physical and human capital and research and development should be higher, and investment rhythm should be similar to other more dynamic, emerging market economies.

Considering changes in age group structures in the population, TVET efforts are required to go beyond making school-work transition easier to young students. Another challenge for TVET is to provide and update skills for adult becoming critical labour force. Growing intra-regional migration also forces TVET to go beyond borders so that educational credentials get recognized in other countries and make labour market integration of migrants.

On the educational front, demands for decreasing persistent inequities are multiple and higher than those in the past. TVET should not only foster access to and continuity in school but also facilitate transition to subsequent educational levels, for which basic skills are essential.

In order to overcome the challenges, the need for strategic guidelines helping countries and Latin America and the Caribbean improve and strengthen their TVET systems within the framework of Education 2030 agenda aspirations is pressing. Nevertheless, please considered TVET is heterogeneously configured in and among all LAC countries, showing dissimilar issues and inner logics based on national educational provisions (secondary and higher education, and training for employment). In that sense, it is relevant to revise the main features, progress, and constant challenges of TVET by highlighting existing similarities and differences sometimes found in the origins of TVET.

1.2. The Configuration of TVET in the LAC Region

1.2.1. TVET's Origin and Main Transformations

First Steps

TVET started in Latin American and the Caribbean countries in a fragmented way. From the 1940s to the 1970s, vocational schools and some art-and-craft trainings as schooling alternatives to secondary academic training were naturally incorporated into school system structures. It is in the late XX century when TVET is fostered in the form of intermediate-level programs, or technical degrees, in higher education, in parallel to university, or in university curricula.

Vocational training was provided as independent services that were aimed at meeting training needs for workers, outside formal education settings. For some, vocational training services resulted from countries' calling to social stakeholders, particularly like unions and professional employer organizations, so they could play a role in creating national development policies by providing training for qualified human capital (Llisterri, Gligo, Homs, y Ruíz-Devesa, 2014). For others, vocational training services were a viable response to the need for promoting the lower class by means of a purely educational activity leaving national education ministries out of the picture.

A pioneer is **SENAI** (Brazilian national educational service for industrial training) in Brazil, created in the early 1940s, propagating across the other countries in the next decades. Some examples were **SENA in Colombia** and **INCE in Venezuela** in the 1950s, and **INA in Costa Rica**, **SECAP in Ecuador**, and **INACAP in Chile** in the 1960s. However, some countries took different directions to fulfil the task; Argentina and Uruguay decided to incorporate accelerated training programs for workers as additional curricula in technical schools (Cinterfor/ILO, 1990).

Structural Reforms in School

In general, secondary technical education originated as an optional path towards labour insertion, while academic education was a path towards higher education. Nevertheless, different national structural reforms in the school system, which were deployed in different times, tried to tinge this dualistic purpose in higher education in order to update and improve vocational education relevance (De Moura Castro, Carnoy, & Wolff, 2000).

We can identify two important excluding types of reforms in LAC countries:

- The first type includes reforms aimed at eliminating training for employment from the national school systems, by promoting only one curriculum with some optional

subjects or a curriculum with different vocational emphases, but without any vocational training whatsoever. In the past, most of these national education reforms did not prosper, but they introduced variations into the configuration of LAC countries' education systems, particularly technical education.

Attempts to reproduce the American comprehensive school system in ***El Salvador, Panama, Colombia in the 1970s and the polymodal-school project in Argentina in the late 1990s are examples of unsuccessful innovations***. The Brazilian reform in 1997, which attempted to remove technical education from secondary education, promoted the provision of concomitant and subsequent technical training and finally recognized this model of technical education integrated into schools, can be added to this unsuccessful group of innovations as well, but with some exceptions.

- The second type includes reforms put in place without affecting vocational education specificity, creating diplomas that were analogous to academic diplomas that trained students for both labour insertion and continuation of studies when including a common core curriculum of general subjects and subject packages on specific fields of employment.

In this second type, the *Bachillerato Tecnológico* (technical diploma) degree created in Uruguay in 1997, the *Profesional Técnico Bachiller* (technical and vocational diploma) degree created in Mexico in 2003, and the *Bachillerato Técnico* (technical diploma) existing in Ecuador since 2011 are included. In countries like Chile, where technical education was open to higher education from the beginning, changes reflect a shorter curriculum duration aimed at promoting a general training and reinforcing technical education preparatory purpose in a discursive fashion.

Changes in Vocational Training in the 1990s

A vocational training originating in big, tripartite and monopolist public institutions also started to undergo significant changes from 1990, which resulted from the original model showing difficulties in adapting to changes in the current socio-economic context characterized by high unemployment rates and significant transformations in production processes and in company organizational structures. In general, changes aimed at including not only working people, but also specific groups with unemployment issues, such as

women and young people for whom training-based programs were developed, as a target audience. Many of these public institutions changed their business registrations to non-profit private entities directly managed by national and sectorial business chambers, as is the case of FOMO, Bolivia, which became INFOCAL when transferred to Confederación de Empresarios Privados (Bolivian confederation of private business). Likewise, private companies were assigned training actions, while states, a former provider of training, took a regulating role and determined policies. The only one controlling model is, thus, disassembled, making way to multiple forms of vocational training in the LAC region (Abdala, 2014; Ramírez, 2002).

Chart A. Trends in Vocational Training Labour Laws

Using a comprehensive, comparative analysis of labour laws in several countries in the Barbagelata region (2000), four vocational training trends in the 1990's were identified:

- i) A focus on economic considerations and on labour market integration as an attempt by countries to improve their levels of competitiveness levels, to provide qualifies workforce for companies, and to facilitate workforce employability;
- ii) Expanding awareness of the right to receive training, which is pointed out and included in both national and international regulations;
- iii) Improving the decentralization process in the form of training provisioning in multiples places and of financing training and training management levels based on territorial dimensions;
- iv) Increasing the significance of pragmatic training and the resulting development of new training and employment contracts, together with training contracts.

Fostering TVET in Higher Education

Regarding higher technical education, one of the main transformations relates to the fostering of technical training provided by independent institutions in parallel to university, which is based on vocational training institutions that are formally promoted to tertiary education. In general, this occurred in countries with a high demand for higher education that attempt to increase tertiary education coverage by diversifying traditional university models and long-term degree training (Jacinto, 2013). Another significant but limited recent change is the academic drift phenomenon, which makes some education institutions decide towards research and development by allowing them to provide bachelor's and post-graduate degrees. Examples of this trend are technology schools in Colombia and polytechnic universities in Mexico.

1.2.2. Organisation of TVET Provision

Formal Education System Heterogeneity

Although segmentation between secondary curricula with academic emphases and secondary curricula with vocational emphases prevails in the LAC region, provision variants for the latter are multiple. Technical and vocational education at the secondary level varies in terms of duration, denomination, and school's position on provision.

In general, duration in secondary level is similar to duration in university/college programmes, covering the last three years in secondary education. However, in some countries like Argentina and Venezuela, duration for TVE in secondary schools is six years, while in other countries like Chile and Colombia duration is only two years.

There are some LAC countries where technical and vocational education is only provided in specialised institutions with a significant standing in technical and vocational education, just like the case of the *Colegio Nacional de Educación Profesional* (CONALEP) schools in Mexico and the *Universidad del Trabajo* (UTU) in Uruguay. Whereas, in other countries like Guatemala, El Salvador, and Ecuador, TVE provision is segregated in schools providing academic subjects.

At the tertiary education level, diversity of training forms is even greater, due to different degree levels for this education in each country, with programs lasting from 2 years to 5 years that can lead to diplomas comparable to university degrees (bachelor's degree, master's degree). This is complemented by institutional provision, since unlike traditional academic education provided by universities, TVE in tertiary education is provided by a wide range of universities with different business registrations and according to the different degrees given by those institutions.

Each country has its own institutional and degree policies, making regional comparison difficult. Additionally, in countries that have progressed in integrating the different variants of TVET, higher education programmes can be also provided by vocational training institutions without supervision by the Ministry of Education, such as SENA in Colombia, and the "S" System in Brazil. Finally, TVET in higher education is still exclusively provided by universities in some countries like Guatemala and Honduras; therefore, TVET is not considered as an alternative education to university.

