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# **EL SALVADOR: HIGHER EDUCATION ASSESSMENT AND RECOMMENDATIONS**

**FINAL REPORT**

**JANUARY 2012**

This report was produced for review by the United States Agency for International Development (USAID) under Task Order AID-519-BC-11-00001 of the Global Evaluation and Monitoring (GEM) II BPA, Contract EDH-E-00-08-00003-00. It was prepared by the Aguirre Division of JBS International, Inc. Its authors are Ronald Saunders, Felipe Rivas, Marcelo Rabossi, Ana Mercedes Ruiz, Diego Avanzini, and John Helwig.

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The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## **Acronyms**

AECID	Agencia Española de Cooperación Internacional para el Desarrollo
AGAPE	Faith-based organization in El Salvador that promotes multisectoral projects aimed at addressing basic needs
ALBAN	High level scholarship program started in 2002 by the European Commission specifically aimed at Latin America
ALFA	EU program aimed at reinforcing cooperation in the field of Higher Education
ARISTOS	Private holding company
BCR	Central Reserve Bank of El Salvador (Banco Central de Reserva)
BMI	Banco Multisectorial de Inversiones
BRIDGE	Building Remittance Investment for Development Growth and Entrepreneurship
CAFTA-DR	US-Central America – Dominican Republic Free Trade Agreement
CASS	Cooperative Association of States for Scholarships
CASSA	Compañía Azucarera Salvadoreña, S.A.
CEDES	Consejo Empresarial Salvadoreño para el Desarrollo Sostenible
CENTA	Centro Nacional de Tecnología Agropecuaria y Forestal
CES	Council of Higher Education
CIDAI	Centro de Información, Documentación y Apoyo a la Investigación (UCA)
CKLN	Caribbean Knowledge Learning Network
CNR	Centro Nacional de Registros
CPI	Consumer Price Index
CSUCA	Consejo Superior Universitario Centroamericano
CUM	Coeficiente de Unidades de Mérito
DIGESTYC	Dirección General de Estadística y Censos
DNES	Dirección Nacional de Educación Superior
ECLAC	Economic Commission for Latin America and the Caribbean (United Nations)
EHPM	Encuesta de Hogares para Propósitos Múltiples (household)
EIU	Economist Intelligence Unit
ENA	Escuela Nacional de Agricultura
ESEN	Escuela Superior de Economía y Negocios
ESFE	Escuela Superior Franciscana Especializada
ESMA	Escuela Superior de Maestros

EU	European Union
FANTEL	Fondo proveniente de la venta de la Administración Nacional de Telecomunicaciones
FEPADE	Fundación Empresarial Para el Desarrollo Educativo
FIECA	Fundación de Innovaciones Educativas Centroamericanas
FIES	Fondo de Investigación de Educación Superior
FMLN	Frente Farabundo Martí de Liberación Nacional
FONEDUCA	Fondo de Garantía para Estudiantes
FTEF	Full Time Equivalent Faculty
FUSADES	Fundación Salvadoreña para el Desarrollo Económico y Social
GIZ	German Society for International Cooperation
GDP	Gross Domestic Product
GOES	Government of El Salvador
GTZ	German Society for Technical Cooperation (now GIZ)
HE	Higher Education
HEI	Higher Education Institutions
ICT	Information and Communication Technologies
IADB/IDB	Inter-American Development Bank
IDHUCA	Instituto de Derechos Humanos de la UCA
IESALC	Instituto Internacional de la UNESCO para la Educación Superior en América Latina y el Caribe
IMF	International Monetary Fund
INSAFORP	Instituto Salvadoreño de Formación Profesional
ITAM	Instituto Tecnológico Autónomo de México
ITCA	Instituto Tecnológico Centroamericano
ITCHA	Instituto Tecnológico de Chalatenango
IUDOP	Instituto Universitario de Opinión Pública (from UCA)
IVIC	instituto Venezolano de Investigación Científica
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
LAC	Latin America and the Caribbean

LM	Labor Market
MA	Master of Arts
MS	Master of Sciences
MCC	Millennium Challenge Corporation (known as Fomilenio in El Salvador)
MDG	Millennium Development Goals
MEGATEC	Modelo Educativo Gradual de Aprendizaje Técnico y Tecnológico
MINEC	Ministry of Economy
MINED	Ministry of Education
NGO	Non-Governmental Organization
NCST	National Council for Science and Technology
OECD	Organization for Economic Cooperation and Development
PAES	Prueba de Aptitudes y Aprendizaje de Egresados de Educación Media
PAO	United States Embassy Public Affairs Office
PhD	Doctor of Philosophy
PILA	Propiedad Intelectual para América Latina
PfG	Partnership for Growth
SEED	Scholarships for Economic Education and Development
SME	Small and Medium Enterprise
SIR	SCImago Research Institutions
UAB	Universidad Andrés Bello
UBA	Universidad de Buenos Aires
UCA	Universidad Centroamericana José Simeón Cañas
UDB	Universidad Don Bosco
UES	Universidad de El Salvador
UEES	Universidad Evangélica de El Salvador (also known as UEvan)
UFG	Universidad Francisco Gavidia
UJMD	Universidad Dr. José Matías Delgado
UMA	Universidad Modular Abierta
UN	United Nations
UNAM	Universidad Autónoma de México
UNDP	United Nations Development Programme

UNESCO	United Nations Economic, Social and Cultural Organization
UNICAES	Universidad Católica de El Salvador
UNIVO	Universidad de Oriente
UNPES	Universidad Politécnica de El Salvador
USAID	United States Agency for International Development
USAID/ES	United States Agency for International Development/El Salvador
USAM	Universidad Salvadoreña Alberto Masferrer
USG	United States Government
USP	Universidade de São Paulo
UTEC	Universidad Tecnológica de El Salvador
VC&T	Viceministerio de Ciencia y Tecnología
WEO	World Economic Outlook (databases compiled by the IMF)
WHO	World Health Organization

# I Introduction

## Higher Education in a Knowledge Economy

Higher education is integral to creating a skilled workforce, encouraging innovation, and ultimately increasing the prospects for economic expansion in a developing country. Whereas in the past, economies were based on the production of labor-intensive commodities, today's global economy is largely based on the products of skilled labor. More value is being transferred to knowledge creation and management, information and communication technology, innovation, and research and development. The emergence of knowledge-based economies is increasingly changing the demand of the global workforce. A major paradigm shift is needed before an economy can grow and be competitive in the new global market, and the ability to make such a fundamental shift depends on a more highly skilled and better-educated workforce.<sup>1</sup> Making this transition is especially important for a country such as El Salvador, whose growth has been impeded by lack of diversification in an economy dominated by the service and manufacturing sectors. Universities and other higher education institutions are key actors in this economic transition, as they are both centers for producing knowledge and for equipping the public and private sector with the skilled labor required to push the economy forward.<sup>2</sup>

## New Trends in Higher Education

Over the last decades increasing access to education has led to the *expansion* of Higher Education Institutions (HEIs) and the process of expansion has produced tremendous *diversification* of HEIs. Private institutions have joined public ones, and technical and vocational schools now complement traditional universities. However, both expansion and diversification have created challenges, such as the decline of the quality of education and the lack of planning and evaluation. Participation in the *knowledge economy* requires a new set of skills. Students need to be flexible and able to continue learning well beyond the traditional schooling process. *Expansion, diversification, and the knowledge economy* are changing higher education and the environment in which it exists. These changes are challenging policymakers to reexamine their systems of higher education and to think creatively about what they can achieve. The strength of all stakeholders must be used, with the international community at last emerging to provide strong and coordinated support and leadership in this critical area.<sup>3</sup>

### I.1 Objectives of Higher Education Assessment

The purpose of this assessment is to assist the United States Agency for International Development (USAID) to understand the current situation and needs of higher education institutions in El Salvador. In particular, to provide: (a) an in depth analytical assessment of the situation of higher education in El Salvador; (b) an in depth assessment, analysis and a set of recommendations of ITCA/FEPADE, a technical institution called Instituto Tecnológico Centro Americano, managed by the Fundación Empresarial para el Desarrollo Educativo (ITCA/FEPADE); and (c) recommendations for a new USAID/ES Five-Year Higher Education Program.

### I.2 Structure of the Report

The report is organized in three main sections to address the objectives of the El Salvador Higher Education Assessment. Section 1 provides an in-depth analytical assessment of higher education in El Salvador. Section 2 provides an in-depth assessment, analysis, and set of recommendations for Instituto Tecnológico Centro Americano, a public institution managed by the Fundación Empresarial para el

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<sup>1</sup> Desrochers, Donna. *Higher Education's Contribution to the Knowledge Economy*. Authored for the Solutions of Our Future Project, 2006.

<sup>2</sup> Olssen, Mark & Michael A. Peters. Neoliberalism, Higher Education, and the Knowledge Economy: from the Free Market to Knowledge Capitalism, *Journal of Education Policy*, 20:3, 313-345

<sup>3</sup> World Bank, 2000. Higher Education in Developing Countries: Peril and Promise

Desarrollo Educativo (ITCA/FEPADE). Section 3 comprises a set of recommendations for a new USAID/El Salvador Five-Year Higher Education program.

### **I.3 Methodology**

The assessment was conducted during the month of August 2011 by a team of two national and four international consultants. The team reviewed 14 Higher Education Institutions (HEIs) as a representative sample. The assessment team conducted interviews and site visits throughout El Salvador. Annex I contains a complete listing of these interviews and site visits. Individuals interviewed included officials of the Ministry of Education (MINED), administrators and staff of educational institutions, parents and students, graduates and former students, private sector organizations and employers, USAID staff, other USG Agencies staff, and the staff of implementing partners of current USAID projects.

The assessment team used four basic methods to obtain its findings:

- Review of HEI documents, and research and background studies in higher education
- Semi-structured questions and interviews with officials of HEIs and key program stakeholders (see Annex I for a list of sites visited and interviews conducted; see Annex II for questionnaires)
- In-depth interviews with key stakeholders of higher education in El Salvador
- Focus group discussions with HEI faculty and students

# Section I: Analytical Assessment of Higher Education in El Salvador

## Executive Summary

### 1.4 Background

In past decades, El Salvador has taken important steps to increase the number of highly skilled workers through increasing national enrollment in higher education. Nonetheless, the Salvadoran higher education system still faces many challenges. Graduation rates are low, higher education institutions face multiple problems providing quality education, and inequities among students are widespread. Furthermore, there is a significant incongruity between the academic offerings and the demands of the labor market. The challenge is to provide relevant education, research opportunities, and employment prospects for talented Salvadorans to ensure a sufficient supply of workers with advanced skills for the national economy.

### 1.5 Findings

#### 1.5.1 Longstanding Challenges

The assessment team found that higher education institutions need to improve relevance of education, research opportunities, and employment prospects for talented Salvadorans in order to ensure a sufficient supply of advanced skills to the national economy. Among key challenges identified in higher education were:

- a. **Faculty Quality:** El Salvador lacks a critical mass of well-qualified and highly motivated faculty. In 2010, about 21 percent of faculty members held a Master's degree, while only about 1.2 percent had obtained a doctorate (MINED 2011). Most faculty members are part-time and have limited time to devote to activities related to quality in HEIs instruction, i.e. scholarly research and capacity development. In terms of gender, male faculty is overrepresented. In 2010, males made up 66 percent of the total faculty body in both universities and non-universities (MINED 2011). With salaries ranging from US\$500-1,000, faculty income is generally very low in relation to that offered by alternative professional careers.
- b. **Pedagogical Model:** Teaching methodologies in HEIs are often obsolete. Rote learning is common, with instructors using a passive approach to teaching. There is little focus on cultivating aptitudes such as creativity, reflection, and entrepreneurship. Most programs have outdated curricula and must change to competency-based coursework development in order to respond to market needs. In light of this need for curricular modernization, it is crucial that instructors receive training to meet this end.
- c. **Access and Expansion:** With a gross enrollment rate of 24.6 percent, student access to tertiary education is low. Nevertheless, gross enrollment at higher education institutions increased by 20 percent between 2006 and 2010 (MINED, 2010). In 2010, the number of students enrolled at the undergraduate level was 123,206, while the graduate population was made up of 2,771 students (most of whom were pursuing master's degrees). Enrollment at the technical level was 24,035 (MINED 2011). Responding to this demand without further reducing quality of higher education is an exceptional task.

- d. Equity:** Even though expansion of higher education has increased access for less privileged groups, this has not translated into a more equitable distribution of students across the Salvadoran education system. According to DIGESTYC Household Survey for Multiple Purposes 2010, 145,749 people hold college degrees. Of those graduates 143,293 are classified as not-poor, 2,456 come from poor households and 420 people are located in extremely poor households. The gap is wide, since 98 percent of professionals with university degrees are from households within higher income quintiles. While the nation has achieved gender parity in education, there are major access disparities based on geographical location (urban versus rural) and household income.
- e. Learning environment conducive to study:** Students face difficult conditions for study, such as: severely overcrowded classes, lack of financial aid, inadequate library and laboratory facilities, and few, if any, career services for senior students.
- f. Internal Efficiency:** From 2003 to 2008, the tertiary education graduation rate (ISCED 5A) increased from 8 percent to 10 percent; however, the fact that nearly 90 percent of students either did not graduate or did not graduate on time is concerning (UNESCO-UIS). Addressing this problem could ease budgetary constraints and provide the basis for improving quality and increasing coverage.
- g. Investment in tertiary education:** Many of the problems involving higher education in El Salvador are rooted in lack of resources. With expenditure of only 13.7 percent of GDP per capita, investment in Higher Education is insufficient (World Bank EdStats, 2007). Funding HEIs needs to be based on high standards and good performance.

### 1.5.2 The Higher Education System

Lack of good management and governance of higher education in El Salvador have hindered system effectiveness. Specific characteristics, as described below, need to be embedded in the system to ensure efficiency, attend broad societal interests, and realize the full potential of cross-sector synergies and cooperation.

- a. Diversified structure:** While the Salvadoran higher education system does have a stratified structure, more balance between national stock of research and general skills is necessary. As the team explores later in the first section, research development in El Salvador is insufficient due to lack of investment (1.5% of GDP) and skilled human resources. In 2009, there were less than 8 PhDs per HEIs (NCST 2010).
- b. Well-Defined Standards:** Even though the Salvadoran system counts on an accreditation agency for undergraduate programs with a variety of methods of quality assurance (detailed in governance), said methods do not emphasize learning outcomes and competencies of students but rather inputs and process aspects of education. The team found that standards over which the accredited universities are evaluated tend to be lax. El Salvador only establishes basic standards in a system where accreditation is not mandatory. In fact, less than half of the twenty-four private universities are accredited institutions. The MINED Accreditation Agency has not enough resources, both at the human and financial level to control the activities inside the system.
- c. Adequate funding:** Financial resources for higher education in El Salvador are usually allocated in accordance with tradition or political influence. Such allocation principles are deemed undesirable, since they do not reward high-performing institutions or foster efficiency. In contrast, other Latin American countries are attempting to establish a direct link between performance and the disbursement of public subsidies. Some of the mechanisms used or being

considered are competitive funds, performance-based funding formulas, and institutional performance contracts.

- d. Supportive legal and regulatory structure:** Although El Salvador has legal and regulatory structures; the legal framework does not ensure a focus on skills; supply and demand; HEIs interconnection; industry; and government. There is consensus among higher education specialists on the need to modernize existing legislation and institutions (Council for Higher Education Accreditation System).
- e. Links with other sectors:** The Salvadoran HEIs does not have a governance structure that allows active participation of stakeholders from industry and civil society. This inward management tendency reflects on the poor knowledge transfer between universities and industry at national and international levels (discussed further in knowledge transfer). The lack of openness of higher education institutions comes at the expense of taking account of broad societal interests and realizing the full potential of cross-sector synergies and cooperation.

### 1.5.3 Governance

The Salvadoran government plays a preeminent role in the governance of the higher education system. Similar to other governments in the region, El Salvador has attempted to share responsibility among HEIs and at the same time supervise them by regulating their functioning. The underlying paradigm is, if institutions are granted a greater degree of autonomy, and if they are submitted to an assessment of results, introducing an adequate mix of financial and other kinds of incentives, universities should increase their quality, relevance, and efficiency<sup>4</sup>.

- a. Accreditation & Assessment of HEIs:** In 1995, while stimulating expansion of HEIs, the State attempted to govern them through legislation by obliging HEIs to be accredited and assessed. The Higher Education Act of El Salvador (1995) established the System for Monitoring and Improving the Quality of Higher Education. It includes the processes of certification (annual), assessment (biennial) and accreditation. Another key contribution of the 1995 law is the constitution of a Board of Higher Education, an advisory body of the Ministry of Education, which oversees the quality of education.
- b. Governance of Public and Private HEIs:** While the University of El Salvador, the only public university in the country, is governed by internally elected academic leaders represented in academic councils, other public technical institutions and private institutions have a centralized, profit-oriented management structure similar to that of a private initiative. There are generally few mechanisms for internal consultation, and faculties often have limited influence on overall planning, management, and decision-making.

### 1.5.4 General and Technical Higher Education

Higher education plays a critical role in the country's economic productivity and growth. Higher education institutions provide graduates with high standard of proficiency (skills) and basic and applied research and technology transfer (research). In El Salvador, despite best efforts, most of HEIs have been struggling to fulfill their roles to provide such resources. Among some of the main constraints faced by the institutions were:

- a. Gap between HEIs and Skill Users (labor market):** The assessment team found that teaching practices do not reflect needs for generic skills and curricula are insufficiently diversified creating skill gaps for market demands. Universities generally do not perform analysis on the behavior of labor markets to determine the programs they need to provide. They end up selecting their

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<sup>4</sup> UNESCO, 2008. Trends in Higher Education in Latin America and the Caribbean.

academic programs based on student demand without considering the needs of the labor market. In the case of technical/technological institutions, their academic programs respond more to the needs of the local productive sector; however, the imbalance between supply and demand of technician positions has led to market saturation by maintaining static program offerings.

Lack of relevance of academic programs is another problem. Training provided is often general, leaving the responsibility for specialization to the graduate or his or her future employer. Private companies do not appear to be interested in assuming the cost of specialization, so this becomes a challenge that higher education institutions must overcome. Interviews with employers and representatives of productive sector associations revealed that training of university students in particular is quite theoretical. Companies requiring technical skill stated that supply of graduates in some areas is very limited and that the availability of technicians at the local level does not correspond to the needs of the productive sector in the area.

- b. Gap between HEIs and Research Users (firms):** There is a wide gap between teaching and research. In El Salvador, the share of research and development (R&D) is very low given that 90 percent of faculty's activities are mainly teaching. In contrast, less than 2 percent of professors invest more than 80 percent of their time doing research. In 2009, there were less than 8 PhDs per institution. This shortage of human capital with skills to conduct research is limiting HEIs' abilities to produce innovations and increase national productivity. In addition, the reduced number of bilingual professors with English proficiency represents a constraint when considering that the bulk of academic production at the global level is in English. Nevertheless, the government has recently created initiatives such as the *Fondo de Investigación de Educación Superior (FIES)* in 2008 and the *Viceministerio de Ciencia y Tecnología (VC&T)* in 2009 to address some of this research gap.

The Salvadoran HEIs does not have a governance structure allowing participation of stakeholders from industry and civil society. This inward management tendency reflects on the poor knowledge transfer between universities and industry at national and international levels (discussed further in knowledge transfer).

- c. Gap between HEIs and other Skill Providers (from primary & secondary education):** Gaps in access, quality and completion start early and get worse through the years. Many young Salvadoran start their studies academically unprepared for higher education. Poor primary and secondary education lie at the root of this problem. Students' lack of preparation to start higher education is reflected in the low performance of the high school assessment test PAES (Prueba de Aptitudes y Aprendizaje de Egresados de Educación Media). In 2011, a report released by the University of El Salvador reveals that the average test score was 3.65 in 2011, a 27 percent drop from the benchmark in 2001 (Picardo 2011).

## 1.6 Main Lessons & Policy Implications

A systemic approach to higher education needs to be established in order for Salvadoran HEIs to improve their performance. This can be accomplished by supporting core stakeholders and their interactions through adequate incentives, capacity, and information.

Additionally, key constraints such as human resources, financing and governance for higher education need to be addressed by:

- Building the human capital stock while maximizing the performance of the existing stock
- Mobilizing more and diversified financial resources

- Using and allocating public funding more strategically: supporting R&D, equity (needs-based scholarships) and performance-based allocation
- Completing autonomy: separating government's operational role from policy role
- Moving to full accountability: empowering governing boards and strengthening quality assurance through disclosure policies and funding for performance

# **I Longstanding Challenges of Higher Education in El Salvador**

## **I.1 The Current Situation**

Higher education institutions clearly need well-designed academic programs. The three most important components of their success, however, are (a) experienced and knowledgeable faculties, (b) committed and well-prepared students, and (c) sufficient resources. Despite some exceptions, most HEIs in El Salvador suffer severe deficiencies in each of these areas. As a result, few HEIs perform to a consistently high standard.

### **I.1.1 Faculty Profile**

A critical mass of well-qualified and highly motivated faculty is critical to the quality of education provided at higher education institutions. Nevertheless, even at top universities in El Salvador, many faculty members have little, if any, graduate-level training. This limits the level of knowledge conveyed to students and constrains the students' ability to access existing knowledge and generate new ideas. In 2010, about 21 percent of faculty members held a Master's degree, while only about 1.2 percent had received a doctorate (MINED 2011).

Teaching methods in HEIs are often obsolete. Rote learning is common and instructors do little more in the classroom than copy their notes onto a blackboard. This passive approach to teaching has little value in an environment where creativity and flexibility should be essential to success. The Salvadoran universities' criteria for recruiting faculty are based on professional credentials or research potential, not on pedagogical skill. The assessment team found that lack of teaching skills was one of the main concerns of the faculty and university administrators who were interviewed. To address this problem, some HEIs have started offering pedagogical courses—some even provided English and computing classes—to train faculty members. Others provided scholarships so faculty members could improve their research skills at international centers. These capacity development activities were not mandatory and though faculty members appreciated the value of these initiatives, they often lacked time to participate in them.

Counting on the quality of a faculty is even more difficult when considering the weak incentive structures found in the country. With monthly salaries ranging from US\$500–US\$1,000, faculty income is generally very low in relation to that offered by alternative professional careers. The compensation structure is based on bureaucratic personnel systems that reward long service, rather than success in teaching or research. Given their low wages, faculty members are compelled to find supplemental work in order to survive financially.

Higher education institutions rely on the commitment of their faculty. Their consistent presence and availability to students and colleagues have an enormous influence on creating an atmosphere that encourages learning (World Bank 2000). Yet Salvadoran HEIs have no rules or limitations against “moonlighting.” Most part-time faculty members, it appears, devote little attention to activities generally associated with increasing the quality of HEIs instruction, i.e., scholarly research and capacity development. Faculty members are often more interested in teaching additional courses at a second institution than in increasing their presence and commitment to the main institution with which they are affiliated.

Working conditions for part-time faculty members in El Salvador are not always ideal. Some of the HEI staff members the team interviewed reported that many part-time employees have no direct access to the Internet in their own institutions. This situation has generated several conflicts among faculty members who have Internet connectivity (full-time) and those without connectivity (part-time). In addition to low wages—only six dollars per hour, on average—part-time faculty members are usually

not eligible to receive benefits such as health insurance or pension. This precarious situation is similar to that generally found elsewhere in the region.

Inadequate faculty time for students or lack of skill in new pedagogies, however, is not a problem with only part-time faculty. HEIs should analyze the working conditions and reward structures for all faculty members. Contracts should allow sufficient compensated time for teaching, preparation, student advising and mentoring, and professional development, so that students are not short-changed by faculty members of any status or rank. Campuses may still save money and gain needed flexibility by using part-time faculty, but they should ensure that the central goal of student learning is achieved through both strategic hiring and inclusive faculty development practices. In the end, both the “contingent” faculty and the full-time, tenure-track faculty, should be supported and developed so that student learning thrives.<sup>5</sup>

The table below illustrates the trends and distribution of part-time and full-time faculty from 2005 to 2009.