Institutional heterogeneity in the region should be considered in order to promote certification-recognition policies that support the previously mentioned migration processes.

Vocational Training and Provision Variants

In vocational training, there are three important organisational provisioning variants in the region (Llisterri et al., 2014):

- The first variant refers to a national institution/entity establishing policies and acting as an TVET provider. Additionally, delegates vocational training provision to other institutions whether by contracting, accreditation, or different types of contracts, but always playing a regulating player in all cases. Some examples are INA in Costa Rica, INFOP in Honduras, INCES in Venezuela, and SENA in Colombia. In all of these countries, national entities are still perceived as strongly structuring vocational training providers in the system.
- The second variant shows a clear separation between entities establishing training-for-work policies and strategies, and those providing training services. In this case, the State through the Ministry of Labour takes on a regulating and promoting role in vocational training provided by private institutions. This is the case for Chile, where SENCE works as a public entity that regulates policies without providing any training; this is also the case for Argentina, Uruguay, and Trinidad & Tobago. Argentina and Uruguay also show a development of non-formal skills that continues to be facilitating in technical schools.
- The third variant, present in Mexico, Brazil, and **Ecuador**, among other countries, shows a combination of the two variants above; countries have both specialized public entities establishing policies and promoting training by the private sector, and big national institutions with technical capabilities of establishing their own policies and directly providing education and training actions. For some authors, the coexistence of two variants responding to different logics reflects in countries the presence of logic vices from previous stages and the arising of new political approaches to vocational training that are not yet enough to reach the desired level of institutionalism (OAS, Dutra 1999).

1.3. Key Areas and On-Going Challenges

1.3.1. Access Coverage and Diversification

Secondary education has always been a privileged place for the implementation of TVET in the region. As a result, many countries have a wide and prevailing offer of technical and vocational education in upper secondary education. That is case for Cuba, Chile, Ecuador, Guatemala, and ***El Salvador, where TVET enrollment accounts for over 40% of all enrollments.*** Argentina, Colombia, Costa Rica, and Paraguay show a TVET enrollment of 20%. TVET offer in Bolivia, Peru, Venezuela, and **Nicaragua** is marginal or non-existent at this level. However, in 2013 Bolivia started a gradual implementation of a technical-humanistic bachelor's degree in all institutions providing secondary education within the framework of a new law on education; a TVET expansion in schools is therefore expected in Bolivia (Contreras, 2015).

Chart B. Professional Agricultural Initiation (IPA) in Paraguay

The Agricultural Professional Initiation programme (IPA, by its acronym in Spanish) is a training modality aimed at students between 12 and 14 years old who have finished 6th grade in primary school. The objective is to develop basic technical skills that enable both incorporation in agricultural work in local settings, and continuity of studies in the formal education system. IPA programme promotes a comprehensive community development by in-situ job experience in local farms, so that they can receive technical assistance from both professionals and apprentices. IPA allows rural youngsters to settle in their town and promotes the application of technologies in agricultural activities using technical, economic and environmental sustainability criteria.

Since its inception in 2005, the program has grown dramatically, increasing the number of participating schools from 35 to 700, and students from 1,680 to more than 22,300. A study carried out by the Ministry of Education and Culture of Paraguay in 2011 reported that the technical training provided by the program to the students is seen as a basis for their future careers, encouraging school continuity. There are some pending studies analysing the feasibility for creating IPAs in peripheral urban areas in Paraguay.

Source: Ministry of Education and Culture of Paraguay

Although less extended, technical education provision in lower secondary education is still present in the region.

Over the last few years, countries such as ***Paraguay, Uruguay and Mexico have been fostering their basic technical programs in order to decrease the number of dropouts in the first years of secondary school, particularly*** students of lower socio-economic status or students living in rural areas. In these countries, vocationally influenced technical programmes aimed at young people left behind school who are looking for early labour market integration are also provided in upper secondary education as an alternative to technical degrees. These alternative technical programmes provide vocational skills, as well as facilitating the continuation of studies in higher education.

On the other hand, the trend in ***Caribbean countries*** is to incorporate TVET into general education so all students develop their technical skills in school in the

framework of CARICOM Regional Strategy for Technical and Vocational Education and Training (UNESCO, 2015a). In that sense, in countries like Barbados, Saint Kitts and Nevis, and Trinidad and Tobago, secondary school provide optional TVET subjects granting training and educational certifications by the Caribbean Examinations Council (CXC). Particularly, in Jamaica, where secondary education remains segmented between academic and vocational curricula, it is mandatory that all students learn skills in TVET, regardless of their training/educational orientation (UNESCO, 2015a).

However, policies that can set a new path for formal TVET in a more crosswise manner in the region are those aimed at positioning TVET in tertiary education, because technical

degrees at the secondary level are necessary but not enough for accessing good jobs (Jacinto, 2013). As a result, technical and vocational education at the higher education level is expanding rapidly, mainly in countries, such as Colombia, Mexico, **Brazil, Chile, and Peru** with the highest rates in secondary education completion in the region and with their own parallel-to-university institutional environment for providing TVET at the higher education level. ***In Chile and Peru, the private sector has the deepest involvement in the provision of TVET at the higher education level, but new laws are being developed in order to foster the education sector by creating new public institutions based on the demand for TVET and private sector offer complementarity.***

In contrast, provisions by the public sector in Colombia y Brazil are relevant and commonly have the highest prestige and the low costs, but they are not able to meet the existing demand for TVET and are mainly based in the big urban areas.

One measure taken to counteract the public sector's inability to meet the existing demand for TVET in Colombia was the creation of Regional Higher Education Centres (CERES, by its acronym in English) in the most unattended regions in Colombia in partnership with regional governments and the productive sector. CERES are under the supervision of higher education institutions and SENA; one-hundred and fifty-five CERESs were operating with 36.158 enrolled students in 2013.

In **Brazil**, the National Program for Access to Technical Education (PRONATEC, by the acronym in Portuguese) aims at the expansion of the Federal Network for Education, Science and Technology that provides technical and technological courses at the intermediate and higher levels, as well as professional qualification courses aimed at workers. In the 2011-2014 period, more than 200 new units were incorporated to the network and an additional 360 were incorporated in 507 municipalities in Brazil.

In the area of non-formal skill development, which show low program coverage statistics, TVET diversification results from the emergence of programs for special populations, including socially at-risk young people, racial or ethnic minorities, immigrants, and low-skilled workers. At the same time, there is an increasing decentralization in TVET provision at both public and private levels.

In the first case, regional or local governments are responsible for TVET provision on the public level, while foundations and ONGs are responsible for TVET provision at the private level, as well as companies and unions, which employ vocational training as a positioning

and strengthening strategy. One of the main challenges posed by this new provision architecture is the facilitation of a great coordination between stakeholders, beginning with the private sector (Llisterri *et al.*, 2014). Please note that many of the taken provision actions do not have any defined legal support, they are therefore deployed only as isolated programs due to private stakeholders' and regional authorities' autonomy, making these provision actions hardly last in time (Barretto, 2015a).

1.3.2. On-The-Job Training and Companies's Contribution

An important component of TVET programs is on-the-job training, which can take a variety of forms, such as paid/unpaid internships, dual trainings, or learning contracts.

TVET Internships in secondary and post-secondary

In secondary schools while unpaid internships are recognised to be essential to validate contents learned in schools and to acquire new knowledge and skills, not all secondary students accessing technical and vocational education have on-the-job experience. In Argentina, for instance, internship programs started to be implemented as a mandatory curricular strategy just in 2013. In other countries, such as Chile and Ecuador, although internships are key components of school's technical programs, less than half of secondary students do internships. In **Paraguay**, while the technical degree modality includes a mandatory curricular internship of at least 240 hours in order to offer students their first experience in the world of work, there are no monitoring mechanisms to ensure their effectiveness.

In the case of higher education TVET, in countries such as Colombia and Chile, internships in workplaces are often not a graduation requirement, and internship incorporation is at the discretion of higher education institutions using their institutional autonomy. On the other hand, in Brazil, in the federal institutions and the "S" system, students must fulfill a certain number of curricular internship quotas in a company to be able to graduate. This instance is used by the training institutions for gathering information for the preparation of indicators that guide their educational planning. In Mexico, the Technological Universities have the obligation to schedule residencies or internships at the end of careers. This modality has had positive results and is considered a resource not only to facilitate work insertion for graduates, but also to improve interpersonal communication and problem solving skills (Jacinto, 2013).