**Table I.1 Distribution of Faculty Members according to Type of Contracts**

Year	Full-time		Part-time		Per Class Hour		Total
	Number	%	Number	%	Number	%	
2005	2,650	32.8	1,322	16.4	4,098	50.8	8,070
2007	2,846	34	1,241	14.8	4,283	51.2	8,370
2009	2,940	33.1	1,324	14.9	4,629	52.1	8,893

Source: Prepared based on MINED 2010<sup>6</sup> data

In 2010, with a national total of 9,104 professors, faculty being paid on an hourly basis made up just over 52 percent of all faculty members. In addition to the overall low number of full-time faculty, the majority of professors working hourly or part-time are concentrated at private universities. While institutions such as Universidad Albert Einstein and Universidad Modular Abierta have about 10 percent full-time faculty, over 60 percent of the faculty members at Universidad de El Salvador (the only public university) have full-time contracts.

Overall, in 2010 there were 8,113 university faculty members, of which about 66 percent were males. Specialized institutions employed 664 contracted instructors who were also predominantly male (70%). Technological institutions have the fewest faculty members (327) but the highest percentage of female faculty (69%). Women are not well represented at the tertiary level, making up just over 35 percent of teaching staff at HEIs (MINED 2011).

The lack of a critical mass of bilingual professors is another issue that must be addressed in HEIs. Although there are no official statistics, the team found that there are less than 10 percent of English-proficient instructors (less than 10%) at the HEIs visited, a percentage that was far from sufficient. Consequently, most faculty members are limited to utilizing scholarly texts and journals written in

<sup>5</sup> *The Chronicle of Higher Education*. 2001. Trends in Faculty Employment (chart, pg. 28). Washington D.C: The Chronicle of Higher Education. 48:1

<sup>6</sup> The assessment team found that MINED data provided by HEIs on the number of faculty working full time is not always accurate and reliable. During interviews with university administrators it was reported that sometimes institutions hire four part-time faculty members, each one working one-fourth of the total time required by a full-time position. Therefore, the number of full-time faculty is usually over-calculated. This phenomenon occurs because a higher number of full-time faculty members results in a higher rank in academic status and social recognition.

Spanish, or they have to wait until others are translated into Spanish. The same issues are faced with online resources, given that most information circulated on the web is in English. Also, the team found that some professors have problems gaining access to the internet, which further exacerbates this issue. Ultimately, because faculty members face so many obstacles in keeping abreast of cutting-edge ideas and innovation within their fields, the quality and relevance of their instruction suffers.

The evaluation team found that some institutions in El Salvador offer pedagogical courses to improve the performance of their teaching staff. However, not all HEIs provide such teaching capacity development; usually, each institution determines whether or not to provide them and participation is voluntary. Additionally, while some institutions offer English and computer classes to their staff, most are not able to take advantage of these courses due to their workload and time constraints. Given the need to improve the quality of tertiary instruction, a system-wide approach to training professors at pedagogical centers, such as Escuela Superior de Maestros (ESMA), is necessary. This is especially essential for those who teach at the undergraduate level, where dropout rate is high. Furthermore, in addition to acquiring effective pedagogical skills, professors need to be updated on developments within their field in a regular basis. This will allow their knowledge to be continuously replenished, thereby enriching the curricula and coursework they design.

### 1.1.2 Student Profile

Many young Salvadorans start their studies academically unprepared for higher education. Poor primary and secondary education is the root of this problem. Students' lack of preparation to start higher education is reflected in the low performance on the high school learning assessment test PAES, as the box below illustrates. Poor math and science test results raise concerns about the Salvadoran students' readiness to face the challenges of the 21<sup>st</sup> Century.

#### Figure 1.1 High School Achievement Examination Outcomes

“The results in math and sciences of the standardized PAES exams in El Salvador have been continuously deteriorating in recent years. Academic achievements as measured by national standardized tests show secondary education in an intermediate-low level. Primary education 2002-2006 results reflect very low achievements records, between two and five, particularly critical in mathematics. At the secondary level averages were 1691 points in 2004 (in a scale of 1900, which equals to basic and intermediate) and 4.67 in a scale of 1 to 10 in 2005. The lowest levels are found in mathematics with 1683 points and in Sciences with 1694 points. Approximately 56,000 students take the PAES test, from which a minority come from private schools that usually have a higher achievement in tertiary education.

New students at El Salvador's only public university walked into classes this year with the lowest entrance examination scores in 10 years. A report released by the University of El Salvador says the average test score was 3.65 in 2011, a 27 percent drop from the benchmark in 2001. The decrease has nothing to do with a smaller applicant pool but rather a bigger one, with the number of applications growing by more than 1,000 since last year. The Salvadoran higher education system has in recent years opted for coverage over quality and that the result has been over-enrolled classrooms, less funding for research and a type of learning for the student body that doesn't go much below the surface. Students know the material but they don't understand it and neither can they apply what they've learned.”

Source(s):

- Picardo, O. 2011. El Salvador: Admissions Broaden for Poorer Students. <http://www.universityworldnews.com/article.php?story=2011060318413059&mode=print>

When Salvadoran students enroll in tertiary education they face conditions that make study difficult, such as severely overcrowded classes, lack of financial aid, inadequate library and laboratory facilities, and few, if any, career services for senior students. These difficulties added to lack of HEIs quality compromise internal efficiency and graduation rate. From 2003 to 2008, the tertiary education graduation rate (ISCED 5A) increased from 8 percent to 10 percent; however, the fact that nearly 90 percent of students either did not graduate or did not graduate on time is concerning (UNESCO-UIS).

As the graph shows, El Salvador has one of the lowest rates of graduation in the region.

**Figure 1.2 Tertiary Enrollment (ISCED 5A) and Graduation Rates (%) in select LAC Countries, 2008**

Source: World Bank EdStats, 2008

Notes:

(\*) Completion data from 2007

(†) ISCED 5A<sup>7</sup> enrollment rates calculated based on total tertiary enrollment (ISCED 5 and 6) and distribution of students at ISCED 5A, 5B, and 6.

### **1.1.3 Curriculum Development and Pedagogical Model**

The pedagogical model most common in El Salvador does not involve either student participation or emphasis on methodologies for “learning to learn.” Relying solely on classroom instruction and reproducing content is still widespread, with a frequently inadequate focus on cultivating skills such as

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<sup>7</sup> The UNESCO International Standard Classification of Education (ISCED), ranks level of education at one of seven levels (Level 0 to Level 6), i.e., pre-primary education to the second stage of tertiary education (advanced research qualification or doctorate degree). ISCED 5A programs are those that are theoretically based and provide qualifications for entry into advanced research programs and professions with high skill requirements (UNESCO 1997).

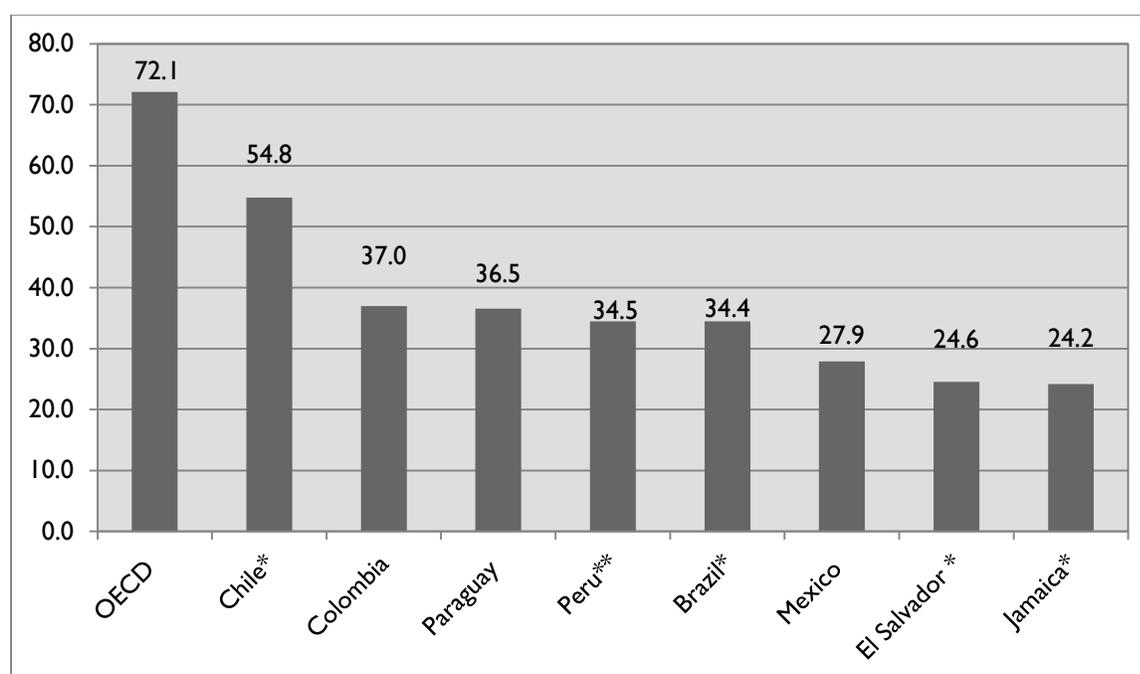
creativity, reflection, and entrepreneurship. Like most countries in the region, El Salvador lacks a more problem-based mode of knowledge formation, which is reinforced by weak ties among university departments and the lack of multi-disciplinary approaches among instructors (Altbach 2003). In addition, the usual requirement that students specialize at the beginning of their studies generates rigidities in the learning process. This rigidity goes against the international preference for more general, competency-based undergraduate education followed by specialization at the graduate level.

Curricula at tertiary-level HEIs and in post-graduate courses are often out of date and offered without flexibility.

#### 1.1.4 Access

As illustrated in the figure below, student enrollment in tertiary education in El Salvador is low compared to enrollment in several Latin America and the Caribbean (LAC) countries and Organization for Economic Co-operation and Development (OECD) countries. Many factors negatively affect enrollment in tertiary education. The first factor is the low participation in secondary education. In 2008, net secondary enrollment was just over 55 percent:<sup>8</sup> Nearly half of secondary-age Salvadoran children were either out of school or not in the grade correlated with their age. Furthermore, in recent years the rate of youth inactivity (the percentage of youth ages 15–24 that are out of school and not working) has been as high as 27 percent.<sup>9</sup>

**Figure 1.3 Tertiary Education Enrollment (%) in select LAC Countries, 2009**



Source: World Bank, 2010

Note: (\*) Data from 2008

(\*\*) Data from 2009

<sup>8</sup> World Bank Indicators, 2008

<sup>9</sup> ECLAC Statistics, 2004

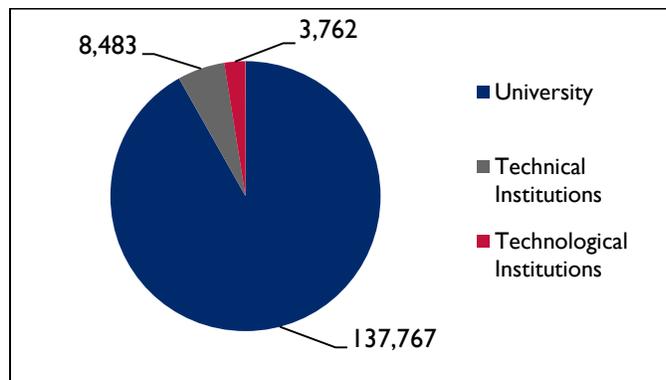
In addition to the education system's inability to retain students and the limited economic opportunities available to youth, other social issues, such as adolescent pregnancy and violence, also contribute to the low number of tertiary enrollments. In 2008, almost a quarter of young Salvadoran women ages 15–19 had already given birth or were expectant mothers.<sup>10</sup> Of even graver concern is youth delinquency in El Salvador and its relation to gang violence in the country. Gangs have become safe havens for poor, undereducated, disenfranchised Salvadoran youth. Gang membership is estimated to be 10,500 in El Salvador, predominantly represented by the regional gangs MS-13 and 18<sup>th</sup> Street.<sup>11</sup> While some youth, especially young men, choose a life of crime and violence, many others are susceptible to being victimized: In 2005, the youth homicide rate was 92.3 per 100,000 inhabitants.<sup>12</sup>

Nevertheless, in recent years El Salvador has experienced an increase in higher education coverage. According to reports from higher education institutions, student enrollment in 2009 increased by 3.78 percent compared to 2008 (MINED, 2010). Adding to the challenge of coverage, El Salvador's higher education system must overcome challenges in quality, relevance, and equity in post-secondary education.<sup>13</sup>

### 1.1.5 Enrollment Distribution

Enrollment in higher education in El Salvador is divided among three types of institutions: universities, technical or specialized institutions, and technological institutions. In 2010, total university enrollment was 137,767, with a student gender distribution of 45 percent males and 55 percent females. Enrollment at technical and technological institutions was 8,483 and 3,762 students, respectively. The gender distribution of students was 67 percent male and 33 percent female at technical institutions, and 28 percent male and 72 percent female at technological institutions.

**Figure 1.4 Distribution of Enrollments among Higher Education Institutions, 2010**



Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

University education is available at 24 institutions. Only one of which is public with 31 percent of the university student population at its four campuses. Private universities received about 69 percent (95,332 students) of all university enrollments. Among students enrolled in El Salvador's six technological institutions, 73 percent were enrolled at one of the three private institutions. Among students enrolled in El Salvador's eight technical institutions, 79 percent (6,726 students) were enrolled

<sup>10</sup> Ibid.

<sup>11</sup> USAID, Central America and Mexico Gang Assessment, April 2006

<sup>12</sup> Waiselfisz, Julio Jacobo. "Mapa da Violência: Os Jovens da América Latina". RITLA/Instituto Sangari, 2008.

<sup>13</sup> It should be noted that the characteristics regarding students are mostly from empirical evidence collected through individual and group discussions with different stakeholders, especially with students, and include the results of a survey carried out during the discussions as well as statistics reported by Ministry of Education Institutions.

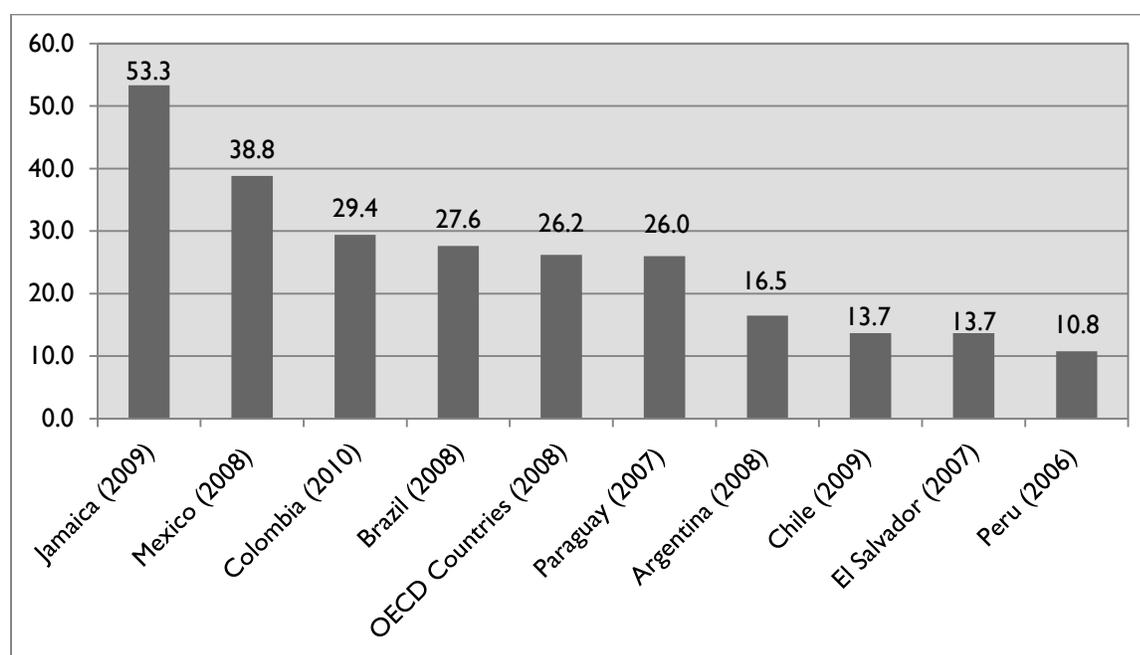
in the three public institutions, while the remaining 21 percent were enrolled in one of the five private institutions.

Most of the university campuses are located in the Department of San Salvador and are less easily accessed by students living in rural areas. Specialized and technological institutions have a broader geographic distribution, but data show that student demand is drastically higher at universities (MINED 2011).

### 1.1.6 Higher Education Resources and Autonomy

Many of the problems involving higher education in El Salvador are rooted in a lack of resources. As the table below illustrates, El Salvador spends far less on higher education than most countries in the region. Nevertheless, the country invests close to what would be expected based on the GDP per capita.

**Figure 1.5 Expenditure per Student, Tertiary Education (% of GDP per capita), select LAC Countries**



Source: UNESCO Institute for Statistics, 2010

Higher education clearly places greater demands on public budgets, with the private sector and international donors taking up only some of the slack. Public HEIs are financed primarily through taxes and are highly dependent on central governments for their financial resources. The fraction of costs absorbed by income from tuition at public HEIs is often very small or nonexistent, and attempts to increase their level encounter major resistance.

In addition to being underfunded, HEIs in El Salvador lack the authority to make key academic, financial, and personnel decisions, and are likely to be slow to devolve responsibility for decision-making to their departments. Despite best efforts, poor governance reduces the ability of HEIs to spend their available financial resources properly.

Low internal efficiency is another problem that reflects on the expenditure of Salvadoran higher education. In 2008, the graduation rate was only 10% (World Bank, EdStats 2008). Addressing this problem could ease budgetary constraints and provide the basis for improving quality and increasing

coverage.

Successful experience on financing higher education in Colombia and Chile, however, provide good policy alternatives for El Salvador. Colombia and Chile are among the Latin American countries that allocate the least public funding to higher education relative to GDP and both countries supplement public subsidies with private contributions. In addition to increasing investment, private contributions have the potential to make the higher education system less vulnerable to fluctuations in the public sector's ability to invest in education.<sup>14</sup>

Financial dependence on the government means that funding levels are unstable and unsustainable because they fluctuate with the ups and downs of state resources. In many Central American countries, higher education budgets are constitutionally fixed as a percentage of government spending. Although this is intended to depoliticize funding, it actually weakens the incentives for good performance and creates a wide perception that higher education receives an unfair slice of the national pie (World Bank 2000). Thus, the lack of sustainable financing continues to limit enrollment growth and to skew higher education forward toward low-cost, low-quality programs.

### Figure 1.6 Successes in Higher Education Development: Pakistan

Pakistan is a country in which higher education has been historically inaccessible to most of its population. Although 2008 World Bank data show that gross tertiary enrollment is only 5 percent of the eligible population, this percentage signifies a 140 percent increase since 2003. Private universities are making a significant contribution to expanding the higher education system in the country—enrollment at private universities increased from 7 percent in 2003 to 33 percent in 2008. Aga Khan University (AKU), founded in 1983 as Pakistan's first autonomous university, is a particularly notable private institution. AKU is a part of and supported by the Aga Khan Development Network (AKDN). Using only private donor funding, AKU has sought to improve the quality of life for people in Pakistan by providing learning and research in health sciences, education, and other relevant areas of study. AKU currently has 2,256 students enrolled, with a 2:1 female to male ratio, and 9,477 alumni. AKU has also established other campuses throughout Southeast Asia and East Africa. Through the cutting-edge academic and professional development programs AKU offers, it has significantly contributed to educating more Pakistanis, raising the standard of quality, producing professionals of a higher caliber.

Sources:

- Kassim-Lakha, Shams, "Innovation within the University: Experiences from Aga Khan University", Presentation at World Bank Conference, June 2011, Bali.
- UNESCO/World Bank, "Higher Education in Developing Countries: Peril and Promise", 2000.
- The Aga Khan University, Visions, Missions, and Values.  
<http://www.aku.edu/aboutaku/akuatagance/pages/visionandmission.aspx>

In summary, traditional ways of funding HEIs need to move toward a flexible system that draws on both public and private financial sources.

## 1.2 The Expansion of Higher Education Institutions

Problems of quality and limited resources are exacerbated by the expansion of higher education, such as the expansion of education coverage El Salvador has experienced in recent years. According to the Ministry of Education, gross enrollment at higher education institutions increased by 20 percent between 2006 and 2010. Responding to this demand without further reducing the quality of higher

<sup>14</sup> Holm, L., Thorn, K., Brunner, J., & Balan, J. (2005). Regional and International Challenges to Higher Education in Latin America.

education is an exceptionally difficult challenge.

Another challenge accompanying expansion is the level of relevance of HEI programs. As discussed further in this section, the uneven efficacy of employment structures was not equal to the increase in entering students and the multiplication of degrees. There was an appreciable gap between the training provided and the knowledge demanded by the labor market.

An analysis of educational expansion in the region revealed that a major difficulty in this process is the highly segmented character of non-university higher education. These institutions often lack a clear educational policy and strategy, a fact that raises many questions about the quality and relevance of the learning they offer. These problems are exacerbated by a lack of information on the educational content and labor market outcomes that could guide student choice (Brunner, 2002).<sup>15</sup>

### **1.2.1 Background**

With net enrollment at 94 percent in primary education and 55 percent in secondary education, El Salvador has substantially increased access to education in the last decades (World Bank, 2008). This increase has in turn impacted enrollment at the tertiary level. More students are entering HEIs, but as has been noted, this has brought new problems—uncontrolled, unplanned, and often chaotic expansion in both public and private institutions. The results, including deterioration in overall quality, the replication of inequalities, and the increased for-profit character of higher education, can compromise efforts to build the national human capital stock.

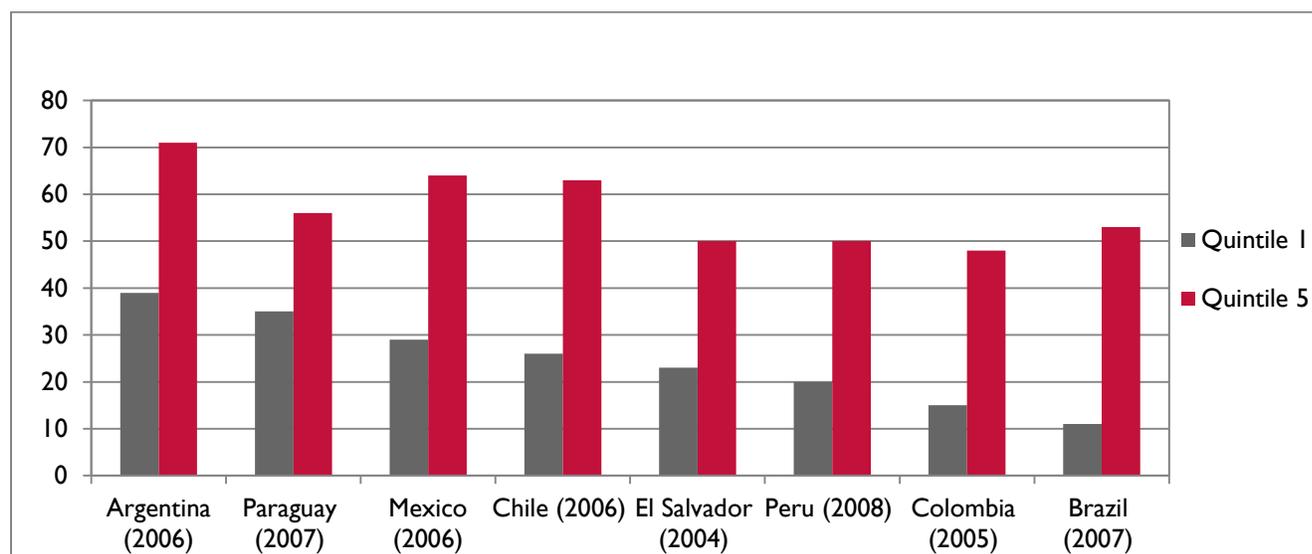
### **1.2.2 Equity**

Even though expansion of higher education has increased access for less privileged groups, this has not translated into a more equitable distribution of students across the Salvadoran education system. While the nation has achieved gender parity in education, there are major access disparities (urban versus rural, wealthy versus poor) based on geographic location and household income. The table below shows that higher education in El Salvador, similar to other countries in the region, remains elitist, with the majority of students coming from the wealthiest groups of society.