Trainees' Protagonism

In the field of **vocational training**, an expression of job training is learning/educational contracts, which establish employment links with companies unlike paid/unpaid internships.

In the region, **Brazil and Colombia** have a long tradition in this area and have well-defined legal regulations that include compliance with trainees' quotas in companies or the payment of a monetary subsidy. In the case of Brazil, learning/educational contracts used to be exclusive to the "S" System, but recently the National Plan for Professional Learning (PNAP, by the acronym in Spanish) promoted the recruitment of trainees from all accredited vocational training institutions. In **Jamaica**, as well as in **Trinidad and Tobago**, learning/educational contracts are seen as a strategy to facilitate the transition from training to work. However, the traceability of labour trajectories of young people graduating from the programs is considered a challenge so that we can have records for evaluating the effectiveness of these initiatives that require significant financial resources and coordination efforts (Barretto, 2015b).

In the region, **Chile** has this type of evaluations carried out using administrative record data when revising the training and labor intermediation system. The results of these evaluations are still preliminary; however, they show that training initiatives for young people on the workplace have auspicious employability results, although limited in scope.

Table C. Challenges for the Implementation of Internship Programmes in the LAC region

According to a study by the Inter-American Development Bank (IDB, 2016), LAC countries face particular challenges for the implementation of programmes. Challenges are linked to a variety of factors, including:

- i) *Economic*: A low economic performance in the region, high levels of informality and high incidence of micro, small, and medium enterprises (MSMEs);
- ii) *Educational*: Skills deficiencies in job seekers;
- iii) *Legal*: Obsolete and/or non-existent regulations on internship regimes, and labour regulations affecting intern recruitment costs and risks perceived by enterprises;
- iv) *Informational*: A lack of adequate information on the labour market, a lack of follow-up, impact assessments, and cost-benefit analysis);
- v) *Institutional*: A lack of sound quality assurance mechanisms;
- vi) *Sociocultural*: An insufficient collaboration between the public and private sectors, and a lack of trust in institutions.

Limitations contrast with the common elements of innovative and effective internship programmes highlighted in the McKinsey & Company report (Farrell & Barton, 2016) built on a knowledge base involving 25 countries having successful training and education systems. Common elements are:

- i) *The elimination of barriers between training providers and employers*, who contribute to the design of curricula and assign their employees as teachers. Training providers consider on-the-job internship hours (not less than half the time of their curricula) as guarantees of subsequent recruitment.
- ii) A joint approach to the education-employment transition. Employers commit to hiring young people before enrolling in any skill development programme.

Dual Training

As in the rest of the world, the dual training model originated in Germany has been replicated and adopted by several countries of Latin America and the Caribbean as a strategy to bring TVET closer to employment. However, experiences are limited in terms of coverage, although they are extensive in other countries like Chile and Costa Rica, where the model has been being implemented as a variant for secondary technical programs for more than 20 years. In Costa Rica, a law is recently attempting to massively promote dual training, normalizing duration of residency in companies. However, approval has gone through a series of difficulties associated with a lack of consensus by social stakeholders regarding the benefits of the alternation between schools and companies.

Chart D. Dual Training in High School Vocational and Technical Education (EMTP) in Chile

In Chile, the dual training model began in 1991 as an initiative of the German Agency for Technical Cooperation (GTZ) and the Government of Chile to bring the education and production sectors closer together through business-school cooperation as two complementary learning options. The model has three key players: the student who works at the company while maintaining his/her student status, the trainer who is responsible for the learning of the student while at the company, and the tutor who is the interlocutor between the educational institutions and the company.

In 2012, about 230 high schools and more than 26,000 corresponding to 14% of the total number of students in the EMTP participated in the model. However, penetration in the curricular offer is not heterogeneous and is more significant in the economic sectors of metalworking, graphics, shipping, and hospitality and tourism. In 2001, an evaluation was carried out on the implementation of the model within the EMTP, by gathering favourable evidence regarding the achievement of skills development by students for labour market incorporation and the continuity of systematic studies. However, there are no recent assessments to corroborate these findings

Source: Ministry of Education of Chile

A variant of this training model is the Uruguayan alternation-based Agricultural Basic Technological Cycle that has been being implemented since 1997, and where some students between 12 and 15 reside in companies and others in production establishments for 1 week. However, coverage is low, reaching only 8 public agricultural schools and approximately 1,000 students, without systematic evaluations of their results.

Dual training has also broken out into higher-education TVET. **In Saint Kitts and Nevis, the Advanced Vocational Education Centre (AVEC)** provides post-secondary programs in dual mode, with a theoretical component of 30% and a practical component of 70%, leading to the relevant higher education degree. **In Ecuador**, the implementation of this model is part of the reconversion project of public technical and technological institutes, seeking to consolidate the offer of TVET education in line with the needs for productive growth. The

same happens *in Peru*, where the new 2016 law for higher education institutes and schools supports the progressive application of dual training in institutions that have the corresponding basic conditions.

The challenge of these recent initiatives is to enhance cooperation between the State and the productive sectors in order to provide dual training within an adequate functioning framework including curricular proposals, skills certification, and shared funding of costs. *Mexico*, has made progress in this regard, by allowing students in secondary technical programs to enroll to this modality in order to obtain an external certification of vocational skills developed during residency in the company according the productive sector standards.

Training Active Workers

Regarding TVET in the workplace, a recent study for the countries in the region showed that only a smaller proportion of active workers receive or undertake a training course or programme in relation to the OECD countries or others in other region for which there is information (IDB, 2016).

Supported by social protection surveys, the study showed that about 9% in *Chile and Colombia* had received some training while working in companies in previous years, while the skilled workers were 13% in *Ecuador*. On the other hand, in countries such as *Mexico*, systematized data showed that only one-third of active workers had participated in a course or training programme throughout their working lives. This proportion falls to 13% in *El Salvador* and 10% in *Peru*. According to the study, LAC percentages contrasts with evidence from some high-income countries where a large proportion of workers receives training on a continuous basis, even in countries with incomes that are more similar to those perceived in the region.

A recent IDB survey of a representative sample of companies in *the Bahamas, Colombia and Honduras* attempted to identify the reasons why companies are not training their workers. Responses indicate that, in many cases, companies in the region have little interest in investing in training their workers because they are not aware of the need to improve their productivity. Other reasons associated with low training are the high costs involved,

the fear of losing workers once trained, and the reduced number of adequate training providers (Flores Lima, González-Velosa and Rosas, 2014).

The study also identifies concerning differences in training provided for workers based on their educational level and age. In general, older workers with lower levels of education are the least skilled, mainly because they require a more intense training, which makes training for this group more expensive. This would explain that, in the absence of public policies changing these patterns, companies provide more training for workers who are younger and more educated, leaving a large part of the region's workers (especially those most in need) without the opportunity for on-the-job training.

1.3.3. Permeability and Learning Ways

Based on the philosophy of lifelong learning, the ways of learning in TVET require vertical tracing between the levels of secondary and higher education, as well as horizontal tracing, with vocational training and informal learning. One of the main constraints to this task in LAC countries has been the institutional division that traces back to the origins of TVET and that prevents speaking of a national system as such in most cases.

Formal Education

While technical school programmes enabling continuity of studies prevail in the region, they are generally not curricularly articulated by technical programmes in higher education. In this sense, there are content voids or repetitions that do not favour trajectories for students.

In **Ecuador**, technical graduates may opt for an additional year of studies to develop specific complementary skills in the same occupational field, obtaining their technical bachelor's degree in production. However, these curricula are not linked to curricula for higher technical and technological education, so they are not an alternative for professional growth (MINEDUC-Ecuador, 2015). To address this problem, strategies implemented have been various, but not always effective.

Since 2005 the MEGATEC program in **El Salvador** is being implemented and curricularly articulates levels of technical secondary education and higher technological education, allowing the reduction of study time. The program, which has a limited scope, is based on

the organization of networks formed by an institution of higher studies, which is called Headquarters MEGATEC, and technical-level study centres that surrounds MEGATEC and train students in the first years (UNESCO, 2013).