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<sup>15</sup> Brunner, José Joaquín. 2002. *Aseguramiento de la calidad y nuevas demandas sobre la educación superior en América Latina*. Consejo Nacional de Acreditación, Cartagena.

**Figure I.7 Tertiary Education Enrollment (%) in Highest and Lowest Quintiles, select LAC Countries**



Source: ECLAC, 2010

Note: Data only includes students ages 18-24

Data from the Multiple Purpose Household Survey also indicates that 15.5 percent of the Salvadoran population have 10–12 years of education, while only 8.2 percent have studied for more than 13 years (DIGESTYC, 2010).

Inequity in higher education stems from inequity in basic education. Students who can afford to pay for high-quality private primary and secondary education are often better prepared for university entrance examinations, whereas low-income students are ill prepared and left with fewer choices, usually involving paying for private HEIs.

According to the DIGESTYC Household Survey for Multiple Purposes 2010, 145,749 people hold college degrees. Of these graduates 143,293 are classified as not-poor, 2,456 come from poor households and 420 people come from in extremely poor households. The gap is wide, since 98 percent of professionals with university degrees are from households in the higher income quintiles.

El Salvador has achieved gender parity. Fifty percent of qualified professionals (72,209 of 145,749) are women with higher education degrees. However, 97 percent of these women come from non-poor households. The percentage of female participation in nontraditional careers (engineering, biomedical, food, electronics, computers, etc.) has increased. For example, in 2002 the percentage of female graduates in nontraditional careers (engineering, biomedical, food, electronics, computers, etc.) increased to 30 percent, up from 10 percent in previous years. Information obtained from graduates indicates that the percentage of female graduates in these technical careers is almost 60 percent less than male graduates. The fact that no data indicate advancement in gender equity, confirms that career choices continue to be sexist.

At the same time, the premise that more years of study means better income is not applicable to women's employment. Evidence shows that men with 13 or more years of education earn 12 percent more than women with the same academic preparation.

### 1.2.3 Access policies for students with disabilities

Rights guaranteed to people with disabilities are addressed in the Higher Education Act. However, a summary report made by the University of El Salvador about the integration to date of persons with disabilities in higher education indicates that there is not yet enough research to paint a clear picture of what universities have done to ensure that this population has access to higher education. Table 1.2 shows the number of students with disabilities enrolled at each Salvadoran university.

**Table 1.2. Number of Students with Disabilities Enrolled per University, 2005**

Institution	Students
Universidad Don Bosco	3
Universidad de El Salvador	24
Univ. Cristiana Asamblea de Dios	1
Universidad Isaac Newton	1
Univ. Autónoma de Santa Ana	1
Universidad Católica de Occidente	2
Universidad Dr. Andrés Bello	2
Universidad Francisco Gavidia	8
Universidad Tecnológica	12
Univ. Pedagógica de El Salvador	3
Universidad de Oriente	2
Univ. Cap. Gral Gerardo Barrios	7
<b>TOTAL</b>	<b>66</b>

Source: Universidad de El Salvador, 2005<sup>16</sup>

<sup>16</sup> Universidad de El Salvador, 2005: Final report of integration of people with disabilities to higher education in El Salvador

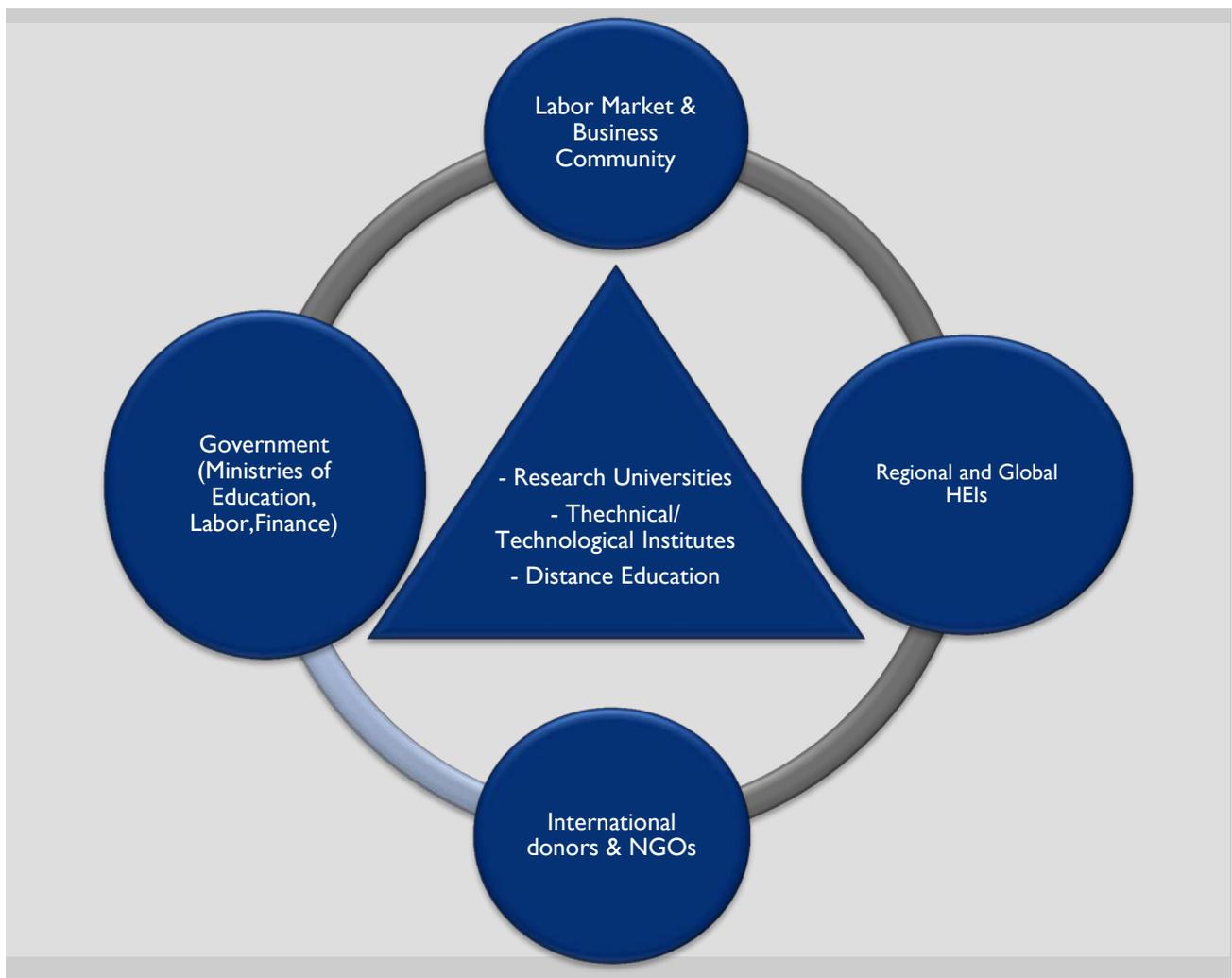
## 2 The Higher Education System

### 2.1 Outline of El Salvador's Higher Education System

The higher education system in El Salvador consists of key components that include the individual higher education institutions, organizations involved in financing and managing HEIs, and the laws and informal rules that guide institutional and individual behavior and interactions among the various stakeholders.

The figure below depicts the higher education system within the overall education system, the labor market and business community, and the government institutions that set the policies and rules in which it works. It also shows that the system is not closed to the outside world; it is linked to regional and global HEIs, international donors and nongovernmental organizations.

**Figure I.8 Schematic of a Differentiated Higher Education System**



Source: Adapted from "schematic representation of a differentiated higher education system." UNESCO/World Bank, 2000. "Higher Education in Developing Countries: Peril and Promise."

## 2.2 Higher Education Institutions

### 2.2.1 Research Universities

Research universities are usually pictured at the top of the educational pyramid. Their main goals are achieving research excellence across many fields, providing high-quality education, and adopting international standards. Salvadoran HEIs with substantial investment in research include University of El Salvador, UCA, University of Don Bosco, and University Andres Bello.

The limited number of research universities in the country can have serious, undesirable outcomes. The inability to pursue research isolates the nation's elite scholars and scientists, leaving them unable to keep up with developments in their own fields. In many cases, recent pressures to expand higher education have diverted such universities from their focus on research with the consequence that their financial situations further diminish their research capabilities.

### 2.2.2 Technical and Technological Institutes

Technical and Technological Institutes are HEIs that focus mainly on producing large numbers of graduates. They emphasize teaching and the training of "job-ready" graduates and are geographically dispersed to attract more students. In El Salvador, MEGATEC is an example of a technical/technological Institute. The assessment team visited the five MEGATEC institutions. All five institutions are owned by the Ministry of Education but administered by private entities: ITCA-FEPADE administers the MEGATECs in La Unión and Zacatecoluca; AGAPE administers the MEGATECs in Sonsonante and Chalatenango; and UniCaes administers the fifth MEGATEC, in Ilobasco.

### 2.2.3 Virtual Universities and Distance Learning

Distance learning is an increasingly important part of higher education systems, with its ability to reach students in remote areas and to address the educational needs of working adults. Although distance and virtual learning have grown rapidly in the United States, Asia, and Europe, it appears to be significantly less popular in Latin America. In El Salvador, modes of distance education like online degree programs are often met with skepticism, because their credibility as a suitable alternative to traditional classroom learning has yet to be firmly established (Martinez, 2007).

It is important to note that in the past El Salvador has implemented various forms of distance learning, such as *Programa de Televisión Educativa* (educational television program) and *Radio Interactiva* (interactive radio). However, these initiatives were mainly focused on delivering basic education or remedial instruction. At the tertiary level, Universidad Don Bosco has paved the way for distance learning, offering its first non-traditional course in 2002 with 40 participants throughout Central America. In 2008, Moodle reported that 32 sites in El Salvador were using this open-source course management system as a platform to offer courses online, of which nine were higher education institutions.<sup>17</sup>

Additionally, the specialized engineering technical institution ITCA-FEPADE began offering online courses through its *Escuela de Educación Virtual* in 2005. As of 2009, 250 students were enrolled in each of its four virtual technical programs.<sup>18</sup> With the exception of these few isolated programs, however, virtual learning is in its infancy in the Salvadoran higher education system.

## 2.3 System Effectiveness

Lack of good management and governance can hinder collaboration among institutions and stakeholders in the system. To make a higher education system effective, it is important to consider the following

<sup>17</sup> Martinez, Nelson, "Educación a distancia en El Salvador, ¿por qué no?", *Científica 9*, Revista de Investigaciones de la Universidad Don Bosco. Online at: <http://www.udb.edu.sv/editorial/cientifica/cientifica9/articulo2.pdf>

<sup>18</sup> ITCA, *Escuela de Educación Virtual, Carreras Técnicas*, 2009. Online at: [http://www.itcavirtual.edu.sv/index.php?option=com\\_content&view=article&id=46&Itemid=68](http://www.itcavirtual.edu.sv/index.php?option=com_content&view=article&id=46&Itemid=68)

characteristics:

### **2.3.1 Diversified Structure**

In order to avoid overlapping of programs and duplication of efforts, a higher education system needs to be diversified. One subdivision of the system should be oriented toward research and selectivity and another to large numbers of students. The structure should specify the articulation between research and Technical/technological institutes. The stratified structure is important to economic performance because they enable the higher education system to produce both specialized and broadly-trained graduates.

While the Salvadoran higher education system does have a diversified structure, more balance between national stock of research and skill is necessary to ensure efficiency. As indicated later in this section, research development in El Salvador is insufficient due to lack of financial and skilled resources. In 2009, there were less than eight PhDs per HEI (NCST, 2010). High quality higher education, research capability and equal access, is more important than ever. It is the role of governments to make sure that there are institutions that can provide both and that access to these resources is not biased in favor of special, privileged groups (Schwartzman, 2003).

### **2.3.2 Well-Defined Standards**

A clear sign of the priority given to ensuring quality standards is the establishment of independent national accreditation agencies and committees. This systemic quality control usually involves the certification of new higher education institutions and the accreditation of existing programs based on established standards and expectations.

The Salvadoran government has created a Commission for Accreditation of Quality of Higher Education Institutions for undergraduate programs with a variety of methods of quality assurance (detailed in governance). These methods, however, seem not to emphasize learning outcomes and competencies of students as much as the inputs and process aspects of education. One national education specialist affirms that, “One of the critical challenges faced by the Salvadoran higher education system nowadays is the new paradigm to create private universities as profitable businesses without investment in quality” (Picardo, O).

The assessment team found that standards over which the accredited universities are evaluated tend to be lax. El Salvador only establishes basic standards in a system where accreditation is not mandatory. In fact, less than half of the 24 private universities are accredited institutions. The accreditation commission does not have sufficient human and financial resources to control the activities of the HEI system. Another weakness of the accreditation model of El Salvador is that it evaluates only institutions, not programs. Inevitably, the assessment of the quality of research at each academic unit is difficult to determine.

To become more effective, HEIs need to articulate clear standards and set challenging goals for themselves that are consistent with the needs of society and labor market.

### **2.3.3 Adequate Funding**

Financial resources for higher education in El Salvador are usually allocated in accordance with tradition or political influence. Such allocation principles are deemed undesirable, since they neither foster efficiency nor reward high-performing institutions. In contrast, other Latin American countries are attempting to establish a direct link between performance and the disbursement of public subsidies. Some of the mechanisms used or being considered are competitive funds, performance-based funding formulas, and institutional performance contracts (Thorn, Holm-Nielsen, and Jeppesen, 2004).

Lack of secure funding hinders the proper incentives and the ability to develop research. HEIs can only succeed if their funds are adequate, conditional on good performance, stable, and secure.

#### **2.3.4 Flexibility**

Institutions need to be flexible in order to adapt to changes at national and international levels. Some of the most common changes include enrollment levels, the popularity of different fields of study, teaching methodologies (competency-based approach) and the kinds of skills demanded in the market. Flexible systems are needed to allow scholarly interaction within and between countries, constant curriculum review, and strong connections with knowledge leaders worldwide.

Additionally, higher education systems need to promote more flexibility in the credit system. In most Latin American countries it is difficult to transfer credits from one program to another, let alone between institutions or between programs in different countries. Students who transfer rarely receive credits for previously completed coursework and often must take supplementary courses, even if the transfer is for the same degree program.<sup>19</sup> Similarly, the Salvadoran higher education system has not yet developed a framework to equate competency-based to traditional credit-worthy system. Competency-based is not compatible or comparable with the traditional instructional approach offered by most higher education institutions where seat time is the metric for learning. For instance, ITCA-FEPADE students cannot transfer credits from technical (competency-based methodology) to engineering programs or vice-versa. This lack of coordination between both credit-worthy systems undermines training efforts undertaken by students.

Establishment of linkages between institutions and programs would reduce transactions costs, improve efficiency, promote competition between providers of education, and facilitate a focus on student demand for learning opportunities rather than the supply of predefined programs. Europe has adopted a cross-national transfer system, the European Credit Transfer System (ECTS), which strengthens vertical and horizontal linkages between institutions and programs at national and regional levels.

#### **2.3.5 System-Wide Resources**

The effective use of knowledge repositories, management information systems, standardized exams, and other centralized tools are essential to improve higher education performance. However, making good use of collected information and self-assessment processes requires that universities have the skills and resources to examine their programs critically and to know how to improve them. For El Salvador and other countries in Latin America, this entails strengthening the administrative capacity of HEIs and nurturing a culture of improvement to ensure that quality assurance initiatives result in the desired changes (El-Khawas, DePietro-Jurand, and Holm-Nielsen, 1998).

The government, perhaps aided by international donors, might also develop a “learning commons” – a combination of computing centers, scientific laboratories, and libraries – accessible to students from all HEIs, public and private. A learning commons would permit more effective use of outside higher education resources and permit some institutions to teach scientific subjects that they would not otherwise be able to offer (World Bank, 2000).

#### **2.3.6 Independence from Political Influence**

Higher education systems are effective only when insulated from the unraveled influence of political parties, governments, or short-term political developments in educational affairs. The tendency of politicians to intervene in higher education can leave many institutions hostage to factional policies, with decisions on student selection, faculty appointments and promotions, curriculum design, and similar matters being made on political grounds rather than on merit (World Bank, 2000).

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<sup>19</sup> World Bank, 2005. Higher Education in Latin America: *The International Dimension*

This situation is applicable to El Salvador and further enhanced by the political history of the country when universities were one of the centers of student political activism. This situation further corrupts the governance systems within HEIs.

### **2.3.7 Supportive Legal and Regulatory Structure**

Although El Salvador already counts on a legal and regulatory structure, the existing legal framework does not ensure a focus on skill development, supply and demand analysis, interconnections among HEIs, or industry and government cooperation, that is, advancing technical and technological work in a framework of national development. There is consensus among higher education specialists on the need to modernize existing legislation and institutions (the Board for Higher Education and the Accreditation Commission) and others that stimulate the sector, particularly the technical and technological development (Rivas, F. 2011).

### **2.3.8 Strategic Links with other Sectors**

Strong links between HEIs and the larger society in the management of higher education institutions can be an effective way to improve the relevance of programs that strengthen national innovation systems. For instance, the specific skill requirements of the health sector could be made available to HEIs in order to ensure that graduates have the skills the sector needs.

However, Salvadoran HEIs do not have governance structures that allow the participation of stakeholders from industry and civil society. This inward management tendency is reflected in the poor knowledge transfer between universities and industry at both national and international levels). This lack of openness in higher education institutions reduces their ability to accommodate broad societal interests and realize the full potential of cross-sector synergy and cooperation.<sup>20</sup>

### **2.3.9 The Role of the State**

An effective system of higher education relies on the active supervision of the state. The government's role is to ensure that the system addresses the needs of economic growth and the wellbeing of society by providing at least the elements of higher education that would not be supplied if left to the market, promoting equity, and supporting those areas of basic research relevant to the country's needs. State supervision, however, should not imply political intervention within HEIs but rather protection of individual institutions' needs for autonomy and academic freedom.

## **2.4 Academic Programs and Student Distribution**

### **2.4.1 Academic Programs**

El Salvador's Higher Education Law recognizes academic degrees at three levels: (a) graduate (master's, doctorate, and specialist), (b) undergraduate (bachelor's, engineer, and architect), and (c) technical (technologist, teacher, and technician). In 2010, 123,206 students were enrolled at the undergraduate level and 2,771 students were enrolled at the graduate level; most of the latter were pursuing master's degrees. 24,035 students were enrolled at the technical level (MINED, 2011).

Table 1.3 depicts the distribution of the student population by gender and type of degree pursued during the 2010 academic year. When analyzing the gender pattern, it appears that women outnumber men in each type of degree program.

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<sup>20</sup> World Bank, 2005. Higher Education in Latin America: *The International Dimension*

**Table 1.3 Degree Program Population, by Sex 2010**

Degree Program	Women	Men	Total
Undergraduate	67,113	56,093	123,206
Graduate	1,413	1,358	2,771
Technical	12,742	11,293	24,035

Source: MINED (2011). Resultados de la Información Estadística de Instituciones de la Educación Superior. MINED, 2011.

“Economics, Management, and Business” is the most popular area of study, accounting for just over 25 percent of all university students. “Technology” and “Health” are ranked second and third, with 21.4 percent and 16.9 percent of students, respectively. The table below shows the distribution of university student by area of study and gender.

**Table 1.4 Distribution of Student Population by Program and Gender, 2010**

ACADEMIC PROGRAM	Men	Women	TOTAL	%
Economics, Management and Business	15,883	22,628	38,511	25.7%
Technology	24,020	8,107	32,127	21.4%
Health	6,812	18,526	25,338	16.9%
Law	6,832	8,815	15,647	10.4%
Education	4,199	10,420	14,619	9.7%
Social Sciences	2,628	4,302	6,930	4.6%
Humanities	2,694	3,649	6,343	4.2%
Arts and Architecture	2,955	2,519	5,474	3.6%
Sciences	1,185	1,525	2,710	1.8%
Agriculture and Environment	1,536	777	2,313	1.5%
<b>TOTAL</b>	<b>68,744</b>	<b>81,268</b>	<b>150,012</b>	<b>100</b>

Source: MINED, 2011, Resultados de la Información Estadística de Instituciones de la Educación Superior.

#### 2.4.2 Composition by age and sex

In all age ranges except those 40 and older, women outnumber men. The majority of women in higher education appear to have overcome challenges of access. There has been pressure to incorporate women in the job market. Table 1.5 shows the distribution of students by age group and gender.

**Table 1.5 Student Population by Age Range and Sex, 2009**

Ages	Men	Women	Total
16-19	12,115 (44%)	15,499 (56%)	27,614
20-24	30,343 (45%)	37,223 (55%)	67,566
25-29	10,850 (46%)	12,531 (54%)	23,381
30-34	4,288 (46%)	4,936 (54%)	9,224
35-39	1,934 (48%)	2,070 (52%)	4,004
40 +	1,485 (54%)	1,286 (46%)	2,771
<b>TOTAL</b>	<b>61,015 (45%)</b>	<b>73,545 (55%)</b>	<b>134,560</b>

Source: Preparation based on DNES-MINED information.

## 2.5 Student Completion of Higher Education

Programs to obtain the technical degree in El Salvador take no more than two years, while bachelor's, engineering and architecture degree programs last at least five years. Doctorates in medicine and dentistry usually take seven years. Between 14,000 and 16,000 new professionals graduate each year, most of whom are women. In 2009, 9,401 female students were enrolled and 6,717 females graduated (the former making up 58.15% of the graduated population). Programs with the highest number of graduates include technology, health, economics and law areas.

In the field of health, the programs with the most graduates are doctorate in medicine and nursing technician. In law, almost all graduates belong to the bachelor's degree in legal sciences. Bachelor's degree programs in business management and accounting make up the largest number of graduates in the field of management and business.

Graduation from a technical or university program requires completion and approval of all subjects in the curriculum and the completion of a number of social service (internship) hours. Bachelor's, engineering, and architecture degree students graduate after they have fulfilled one of the requirements for graduation, which includes four options: excellence, internship, specialization or research project. However, because these graduation requirements are not directly related to the acquisition of employable skills, many graduates are not sufficiently prepared to compete in the labor market.

HEIs usually do not conduct tracer studies of graduates to assess the type or level of their current employment. In addition, there is no instrument in the country to measure mastery of skills developed by graduates, except for those entering teaching careers. Neither is there any systematic follow-up with the graduate population and connection with this group is reduced to occasional meetings and electronic communications for specific purposes.

## 2.6 Cost of Higher Education Institutions

The cost of higher education in El Salvador is high enough to restrict access by a large segment of the Salvadoran population. Table 1.6 presents average higher education costs obtained from surveys and interviews carried out for this study. The information is categorized by type and duration of different careers. By national law, professional (traditional) degrees require five years of study, while technical and technological degrees usually require approximately two years of study.

Table 1.6 Cost of Higher Education in El Salvador, select institutions

Type of Career / University	Registration Fee (divided in 2 payments)	Annual Fee (divided in 10-12 monthly payments)	Total Annual Cost (without including additional costs*)	Total Career Cost (without including additional costs*)	Fee Type
<b>Bachelor/Engineering</b>					
UCA José Simeón Cañas	\$130	\$460	\$590	2950	Minimum Fee
UES	\$10	\$600	\$610	3050	Average Fee
UJMD	--	--	--	3150	Minimum Fee
UNICO	\$138	\$780	\$918	4590	Fix Fee
Universidad Don Bosco	--	--	--	7035	Average Fee
Universidad Evangélica	\$220	\$900	\$1,120	5,600	Minimum Fee
Universidad Francisco Gavidia	\$185	\$650	\$835	4,175	Fix Fee
Universidad Tecnológica	\$150	\$660	\$810	4050	Fix Fee
<b>Gross Average</b>	<b>\$139</b>	<b>\$675</b>	<b>\$814</b>	<b>\$4,325</b>	
<b>Technicians</b>					
ITCA-FEPADE	\$64	\$400	\$464	928	Fix Fee
UCA José Simeón Cañas	\$130	\$460	\$590	1770	Minimum Fee
UES	\$10	\$600	\$610	1220	Average Fee
UJMD	--	--	--	4950	Minimum Fee
UNICO	\$138	\$660	\$798	2394	Fix Fee
Universidad Don Bosco	--	--	--	4825	Average Fee
Universidad Evangélica	\$80	\$540	\$620	1,240	Minimum Fee
Universidad Francisco Gavidia	\$300	\$550	\$850	2,550	Fix Fee
USAM	\$306	\$960	\$1,266	2532	Minimum Fee
<b>Gross Average</b>	<b>\$147</b>	<b>\$596</b>	<b>\$743</b>	<b>\$2,490</b>	

Source: Survey data collected in August 2011.