In **Chile**, the Articulation Networks of Professional Technical Education carried out within the framework of the *Chile Califica Program* in the last decade had a similar design, but they were not institutionalized at the system level due to various technical and political problems, remaining only as demonstrative experiences without concrete results.

In the early 2000s **Colombia** passed a law to increase permeability and articulation of the system make technical and technological education go through propaedeutic cycles so that students could progress through stages in their training process, from high school to university education. However, universities have been reluctant to open to programs considered to be of lower profile or status; therefore, an alternative path was to create different modalities with higher degrees within the same technical and technological institutions.

In **Brazil**, a more comprehensive strategy is adopted by the "S" System and the Federal Institutes of Education, Science and Technology, guided by the principle of vertical integration for the process of technical and technological education with all levels from basic to doctoral in a single institutional space (Jacinto, 2013).

Informal Education

In relation to informal learning, a significant number of countries in the region have made progress in developing certification systems that allow the standardization, evaluation and recognition of skills acquired during working life, rather than in an educational or training environment.

In some countries, the operation of these systems has been delegated to their national vocational training institutions, such as **the SENA in Colombia and the INA in Costa Rica**, while in others an ad-hoc institutional framework was created for this purpose, as is the case of **CHILE VALORA in Chile and CONOCER in Mexico**. In **Argentina**, this experience has been carried out by the **Ministry of Labour**, which provides technical and financial assistance for stakeholders representing the sectors of activity in the development of the processes and in the recording of their results in the labour market portfolio (Vargas, 2015).

These are systems that have the goal of improving employability conditions for workers by providing them with a portable certificate for their skills and competencies.

However, with some exceptions, these systems are still in their early stages in the region, limiting only to the certification for a limited number of sectors, without covering all the occupational profiles at a national level. Integration of these systems with the training offer and with the formal education is still incipient. Ideally, achieved capabilities for a profile should be identified by certification and training should be provided for failed subject.

Towards Qualification Frameworks

Qualification frameworks are seen as the key tools for linking educational trajectories, vocational training and informal learning acquired at work, because they can facilitate understanding and recognition of equivalences by ordering qualifications into a single structure that is organized in tiers.

The most significant developments in the region are *in the CARICOM countries, particularly Barbados, Jamaica, and Trinidad and Tobago* with well-established frameworks that are used for the certification of skills acquired by people in schools or at the workplace. In addition, national frameworks respond to the Caribbean Vocational Qualification (CVQ), which is a regional benchmark for occupational credentials and, therefore, the cornerstone for achieving a free transit of skilled and certified labour in the single economic market of the Caribbean.

In Latin America, Colombia stands out with the implementation of pilot projects in the ICT and financial sectors, and with a legal regulation supporting the creation of a national qualification framework as the

Chart E. Caribbean Vocational Qualification (CVQ)

The CVQ is a fundamental component of the Regional Strategy for Technical Education and Vocational Training for Human Capital Development and Economic Competitiveness of the Caribbean Community (CARICOM) 2012. It allows the acquisition of credentials that are associated with a set of competencies that meet occupational labor market standards defined in 5 levels:

Level 1. Worker in Need of Supervision

Level 2. Self-Qualified Worker

Level 3. Specialist or Supervisor Worker

Level 4. Master Craftsman or Technologist

Level 5. Advanced and/or Managerial Professional

Occupational standards are developed by inputs from industries in the relevant economic sectors, and they should be reviewed by all member countries and approved by the CARICOM Human and Social Development Council in order to include occupational standards in the CVQ.

TVET institutions in the Caribbean countries must comply with a number of requirements such as standards in terms of infrastructure and facilities. This does not always happen, so the certifications awarded by some providers of this education are only valid at the local and non-regional level.

basic instrument of Colombia's policy for strengthening human capital training (Conpes 3674).

Other countries in the most incipient stages are **Peru, Ecuador, and Chile**, although in the latter the efforts to advance in the conception and design of a qualification framework have been being carried out since 2007.

However, it should be considered that this instrument does not automatically solve articulation problems and low permeability for TVET with the rest of the education system, nor is it the only means to achieve these purposes. The risk is to bog down in reaching consensus regarding scope, objectives and structure, in contexts of high institutional autonomy, and limited state regulation.

1.3.4. Relevance and Quality Improvement

Frequently in Latin America and the Caribbean, TVET is criticised for its poor quality and for not responding to the needs of labour markets and society in general. The effectiveness of their teaching and learning processes is questioned in order to develop relevant skills in people and in accordance with the demands from their environment. TVET is usually categorised as a second-class education, aimed at those who could not access other more socially prestigious options.

The Labour Skills Approach

One of the strategies to address this stigma and to align this training with the requirements of the companies has been the introduction of the labour skills approach in the design of their curricula. With few exceptions, this approach was a key part of the TVET reform processes for secondary education that have taken place in the region since the late 1990s.

Countries such as **El Salvador, Chile, Colombia, Uruguay, and Mexico** have deepened and extended skill-based training in their systems with different variants and conceptual reformulations. However, certain difficulties have been permanently present, such as the excessive bureaucracy in the school system that leads too late to curricular adjustments for updating skills and the lack of teaching strategies to instruct according to the labour skills approach.

In **Chile**, curricula for secondary labour-skills-based technical and vocational education made available to educational institutions in 2002 were replaced just in 2016. Different technical problems prevented administrative policy from making a curricular adjustment. In higher education, the development of relevant skill-based curricula has also been promoted as a strategy for quality improvement, but it has a limitation caused by educational institutions' autonomy when designing and deploying their training offer.

In Colombia, external exams for students who are close to finishing their studies, designed according to labour-skills approach guidelines, allowed adoption by both private and public institutions providing Technical and Technological Education (Jacinto, 2013).

In other countries such as **Peru and Ecuador**, skill-based curricula come from central levels in Ministries of Education, which are responsible for defining vocational profiles curricula for TVET in public higher education within the framework of policies promoting this education.

Chart F. PROJOVEN, National Institute of Employment and Vocational Training of Uruguay.

PROJOVEN is a training programme for low-income young people whose secondary education is not complete and has been in operation since 1994. PROJOVEN's purposes are labour market integration and re-integration, and continuity of studies. The program is executed at a tertiary level by training entities selected through open bids for evaluating the quality and relevance of their training proposals. Entities are required to support their offers by means of a scaled-down market exploration that demonstrates that the training actions are linked to the needs and opportunities identified in the productive sectors of student's environment.

The program is offered in various short-training modalities ranging from 3 to 9 months, including workshops on social and vocational guidance, internships at companies considered part of the training process, as well as a post-training guidance.

In terms of scope, recent data available show that 3,700 young people were selected and referred and took courses provided by 53 training entities in 2009. Thirty-seven per cent of them continued to take some type of training at the end of the programme and 86% got jobs. After more than a year of training, 63% of young people continued to work.

Strategic Decentralization

In **SENA in Colombia**, which is recognised for its close ties to and coordination with the labour market, curriculum development is largely autonomous and determined by regional training centres. One mechanism used by vocational training institutions is the involvement of regional or sectoral round tables in the development of curricula. Tables establish

consultations on the needs of the region and the elaboration of functional maps that outline the skills needed by specific sectors. To this end, they include employers or business chambers, as well as NGOs and the public sector for specific geographical regions or specific productive sectors within the regions. However, regional and sectoral tables do not always operate in a regular way, reducing possibilities for curricula to be updated in a timely manner.

On a smaller scale, *Uruguay's PROJOVEN Training Programme* also defines training relevance at a micro level, because each training institution must certify the participation of the productive sector in the design and deployment of the training offer in order to obtain financing.

Teachers' Training

In addition to the relevance of content to productive sector requirements, a key aspect for TVET quality is the preparation of teachers and trainers. With a few exceptions, this is the largest debt the region has to TVET, and it limits the application of innovative teaching methods and technologies.

In *Bolivia*, for example, the lack of availability of qualified teachers has been one of the major impediments to the implementation of the new curriculum since 2011. The new curriculum highlights the practical, theoretical, evaluative, and productive nature of medium-level technical education. In the country, there are not any teacher training programmes to provide technical education, and potential teachers that could perform provide technical education, are not recognised by unions of teachers (Callisaya, 2013).

In *Paraguay*, there are not any specific training programmes for TVET teachers, except for some isolated experiments in the public and private sectors. The same happens in Costa Rica, where training for teachers in the Ministry of Public Education's technical schools is mainly academic in nature and does not provide any instances for learning in the workplace. In the country, as in many others in the region, the requirements for teaching in these schools are different from those imposed by the INA for vocational training, making sharing resources to cope with the shortage of trained teachers and trainers difficult (Alvarez-Galván, 2015).

The case of Jamaica is different because there is a specific preparation that certifies four types of skills required for this role: technical, academic, training, and attitudinal skills. The Vocational Training Development Institute (VTDI) in Jamaica provides training programmes

granting a bachelor's degree in vocational and technical education for teachers and instructors, along with a series of diplomas in education and training of shorter duration.

Mexico and Argentina have incorporated the professionalization of educational services in the field of secondary TVET and have implemented initial and continuing training programmes training for teachers or aspirants in their recent reforms. However, the impact of these initiatives on improving students' learning outcomes is still unknown.

1.3.5. Information Systems and Quality Assurance Devices

The implementation of information systems that collect and analyse data on TVET offer and results is key to improving the planning, design and evaluation of the proposals and programmes for TVET education. However, in most countries in the region, statistics are limited, as is the availability of national diagnostics. This is mainly due to the presence of multiple stakeholders and to the absence of entities responsible for setting and regulating data collection actions.

The identification of offering institutions and of the associated enrolment, in addition to the limited human resources and computer scientists intended to this task, is even more critical in countries implementing changes for the provision of TVET education at the secondary and tertiary levels (UNESCO, 2013).

In the region, **Brazil** has SISTEC, the only national information system dedicated exclusively to both initial and continuing TVET, which collects data from all educational units that offer technical courses, regardless of their administrative category, whether public or private. In other countries, such as **Chile, Mexico, and Peru**, data on educational units and formal TVET enrollment are collected with information from the rest of the system and are of a general nature, so they do not allow the generation of specific TVET indicators such as completion rates for internships or the number of existing professional councils.

Available information on the results of TVET graduates in the labour market is even less for countries in the region. Follow-up surveys on representative samples of TVET graduates allows data to be available for this purpose.

Mexico and Argentina have national studies on educational and labour trajectories for secondary education graduates. These studies allow both countries to know the type of employment graduates have access to, the associated salary remuneration, as well as the

continuity of systematic studies. However, the performance of these studies is not systematic over time.

A more effective and less expensive strategy is the integration of administrative databases containing census information on educational and labour histories of certain student populations.

Colombia and Chile have observatories for higher education graduates, including those of TVET, which allow both countries to know students' academic profile and working conditions achieved on a certain periodicity. In Chile, the use of these integrated bases has also allowed the country to carry out a wide range of studies on the effectiveness of the secondary technical and vocational education. The challenge is how to carry out research regularly, how to use the results in the design of public policies, and how to adequately share the results with TVET providers and the public.

On the other hand, it is possible to identify that higher level TVET is usually included in national evaluation and quality accreditation processes in some countries, like **Peru, Ecuador, Colombia y Chile**. However, since these operations were originally designed for traditional university/college education, the uniqueness of TVET is not always recognised, failing to verify the existence of effective mechanisms for linking to the labour market that are key to this education.

In the Caribbean countries associated with qualification frameworks, quality assurance systems have been implemented for post-secondary TVET that grant accreditation to programmes and institutions according to a set of standards. This is the case of the Barbados Accreditation Council, which is also responsible for certifying skills within the qualification framework.

In Brazil, the national catalog of technical and technological courses acts as a reference in this area by containing skill profiles, minimum hours, and recommended infrastructure for such courses (Jacinto, 2013).

Finally, around vocational education and training, it is common to find records of providers only or accreditation systems being only a registration mechanism with very low or non-restrictive acceptance condition for providers. Quality assurance in this industry is very limited in Peru and non-existent in Honduras, Chile and Uruguay while it is not mandatory in Colombia (Llisterri et al., 2014).

1.3.6. Based-On-Dialogue Institutionalility

Few countries in the region have an institutional framework in charge of articulating actions for the development of formal and non-formal skills from a systemic approach and with the participation of various stakeholders.

In general, TVET programmes in schools and in higher education are carried out by the Ministry of Education, while the management of vocational training and job training is separated in different departments, including the Ministries of Labour. But even within the ministries of education itself in some countries, TVETs in secondary and higher education are in separate directions or divisions, being managed separately and without achieving the complementarity of policies and actions implemented.

Coordination is more challenging when TVET school programmes also depend on other public ministries besides education. This happens in **Paraguay** with the formal and non-formal agricultural sector programmes that are under the Directorate of Agricultural Education under the Ministry of Agriculture and Livestock.

In this area, the most significant advances are in the Caribbean countries that have national technical and vocational education (NTA) agencies with multisectoral representativeness and act as coordinating and regulatory bodies for TVET systems in countries. The structure of NTAs (also called TVET councils in some countries) varies according to the size of countries and available resources, but it performs similar functions with a focus on promoting the quality and coherence of education and training actions. Recently, these agencies have played a more prominent role in their respective countries, through the Association of National Training Authorities of the Caribbean (CANTA), which is the regional agency responsible for monitoring and directing the plans developed by the countries within the framework of CARICOM's human capital development and economic competitiveness strategy.

In Latin America, the *Instituto Nacional de Educación Tecnológica* (INET) in Argentina is responsible for coordinating the implementation of public policies for technical education at the secondary and higher levels and for vocational training by the Ministry of Education. In that sense, it acts as a linking and articulating entity for the different areas of technical education in secondary school and higher education, strengthening TVET holistic identity. In addition, it has two permanent areas of consultation and agreement, with which it elaborates and revises the proposals TVET: the Federal Commission of Professional

Technical Education and the *Consejo Nacional de Educación, Trabajo y Producción* (CoNETyP) that has a tripartite representation conformed by the State, the employers, and the workers. However, the operation of CoNETyP has been haphazard in some jurisdictions, mainly because those who are part of it do not necessarily represent their sectors, which threaten sector representative's resolving and binding capacities, despite of being regulated by law.

Social dialogue by stakeholders in TVET can take place at different levels and allows us to envision what this education is expected to do so as to achieve different purposes.

In **Parana, Brazil**, a State-promoted programme "Educando para la sustentabilidad" (educating on sustainability) was launched in 2008. This programme originated in a business network in the city of Curitiba, which made an alliance with training institutions to address a broad work agenda that included an introduction of the notion of sustainability in TVET study programmes and when planning students' career paths.

In **Chile**, the Productivity Dialogues of Mining were held, assisting public and private stakeholders of the mining industry, including trainers from Human Resources, in the context of the Productivity, Innovation and Growth Agenda of the Ministry of Economy of Chile in 2014. In that instance, a series of actions were agreed to build technical and management capacities in the mining suppliers with the support of centres of excellence that are specialized in the development of sustainable practices throughout the production chain of the mining industry. This social dialogue allowed for the development of specific proposals for a new Technical Education policy in Chile through the "Mejora la técnica" initiative by the Educación 2020 foundation. The initiative implemented between 2015 and 2016 opened a public and participative space for debate, discussion, and proposals on technical education, demonstrating that changes can be made with the leading role of citizens and civil society.

Private foundations, or international cooperation in other cases, are emerging as new stakeholders facilitating social dialogue and/or promoting alliances. A social dialogue on TVET is, however, facilitates purposes that are more specific. In **Costa Rica**, INA initiates consultations with different local authorities in order to gather specific demands for training and to carry them through mobile units that provide vocational training services to rural areas or that do not have any specialized centres.

Participative or academic institutionalized dialogue groups known as Business Councils are frequently created in secondary and tertiary TVET institutions in order to create alliances with the productive sectors and other relevant stakeholders. However, they are often formal figures that are not regular in their functioning, particularly when they do not have well-defined work agendas and short-term results.