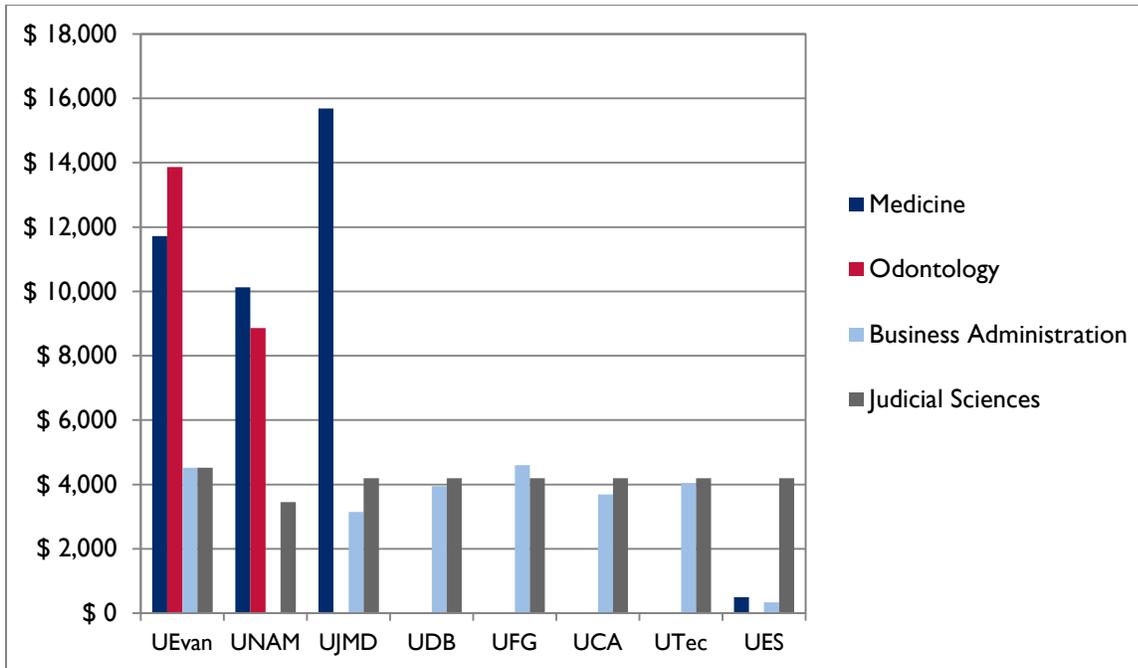
Note: None of the costs includes charges for such items as laboratory use, peripheral equipment, graduation costs, and incidentals. These costs are highly variable among careers and represent, on average, about 40–42 percent of the career preparation cost.

It should be noted that technical careers are not necessarily less expensive than traditional, professional careers. The most important difference is the time that it takes to get a degree and enter the job market. This difference could be resolved if technical careers were offered as the first part of a professional career. This would give students the opportunity to earn a technical degree after several years of study and then decide, according to their needs and job opportunities, if they wanted to continue their education for a professional degree or to enter the job market.

The significant differences in the cost of different career-training programs among various universities are depicted in Figure 1.9. Medicine and odontology lead in cost. The cost of business administration and

judicial sciences are very similar across most universities. The one important exception is the Universidad de El Salvador, which is the only public university in the country and is highly subsidized by public funds. In recent years experts reported that the university’s capacity and the quality of education being delivered has decreased.

**Figure 1.9 HEIs: Comparative Costs of Traditional Areas of Study for Select Universities**



Source: MINED

### 2.6.1 Merit and need-based scholarships, internships, and exchange programs

When a student cannot afford post-secondary education, an important alternative is to pay for higher education through a grant, scholarship, internship, or exchange program. Several of these programs are currently in effect in El Salvador:

- *State-funded grants:* Institutions such as ITCA-FEPADE, the Universidad de El Salvador, and the Red MEGATEC are publicly funded. The government usually provides the subsidies in three ways:
  - Tuition fee grants intended to cover tuition and registration fees
  - Stipend grants to provide meals and transportation to students
  - General transfers intended to finance living costs, administration, materials, equipment, etc.<sup>21</sup>
- *Other State-funded grants:* Alternative mechanisms to fund higher education have been implemented. For example, the Central Reserve Bank of El Salvador has a scholarship program intended to fund professional and technical careers.<sup>22</sup> These grants are intended to fund graduate and post-graduate studies, in Salvadoran or foreign universities.

<sup>21</sup> ITCA and the Red MEGATEC are national technical higher education institutions administered by private NGOs that specialize in education. ITCA is under the administration of FEPADE, together with the MEGATECs in Zacatecoluca and La Unión. AGAPE administers the MEGATECs located in Chalatenango and Sonsonate, while UNICAES (a private university) administers the MEGATEC located in Ilobasco. All these administrators receive the grants and transfers and are fully accountable for those funds.

<sup>22</sup> The fund is administered by FEPADE, an NGO dedicated to higher education that also administers ITCA. Another state-funded scholarship program is the FANTEL Scholarship Program, funded with resources generated when the state-owned telecommunications enterprise, ANTEL, was privatized in 2001.

- *Privately-funded grants:* NGOs dedicated to education such as AGAPE, FEPADE, ESEN, FUSADES, ARISTOS, also support higher education by means of grants that fully or partly cover tuition fees and stipends for low-income, high-performing students.
- *Self-funded grants and scholarships:* These scholarships are usually funded by the income the educational institutions generate with special on-demand training programs and other services they provide to the community.<sup>23</sup>
- *Industry-funded scholarships and internships:* The private sector funds higher education by means of specific grants or scholarships, or donates equipment required for teaching. The most important advance in HEI-industry partnership is the dual technical programs.<sup>24</sup> The programs are intended to provide education and on-the-job training through a dual education system that allows students to take classroom-based courses for two months, and work at an industrial plant for a month, alternating both activities. Part of the commitment between the HEI and the industry is that the firm pays for tuition and materials while providing stipends. These dual programs provide financial support, not only to study, but also to make a living while studying.
- *USAID/SEED-funded grants and scholarships and exchange programs:* USAID/SEED is a program funded by USAID-Washington and implemented by Georgetown University. It is intended to provide Salvadoran students with high quality, community college education in the United States. The objective of the program is to foster the exchange of ideas and specialization exposure.
- *US Embassy Public Affairs Office (PAO)* supports several institutions in El Salvador, and also assists with the Fulbright and Laspau program, the ten-month Humphrey Scholarship, and a three-month research grant program.
- *Other international donor-funded grants and scholarships:* Donations and exchange programs with different universities from Canada, Mexico, Costa Rica, Brazil, Argentina, Chile, Colombia, Taiwan, Japan, Australia, and countries of the European Union, especially with Spain, Switzerland, and Germany, are an important way to fund high quality education. There is also direct funding from European governments and the United States in the form of grants and scholarships, training for teachers, installing equipment, or providing other materials. These funds help to reduce operations costs, improve teaching, and indirectly reduce tuition fees, while increasing education quality.

In the final analysis, in addition to financial aid, part of the investment for improving higher education needs to provide additional income to students, since many of them face major opportunity costs to attend higher education institutions.

### **2.6.2 Policies and mechanisms for student loans**

Another alternative for financing higher education is to get a loan. Currently, three alternatives exist in the Salvadoran market:

- I. *Personal credits:* One alternative is to get a loan based on one's personal or family financial capacity, or guaranteed by a mortgage. Interest rates vary between 8 percent and 15

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<sup>23</sup> Such is the case of the scholarships FEPADE self-funded at ITCA, and AGAPE at the ESFE MEGATECS

<sup>24</sup> These programs are implemented as part of the partnership between specific institutions such as ITCA-FEPADE and privately-owned firms such as *Compañía Azucarera Salvadoreña* (CASSA), Aeroman, Duke Energy, and others.

- percent (based on the risk), depending on the guarantee and the income level of the student or family.<sup>25</sup>
2. *Banco Multisectorial de Inversiones (BMI)-funded credits:* The Central Reserve Bank of El Salvador (BCR) provides this state-owned second-floor banking institution with funds to finance several activities aimed at fostering growth and improving welfare. The BMI is currently using about 15 percent of its budget to finance both technical and traditional higher education.<sup>26</sup>
  3. *ARISTOS-funded credits:* These will be available to fund next year's education. ARISTOS, a for-profit firm that owns several franchises, has created a non-governmental organization (NGO) for community service. As part of its program, the ARISTOS NGO has decided to create a fund to provide loans to students pursuing technical careers. The fund will provide credit for students from ITCA-FEPADE in the first stage of the project, starting in 2012.

Two points are worth highlighting regarding education credit:

- First, the Salvadoran financial system is not prepared to efficiently provide this type of credit and does not have the necessary training and tools to adequately administer this type of financial product. In part, this is the result of the generalized perception that education loans are not sufficiently profitable.
- Second, no income-contingent loans are available in the market. Even the loans funded by the state budget through the BCR have strict rules about installment payments, terms, and timing. None of the available education credits includes clauses allowing for extension of the grace period if and when the newly graduated student cannot find a job. This situation has various implications, one of them being that the student has to accept lower quality jobs after graduation because of this financial burden.<sup>27</sup>

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<sup>25</sup> The Salvadoran financial system does not have a specialized banking sector to service education loans, so loan applicants are treated as any other commercial customer and no special considerations are taken into account (for example, the purpose of the loan). Another problem of this financing option is that the financial system does not provide differential interest rates according to family income. In fact, lower income applicants are charged higher interest rates and stricter loan conditions, restricting access to credit.

<sup>26</sup> However, all the first-floor financial services are provided through four privately-owned banks that apply their own rules and selection system to the loan applicants. Again, not having specific capacity to deal with education credit is a shortage of the system.

<sup>27</sup> See Annex III for a description of a lending model used by the BMI and another used by the ARISTOS Foundation.

## 2.7 Women in Higher Education

Women's access, retention, and completion in higher education programs constitute a breakthrough in gender equality. Although unemployment rates among women are below the national average, those of men are above it.<sup>28</sup> At the same time, men's salaries and working conditions are more favorable than women's. In addition, both visible and invisible underemployment affects women more than men.<sup>29</sup> It is important for higher education institutions promote the development of skills that allow substantial change in the position of female professionals and technicians.

It remains common for men to hold positions at the top of job hierarchies. This can be observed including higher-education institutions. Women's participation in politics and decision-making are still limited due to a political culture of discrimination that diminishes women's access and participation in positions of power.

Given the growing presence of female students at higher-education institutions, there are many opportunities to change the disadvantaged position of women in economic and political spheres. Some of the actions that universities and technological institutes can promote include:

- Incorporate a gender perspective in a cross-section manner (mainstreaming); implement specific measures to promote the role of women in decision-making.
- Develop capacities in the teacher population for mainstreaming a gender focus in their performance, helping to eliminate gender-biased practices and improve gender relations in school and family institutions.
- Sensitize the education community and potential employers to transforming the stereotypes that segregate types of occupations according to gender.
- Develop female students' competencies for creating and managing productive, profitable companies.
- Encourage the creation of business networks that coordinate link the female student population with business associations to facilitate networking and information transfer and promote women's employment in better positions and working conditions.
- Carry out gender training to develop decision-making and business leadership capacity among women.
- Support interdisciplinary research that expands knowledge about the working conditions and position of women, specifically in political and economic areas.