The tripartite nature of the directorates of national vocational training institution in the American countries including entrepreneurs, workers, and government, is another expression of the search for social dialogue on TVET. However, it is also common to find that business representation is more nominal than real, due in part to the institutional weakness of business organizations and the administrative rigidities in training institutions themselves whose governance is defined by public administration rules.

1.3.7. Funding

As a rule in LAC countries, TVET provided in the school system and in higher education is funded firstly by the State and secondly by families, while financing is by fees or internships in the case of non-formal skills development.

National training institutes are funded by contributions or non-fiscal contributions in the form of a mandatory corporate payroll tax, as the case of ***INA in Costa Rica*** and ***SENAI in Brazil***. In other countries, such as ***Chile, Argentina and Peru***, tax deductions or credits operate as incentives for training in companies. Another way of additional financing is the national general budget, which usually includes items to cover both the operation of governing institutions and training systems administrators, and scholarships and subsidies to individuals and companies.

In Argentina, the National Fund for Professional Technical Education was created by national decree in 2005 and funded with an amount that cannot be less than 0.2% of the total current income of the consolidated annual budget and that is calculated apart from resources allocated by the Ministry of Education, Science and Technology. The allocation of resources to the different jurisdictions is made by a polynomial equation that considers the enrollment associated with TVET education and the attended population's socioeconomic vulnerability.

In **Mexico**, law that public education spending cannot be less than 8% of GDP and that at least 1% out of the 8% must be allocated to technological research and development; therefore, TVET has specific budget items to be funded. However, in the vast majority of LAC countries, TVET does not have a guaranteed funding, and the flow of state resources for up-to-date educational equipment and materials is particularly unstable.

Another aspect limiting the available resources for TVET in the region is the existence of an important segment of the productive sector that is part of the non-formal education system, so it is free from tributary taxes obligations and from financially contributing to TVET education.

In the light of the limited government budget for TVET education in some LAC countries, sources of funding for technical schools have diversified, for example through the use of self-generating mechanisms for financial resources that have been used for other educational purposes. In this regard, it is worth noticing Agricultural, Financially Independent Schools in **Paraguay**, where training model combines students' learning with income-generating activities by means of various undertakings established by schools on campus. The undertakings are owned by the school and sell products and services in the local market, generating income to pay for school expenses and ensuring their long-term financial sustainability. At the same time, these ventures offer students an opportunity to learn technical and business skills in a practical way. However, one of the major challenges of the model is to recognise the thin line between the student who is in a learning process and the worker who produces for the educational institution.

PART 2.

How to Transform TVET: Principles and Guidelines for a Regional Action Plan

2.1. Guiding Principles

As previously shown, TVET has always been a key component for the development of Latin American and Caribbean countries regardless of the different prototypes that have been implemented throughout history — from the import substitution model betting on national industrialization and domestic market, the opening resulting from the oil crisis, reforms driven by neo-liberal policies, to policies aimed at improving income distribution over the last decade leveraging economic growth.

Notwithstanding different emphases and learnings progressively assumed by public policies throughout the whole process, the region continues to suffer gaps compromising equity and sustainable development. On this agenda, TVET is one of the foundations for lifelong training for citizens, committing TVET to reviewing emphasis and strategies in question — as demonstrated — in order to face the challenges in the LAC region. Continuing to be conservative would imply perpetrating poverty and informal employment, deepening vulnerabilities of the current productive model, consolidating asymmetries resulting from a lack of transparency in available and to-be-developed qualifications, and continuing to co-exist with labour market heterogeneities having a leading role in the current productivity gaps.

It is from these deficits and the lessons learned from the national and international experiences that the necessary consensus should be promoted. At the same time, policy and capacity building decisions need to be taken in order to ensure a continuous training for a workforce that is strategically better linked to protection mechanisms, in order to move towards formality and access to more productive jobs. There are enough records showing that the latter persist in companies pressured to innovate products and processes, to stay on the frontier of technological change, and to take advantage of the opportunities offered by "human talent management".

¿How to transform TVET so that it contributes to the harmonization of economic growth, social inclusion, and environmental protection within the framework of a broader learning system, which are fundamental to the well-being of people and the societies? UNESCO as one a Specialized Agency of the United Nations contributing to this response decided to forge a holistic approach integrating these three dimensions and facilitating the making of public and private decisions towards the achievement of the goals committed.

This is part of transforming TVET into a foundation for sustainable development, focusing on green economies, inter-generational rights, and global citizenship. This should translate into policies that address climate change, reducing the risk of environmental disasters and biodiversity.

The above will only be possible through teaching methods promoting critical thinking, the imagination of future scenarios and a collaborative attitude in accordance with the aspirational democratic societies. In short, the invitation is to forge innovative TVET that responds better to contextual factors and long-term development trends.

Consistent with the Global Strategy for TVET 2016-2021 (199 EX / 6) and with the commitments of the 2030 Agenda on Sustainable Development, we propose some principles that should guide decisions FTAA countries resolve to make:

TVET is an Anchor for Fundamental Human Rights

The United Nations created a wide range of Human Rights instruments through which Humanity has a universal code of principles, values, and rights that are the aspiration of all peoples. Many of these international regulations are sympathetic to TVET in protecting the fundamental human rights of education and work.

There is explicit reference to the principles in articles 23 and 26 of the Universal Declaration of Human Rights (1948) and in 6.2 and 13 of the International Covenant on Economic, Social and Cultural Rights (1966), ensuring the right to work and education for all. There are also the Convention on the Elimination of Discrimination in Education (1960), the Convention on the Elimination of All Forms of Discrimination Against Women (1979), the Convention on Technical (1989), the Convention on the Rights of the Child (1989), and the Convention on the Rights of Persons with Disabilities (2006).

On the other hand, fundamental rights principles of the International Labour Organization (ILO) contained in the Declaration of Philadelphia, sanctioned in 1944, establish the obligation to promote TVET among nations. In addition, it is recognised in instruments adopted by ILO, in particular the Vocational Guidance and Training in Human Resources Development Convention, 1975 (No. 142), and the Human Resources Development Recommendation: Education, Training and Lifelong Learning, 2004 (No. 195).

Finally, both the 2030 Agenda on Sustainable Development and the 2030 Agenda on Education integrate a human rights approach that, while recognising its cross-dependent, indivisible, and inter-related nature, aims at promoting their realisation as enshrined in the Universal Declaration and other international instruments.

TVET is a “public good”.

TVET acquires the status of public good to the extent that TVET pursues the common benefit of the whole society (social body), not the interest of the State. TVET should be conceived as a guide for political and economic decisions to the extent that it compromises sustainable development of countries in social, economic, and environmental terms.

As a direct consequence, TVET has the characteristic of being "collective"; TVET can be used and enjoyed by all citizens without distinction. TVET management and/or provision is not exclusive to the State but can be also provided by the private sector involving employers, unions and/or civil society. Because of the general interest, it is essential, however, that countries have strict control mechanisms to guarantee accessibility and sustainability.

Clearly, education has always been an interest shared by societies in the region, since it has been decisive for development aspirations, which is reflected on the National Constitutions. Additionally, the international human rights legislation previously mentioned and the Universal Declaration of the United Nations contained. In line with the 2030 Agenda on Education, TVET should promote provision and access for all, including special groups: ethnic minorities, migrants, at-risk youth, and the disabled.

The existing gaps in the region demand all citizens to be socially and productively included. Progress in terms of poverty eradication and better income distribution was the main foundation for employment in the last decade. Therefore, deficits such as informal employment and low productivity can largely be reversed by a relevant and quality TVET in a knowledge and technology-fusion based economy. The best responses that can be implemented will also have an impact on another topic, which is also of public interest: countries' social protection matrix sustainability in terms of funding and universal access.

The validity of this principle requires a permanent construction of alliances between the State, the Private Sector, Trade Unions, and Civil Society.

TVET Ensures Sustainable Development

Consensus reached on 2030 Agenda on Sustainable Development 2030 recognises equality as a guiding principle and underlying value, and structural change as a way of achieving equality. Recognising vulnerability to natural events caused by climate change and dependence on the environment and natural resources as pending challenges is part of the consensus. Undoubtedly, TVET should be part of the development process and should not be considered in isolation; it has a fundamental role to play in the construction of a new paradigm based on environmental care, the use of renewable energies, new forms of production, and patterns of consumption.

TVET, from its contents and training modalities, is a key component of sustainable development and should be ruled by quality and ownership standards linked to economic growth, competitiveness, social equity, and environmental sustainability.

Equal TVET for Men and Women

Discrimination and barriers to women's access to the labour market are an inequality factor among people and a poverty factor among households. Above all, mechanisms are required to: a) facilitate the reconciliation of productive and reproductive life within a framework of social and gender co-responsibility; b) compensate for inequalities in network participation promoting access to employment; (c) train women, since improving their knowledge and skills can open new employment opportunities; (d) encourage recruitment and independent productive employment; and (e) combat cultural biases and discrimination that rule out hiring women for certain occupations and hinder their upward labour mobility.

Consequently, gender inequalities and gender stereotypes must be recognised when proposing a revision programmes, methodologies and forms of TVET institutional organization if we want to revert traditional education forms crystallising women's access to and participation in specific occupational fields, usually those that are not linked to the best salary prospects.

Ensuring the right to education for all requires TVET to empower both men and women equally. This should ensure that both groups have equal opportunities to learn, develop and increase their knowledge, skills and competences, considering their diverse needs. It is aimed not only at access, but also at the deployment of teaching strategies for the development of competencies with a gender-based perspective.

TVET at the Heart of Lifelong Learning

The notion of lifelong learning under which education and training systems should be organised was coined by the Faure Report and highlighted throughout the content in the 2030 Agenda on Education.

TVET includes teaching, training, and skill acquisition for a wide range of occupational sectors, production activities, services and livelihoods. By being part of lifelong learning, it can be delivered at the secondary, post-secondary and higher levels, and look for innovative ways of recognizing and including learning at work and professional development; all of this basing on the recognition of the regional, national and local demands. On the other hand, commitment to the development of learn-to-learn skills, literacy skills, and the promotion of ethical values and citizenship are also an integral part of TVET.

This perspective is essential for people employability so that people can access to decent work and escape poverty. The development of professional skills allows anticipating and equating skill provision in terms of provision relevance and quality compared to the needs of the labour market. It is also useful to adapt to technological and occupational changes, to strengthen knowledge capacities and systems within economy and society inducing and maintaining a sustainable process of economic and social development.

TVET should ensure bridges between different TVET levels and modalities that recognise previously learned contents, as well as fostering flexible processes that

facilitate training without leaving work. TVET's holistic conception encompassing the development of both formal and non-formal skills for people of all ages facilitates this task.

TVET as Part of a Broader Learning System

The 2030 Agenda on Education uses all educational levels and modalities to move towards its general objective of ensuring inclusive and equitable quality education for all and throughout life. To contribute to economic growth, social equity and environmental protection, TVET needs to be addressed as part of a broader learning system. It is a subsystem within a larger system, therefore, its operation cannot be analysed in isolation without considering its links and dependencies upon the performance of other sectors.

This means creating access routes and facilitating the transition between secondary, post-secondary and higher education, particularly by introducing flexible admission procedures and guidance services, credit accumulation and transfer systems, transition programs and equivalence systems with recognition and accreditation of competent authorities. TVET providers and other institutions and authorities in the field of education are called upon to cooperate in the implementation of these measures.

Countries developing TVET should ensure that there is an institutional framework for engaging stakeholders in the labour market. In this way, certifications and curricula developed after consultation to relevant stakeholders can be legally legitimated. This is the way for programs and certifications to be established in a transparent way and to guarantee their quality and relevance.

TVET as a Vehicle for Social Mobility

This principle fuses the economic and social optics that TVET must have in order to promote and improve employability opportunities and income generation for people, beyond their social, economic or cultural background. Citizens and businesses must adapt to technological and market changes concerning in the knowledge economy. To do this, citizens and businesses require devices that allow them to capitalise on new technologies, and support and guide them in their transition from diminishing or low productivity sectors or activities to more production sectors and activities.

Consequently, TVET is called upon to provide relevant learning environments with the requirements demanded by the productive sector and the needs of the people to make them full members of society. Social inclusion is all about favoring that all people develop skills allowing them to continue to learn. The idea is to move TVET away from the vision of a education replicating socio-cultural inequities, by empowering individuals in their educational and work decisions and by opening paths to higher levels of education, including university education.

2.2. Guidelines for National Actions Plans

The review of TVET current state and main trends in LAC countries shows not only that this education is heterogeneously configured in the region, but also that the degree of progress in the different key areas is also broadly heterogeneous. This situation is mainly due to country differences in productive matrix structures, technological change and degree of development of social dialogue. Likewise, the various levels of coverage of secondary and higher education in countries are directly associated with the extent to which TVET is present in these educational spaces and the relevance of vocational training and job training.

However, these differences and the need to keep improving TVET quality and relevance, and the installation of mechanisms guaranteeing quality and relevance are crucial to the building of trust within the national educational systems. However, it is important to articulate the different national systems, looking to favoring people mobility and the recognition of knowledge in the region in the medium or long term. In this regard, the CARICOM experience is an important source of learning in terms of design and implementation. However, the challenge at the level of Latin America and the Caribbean as a whole is greater because of the scale and high heterogeneity between countries.

Considering previously mentioned aspects and following the agreement reached in the TVET Forum for Latin America and the Caribbean held in November 2015 and May 2016, the following guidelines are proposed for countries to implement their own plan of action:

- ***Including TVET as part of a broader and more comprehensive learning system than the various variants that exist***, that can adequately address information deficits related to the existence of education, training and/or skill certification programmes, understanding them as a fundamental tool to combat poverty and social exclusion while promoting productive investment, productivity and greater competitiveness in the region. The aim is to transform programmes into relevant policies, guaranteeing the continuity of actions, the universal reach of them and the impact sought in terms of inclusion and competitiveness at the same time. This view in which the various programs and areas converge will favour their positive impact on the heterogeneity of social and productive contexts they seek to address. For this purpose, the following is proposed:
- Expanding the knowledge base by investing in inter-disciplinary research in a sustained manner, in order to develop new methodologies and give rise to new ways of developing TVET.
 - Establishing a link between TVET and general education in order to create flexible trajectories at all levels and facilitate the advancement of young people and adults to higher levels of education as part of lifelong learning strategies.
 - Promoting the recognition and transfer of individual learning through transparent, well-articulated and results-oriented training systems. Quality assurance mechanisms should also be integrated. Ensuring that all trajectories provide young people with skills that fulfil labour market needs, along with good reading, writing and calculation, and transferable, values, skills, and attitudes.
 - Developing vocational guidance systems to help choose appropriate paths, including the provision of up-to-date labour market information. Having self-assessment tools to identify competencies and interests and promoting the acquisition of skills for career management.
 - Taking innovative measures to deliver quality and inclusive TVET, especially to disadvantaged groups, including people with disabilities, marginalized and rural population groups, migrants and people in conflict and disaster situations caused by climate change.
 - Implementing tools and procedures for the identification, accreditation and certification of skills, especially at an international level.
 - Recognising diversity of certification areas in order to advance towards processes of articulation in terms of training-labour-formative itineraries.

- Establishing a unique national register of institutions and their training offer, regardless of the institutional scope in which they are developed, in order to recognise the multiple institutionalised forms that exist.
- Establishing regional procedures for the recognition of certificates and duly registered certification granting institutions, as a mechanism to promote workers migration.
- ***In the light of technological change and population aging***, the region has to make a qualitative leap in, including but not limited to, productivity, employment quality improvement, vulnerability of micro, small and medium enterprises, as well as in the increasing completion of demographic bonuses at the country level. For this purpose, the following is proposed:
 - Encouraging the incorporation of information and communication technologies (ICT) into TVET in order to reflect the transformations taking place in the workplace and society in general.
 - Promoting teaching internships in productive areas to raise awareness of the use of new technologies and the application of scientific and technical knowledge in the productive areas of goods and services.
 - Identifying and formalising best practices in meaningful learning in the fields of mathematics, reading, science and technology in order to encourage school retention and improve educational quality.
 - Encouraging the exchange of successful experiences in school retention and evaluation of results related to the access of vulnerable populations (young people, women, older adults, rural workers, informal workers, etc.) towards education-training-certification processes through institutional networks (UNESCO-UNEVOC).
 - Promoting good training practices that improve women's access to new technologies in order to promote their entry into quality jobs and reduce the gender pay gap.
- ***In the light of the new issues and the challenge of job creation***, regional evidence and international experience indicate that training for work can be a vehicle for economic prosperity and social progress. An articulation point between the educational and labour spheres is the constitution of spaces for information and orientation beyond the vocational search in terms of careers. Spaces acting preventively

for early knowledge of labour demands and for the avoidance of erroneous decisions and that condition future access to quality jobs; spaces facilitating the development of autonomy levels necessary to build a labour itinerary driving social inclusion and competitiveness, generating rights and responsibilities. For this to happen, the following is proposed:

- Analysing and evaluating the productive decentralization and the existence of productive chains with its own supplier network. This implies to surpass the exclusively sectorial logic for addressing workers training.
- Promoting transversality for some subjects or contents (or skills) crossing trades, companies and sectors, institutional divisions as well.
- Promoting the linkage between production, vocational training, and TVET around value chains. The State is not the only stakeholder to be involved; the business sector, unions, public and private training institutions (especially those that immerse themselves in critical areas as a reference for the most excluded populations) and entities linked to quality management should also play a role.
- Fostering learning at work in its various forms, including training contracts, secondment, apprenticeship contracts, and internships.
- Promoting TVET in the informal economy even through traditional quality learning courses in small enterprises, microenterprises and family businesses, involving the participation of rural and urban stakeholders.
- Coordinating the areas where employment and training policies and programs are developed at the level of the National, Federal and Regional State for exchanges of best practices.
- Developing curricular designs and didactic materials linked to green economy and sustainable development because of integrating education in favour of "green" economies and societies.
- Developing projects for the productive sector that are aimed at generating low levels of carbon dioxide emissions and the capacity to recover from climate change, in order to achieve a genuine "greening of TVET".
- Encouraging a specialized exchange between core topics (new jobs, new sectors, green jobs, programming, e-commerce, etc.) and teaching skills required to meet vulnerable populations' (young people, women, rural workers, the disabled, migrants, indigenous communities, etc.) training needs

- Fostering educational-training instances for teachers and tutors, which are suitable for addressing the new production demands and educational-training requirements of those who work or are looking for a job.
 - Identifying and registering best practices in the development socio-affective skills, basic skills and technical-professional skills demanded by the business sector.
- **Promoting Entrepreneurship:** The need for improving entrepreneurial culture with an emphasis on vocational entrepreneurship and strengthening the institutional scaffolding that facilitates the creation of companies in their gestation, development and consolidation stages is evident. Workers with an entrepreneurial attitude are better able to contribute to the increase of productivity and the innovation of the companies. Because of this, and when it comes to young people, the insertion of entrepreneurship into the contents of TVET is an issue that needs to be taken in a proactive manner. In order to do, the following is proposed:
- Designing agile methodologies for solving problems, and self-knowledge and concrete tools for training entrepreneurs and potential entrepreneurs, particularly young people, in entrepreneurial skills or "soft" skills (such as empathy, understanding and collaboration, acceptance of failure, i.e. non-technical skills).
 - Training suitable teachers-tutors specifically in project management and productive enterprises development.
 - Favours and assisting in the development of entrepreneurship projects for those who learn while in the new trades or training topics.
 - Fostering entrepreneurship management and associative work through specific workshops/seminars and final practical work development which evaluation can be understood as an orientation for the development and future job success of those students' in technical and vocational education institutions.
 - Implementing an on-line Bank of Best Practices on entrepreneurship to be accessed by all.
 - Promoting the development of socio-affective skills favouring responsible autonomy, lifelong learning and organization levels required for sustainable and productive enterprise development and linked to new topics or trades.
- **Design and implementation of qualifications:** This guideline starts by recognising curricular significance in TVET as curricula determine teaching and learning

processes. Addressing the challenge of articulating and balancing fundamental and specific skills that young people need to acquire for both employment and entrepreneurship, and for the continuation of learning in formal education or in job training. Ensuring public and private investment in human talent in order to increase the productivity and competitiveness of national economies, facilitating access to technological innovation, improvements in productivity and better distribution of productive knowledge covering all stages of life for those who work. In this regard, we should:

- Use institutionalised instances for involving the productive sector when designing, implementing and evaluating TVET curricula.
 - Consolidate a unique area of recognition for the processes of continuous training, beyond the areas or levels that would be responsible for it, as well as from the public or private sphere from where they are managed.
 - Establish mechanisms for periodic updating of curricula and implementation monitoring.
 - Generate qualifications frameworks allowing associated the regulation of profiles, curricula and associated credentials without discriminating institutional areas of work in order to promote transparency to employers, officials and students.
- ***Capacity building for stakeholders.*** Stakeholders in TVET are multiple and include their own students and their families. Unlike in general education, companies and unions play a major role in TVET as they are specific users. Involving companies and unions requires sufficient capacities to contribute in strengthening and benefiting from this TVET. In order to do so, the following is proposed:
- Empowering students, through vocational and labour counseling mechanisms that help them make good decisions regarding their educational trajectories and build capacities to meet the challenges of current and future labour markets.
 - Designing and launching devices for information on the characteristics of TVET supply for companies and their unions.
 - Implementing capacity-building and leadership programs aimed at business and social stakeholders involved in TVET.
 - Fostering bridges between the entrepreneurial sector and the education/training sector in order to establish a way forward in the integration of education and work and in the development of skills required by the world of work.

- Promoting teacher education in topics related to the identification, development and recognition of socio-labour and basic skills demanded by the labor markets today.
- **Governance.** Governance mechanisms for TVET require roles, rights, obligations, and accountability of involved public and private stakeholders to be defined. It is imperative for governance and sustainability to encourage stakeholders' participation as well as alliance establishment. To do this, the following is proposed:
 - Facilitating inter-ministerial coordination and strengthening technical, administrative and institutional capacities related to TVET governance, management and funding.
 - Encouraging social partners' participation in accordance with agreed regulations on labour market, education and training.
 - Promoting private sector participation in TVET according to public policies, support for social dialogue, responsibility, accountability and efficiency.
- **Definition of indicators, implementation and monitoring.** Although there are processes for evaluating and monitoring educational policies and programs in most LAC countries, these are non-specific in nature, with progress being limited to TVET in particular. When TVET is subject to evaluation, process results are measured, but medium-term and long-term impacts are not. Ensuring TVET quality requires a set of basic indicators to assess the progress of TVET in the region. The implementation of these indicators can be differentiated according to the reality of each involved country and/or sector, but experience in the use of indicators must be shared. In view of the above, the following is proposed:
 - Identify indicators in the main areas of TVET: funding, access and participation, quality, and relevance (in terms of economic growth, productivity, innovation and improvement of employment quality).
 - Designing and implementing comprehensive information systems on TVET offer in the different LAC countries, and on the results achieved by their graduates in the labour market, in line with the defined indicators.
 - Evaluating the creation of indicators considering the starting level of the TVET systems in the different countries.

- Strengthening frameworks and tools to improve the collection of quantitative and qualitative data that are useful in the formulation of national policies, including information on teachers and trainers, as well as their monitoring and evaluation.
 - Sharing results with institutions, teachers, officials, and representatives of the world of work.
- ***Increasing investment in TVET and diversifying funding.*** Developing measures aimed at diversifying funding sources and engaging all stakeholders through partnerships, including those forged between the public sector and the private sector. Diversification could be achieved by involving companies, local authorities and individuals, while respecting the principles of equity and inclusion on the basis of:
- Recognising that TVET represents a highly profitable human capital investment that benefits a wide range of stakeholders, including individuals, businesses and the State.
 - Diversifying sources of funding by the use of appropriate incentive mechanisms.
 - Promoting funding schemes for specific institutions in order to facilitate access for disadvantaged groups and to jobs in the green economy.
 - Promoting the necessary funding for the operation, including infrastructure, equipment and maintenance, of TVET providers in secondary education, post-secondary education, and higher education. TVET providers should have an appropriate degree of operational and financial autonomy so they can participate in collaboration with their local setting, forge new partnerships to improve the quality and relevance of TVET programs, and generate revenue.

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