Unequal relationships between men and women will not change if actions are directed only at women. Higher-education institutes must include the student population and male faculty members and administrators in bringing about change. Some of these actions could focus on the promotion of shared responsibility in the family regarding childcare and housework.

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<sup>28</sup> The national unemployment rate is 7.1%. For men it is 8.4% and for women it is 5.1% (DIGESTYC, 2010).

<sup>29</sup> Visible underemployment refers to people who involuntarily work less than 40 hours per week, while invisible unemployment means those who work 40 hours a week but receive an income less than the legal minimum wage valid for the activity that is performed.

## **3 Governance**

### **3.1 The Role of State**

#### **3.1.1 Legislation and Regulation**

The Salvadoran government plays a preeminent role in the higher education system. Similar to other governments in the region, El Salvador has attempted to share responsibility among HEIs and to regulate their functioning. The underlying paradigm assumes that (a) if institutions are granted a greater degree of autonomy and (b) if their results are regularly assessed, then, (c) introducing adequate financial and other incentives should result, (d) in universities' increased quality, relevance, and efficiency.<sup>30</sup>

#### **3.1.2 Accreditation and Assessment of HEIs**

In 1995, while stimulating expansion of HEIs, the state attempted to govern them through legislation by requiring HEIs to be accredited and assessed, to adjust to a particular structure. The Higher Education Act of El Salvador (1995) established the System for Monitoring and Improving the Quality of Higher Education. The law requires the completion of a yearlong research project in different areas, lays down minimum conditions regarding student-teacher ratios, defines the length of classes, and specifies criteria for academic degrees. It defined the fulfillment of three mandatory functions of the university: teaching, outreach and research. It established a system of inspections and assessments for quality control encompassing evaluation, qualification, and accreditation.

Additionally, it includes the processes of annual certification, biennial assessment, and accreditation. A presidential decree, issued through the MINED on March 10, 2000, regulated the integration and functions of the Commission on Accreditation of Quality of HEIs. It has seven members and enjoys freedom of action in its mission. Accreditation is one of its subsystems. It is chaired by the MINED and consists of the University of El Salvador and four local, private universities. The Commission members are appointed by mutual agreement of MINED and the Higher Education Council. All legally established HEIs are entitled to apply for accreditation. The decree provides for two categories within the accreditation process: (a) the accredited institutions that satisfy all the quality criteria established by the Commission, and (b) the applicant institutions that still do not meet all the requirements, but will meet them within a period that cannot exceed two years. The accredited institutions will have access to assistance programs and tax incentives.<sup>31</sup>

The 1995 legal education reform brought a new perspective to higher education. In addition to political will and public awareness of the importance of education for development, El Salvador had financial support from the World Bank, Inter-American Development Bank (IDB), the European Union, and the United States Agency for International Development (USAID), among other sectors.<sup>32</sup>

One of the key educational reform strategies in 1995 was a broad-based, participatory diagnostic process that enabled direct input from stakeholders on needs and possible solutions (MINED, Query 95). This process involved consultative forums and research. One of the most influential studies in this context was entitled "Diagnosis System human resources development in El Salvador." It was conducted by the Harvard Institute for International Development (HIID) in collaboration with the Business Foundation for Educational Development (FEPADE) and the Universidad Centroamericana "José Simeón Cañas" (UCA). The study was funded by USAID.

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<sup>30</sup> UNESCO, 2008. Trends in Higher Education in Latin America and the Caribbean.

<sup>31</sup> UNESCO, 2008. Higher Education in Latin America and the Caribbean.

<sup>32</sup> Rivas, Felipe. Unpublished. El Salvador.

One of the outcomes of the reform was the document “Education in El Salvador twenty-first century: Challenges and Opportunities” (1995), published by UCA Editors. Relevant decisions related to higher education include:

- Approve the Draft Law on Higher Education
- Promote closer links between universities and the country’s development
- Diversify financing sources
- Reform and revise curriculum taking country needs and suitable professional profiles
- Review the education curriculum media to raise the quality of students
- Design appropriate tools for continuous evaluation
- Improve the basis of relevant information and promote the transfer of information within and between institutions
- Improve the accreditation process

### **3.1.3 Board of Higher Education**

Another key contribution of the 1995 law was constitution establishing a Board of Higher Education, an advisory body of the Ministry of Education, which oversees the quality of education. This Board comprises two representatives of the Ministry of Education, a representative of the University of El Salvador, three representatives of private universities, a representative of the technological institutes, a representative of the associations of private enterprise, and a representative of the professional associations (Picardo, O., n.d.).

One of the most recent efforts to improve education outcomes is the establishment of the 2021 National Education Plan. Through this national plan El Salvador set policies strengthening the contribution higher education makes to scientific development (MINED 2005). More recently, the Social Education Plan “Vamos a la Escuela” rises within their strategic strength of higher education and plans to achieve high standards of teaching through professional development of high-level as well as research and outreach (MINED, 2009). This same plan considers among its strategic programs, the development of relevant curriculum for meaningful learning.

Despite the government’s efforts to improve higher education performance, the institutions still struggle to achieve excellence. Leadership and management in HEIs are weak, access is unequal, and investment in research, science, and technology is insufficient. The present mechanisms are far from being effective instruments of evaluation and teacher development. The present levels of competitiveness, productivity, connectivity, and overall development of higher education require a fundamental transformation to make its approaches, concepts, services, and institutions relevant to a knowledge society. It requires a competency approach, scientific research, and a critical mass of teachers.<sup>33</sup>

### **3.1.4 Governance of Public and Private HEIs**

While most public higher education institutions are governed by internally elected academic leaders represented in academic councils, private higher education institutions have centralized, profit-oriented management structures similar to those of a private initiative. There are generally few mechanisms for internal consultation and faculties often have limited influence on overall planning and management. While such arrangements are efficient and simplify processes of change, they do little to nurture a feeling of ownership among scholars and they tend to reduce the flow of information and ideas.

### **3.1.5 Main Principles of Good Governance**

Like other countries in the region, El Salvador has moved from a state-controlled toward a state-supervised system, with the transition mediated by intermediaries such as the Higher Education

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<sup>33</sup> Ibid.

Advisory Council and Commission and Accreditation of Quality of HEIs. The transition from hierarchical to cooperative governance is not easy; benchmarks and principles are necessary to guide this process. Research conducted on governance in higher education has identified key principles that have general and lasting applicability, as described in the box below.<sup>34</sup>

### Figure 1.10 Effective Higher Education Governance

**Regular Testing of Standards.** Those responsible for governance should regularly test and verify standards of quality. This is part of institutional accountability, but is of sufficient importance to list as a separate principle. Broad consultation should be practiced and standards should be widely agreed upon. Benchmarking is useful in this regard, while peer review encourages the attainment of benchmarks.

**Academic Freedom.** Academic freedom is “the right of scholars to pursue their research, to teach, and to publish without control or restraint from the institutions that employ them” (The Columbia Encyclopedia). Without it, universities are unable to fulfill one of their prime functions: to be a catalyst and sanctuary for new ideas. Academic freedom is not an absolute concept; it has limits and requires accountability. It recognizes the right of academics to define their own areas of inquiry and to pursue the truth as they see it.

**Shared Governance.** Shared governance is a necessity. It arises from the concept of relative expertise and aims to ensure that decisions are devolved to those who are best qualified to make them. At the system level, it entails giving institutions or their advocates a role in shaping national higher education policy. At the institutional level, it ensures that faculty are given a meaningful voice in determining policy. This applies particularly to educational policy, and especially to curriculum development and academic appointments.

**Clear Rights and Responsibilities.** Mutually agreed rights and responsibilities for each element in the higher education system are essential for good governance. Externally, the roles of ministries of education and HEIs must be clearly articulated by law and national policy documents. Internally, the faculty, students, administrators, external supervisors, and others should have a clear understanding of their rights and responsibilities.

**Meritocratic Selection.** Higher education can only function if the selection and promotion of faculty, administrators, and students is based on broadly defined merit. The particular goals of an institution may affect how it assesses merit, but ideology, nepotism, cronyism, or intimidation cannot be allowed to determine advancement.

**Financial Stability.** HEIs require sufficient financial stability to permit orderly development. Financial uncertainty, sharp budgetary fluctuations, and political favoritism hinder good governance and make rational planning impossible. The importance of higher education as a public good must be matched by adequate public investment to enable institutions to discharge their public responsibilities.

**Accountability.** HEIs must be accountable to their sponsors, whether public or private. Accountability does not imply uncontrolled interference, but it does impose a requirement to periodically explain actions and have successes and failures examined in a transparent fashion.

Source: World Bank, 2000. Higher Education in Developing Countries: Peril and Promise.

<sup>34</sup> World Bank, 2000. Higher Education in Developing countries: Peril and Promise

### **3.2 Higher Education Programs**

The ideal disciplinary and sub-disciplinary composition of higher education is not something that policy-makers can easily determine. The development of skills with clear demand links to labor markets is essential, but is not without its own problems. It may tend to push a higher education system to train students in narrow job-specific skills indistinguishable from glorified trade schools. While in many developing countries even the latter would be an achievement, it raises the question of the value and the cost of providing a broad-based, liberal-arts education, still the bread and butter of most colleges and universities around the world.<sup>35</sup>

Under a pure human capital model of development, education should be focused on relevance and utility—outer growth, not inner development (Symes, Boud, McIntyre, Solomon, & Tenant, 2000). Vocational and scientific training directly translates into jobs and income, whereas the benefits of liberal arts education are more amorphous and difficult to measure. Supporters of liberal arts education have long advocated its value to individuals and societies, arguing that liberal arts education produces students who are more open to diversity, have stronger humanitarian values, and have more adaptable critical thinking and communication skills. In the United States, it is estimated that 30 percent of current college students will eventually work in a job that does not yet exist (Fong, 2004). Rather than training for a specific career, there is a growing emphasis on the need for creativity, adaptability, and the skills of critical thinking, cooperation, and communication (Bereiter, 2002).

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<sup>35</sup> Devesh, K. and Crowley, M. *Beyond the ABCs: Higher Education and Developing Countries*. 2008.

## **4 General Higher Education & Research and Development**

### **4.1 Relevance and Constraints of General Higher Education**

In modern economies, the importance of highly specialized scientific and technical education is well recognized. But a broad education is also important. It is important for the development process of a country because it prepares students for the flexible, knowledge-based careers that increasingly dominate the upper tiers of the modern labor force. It also helps society look at the social and ethical questions raised by new development policies and projects, ensuring that a country's long-term interests are given priority over short-term gains. Within the education sector, valuing general education encourages countries to define national intellectual priorities and promote an intellectual identity through the process of defining the content of a general curriculum that meets nationally specific needs (World Bank, 2000).

On the other hand, high-quality, liberal education is expensive. It requires a greater variety of faculty resources, interactive teaching techniques, and seminars instead of lectures. The payoff to a high-quality liberal education is not immediate, and it has a large non-monetary component that is difficult to measure.

However, especially in the long run, societies will do well to serve the public interest even when market forces do not create the necessary incentives. From this perspective, general education belongs in the same category as basic research or equitable access.

### **4.2 Research and Development (R&D)**

Today several research institutions in Latin America have proven to be extremely competitive, even by the more strict international standards. The Institute for Scientific Research in Venezuela (IVIC); the science institutes of Mexico's National University; and the Balseiro Institute, associated to the National University of Cuyo in Argentina, are outstanding examples of state-of-the-art research centers. However, not all countries in the region were able to build up the infrastructure to keep up the pace. Insufficient funds, the inability to achieve a critical mass of well-trained researchers, different priorities, or simply governmental indifference, are some of the reasons why some nations in the region lag well behind the rest. El Salvador is undoubtedly a case where R&D has not been a national priority. One comment could be enough to describe the current status of El Salvador's research agenda: "Universities in El Salvador spent more money in advertisement than in research." According to Oscar Picardo, in 2006, higher education institutions allocated only 0.49 percent of their total budget to research activities while spending 1.2 percent to promote their activities in magazines and newspapers (Picardo, 2009). For every dollar spent on research, the average Salvadoran HEI allocates almost three to "promoting" itself.

The causes that have driven this Central American country to this situation are not sufficiently clear. However, the team speculates that in the absence of government leadership and resources there has been no systemic design that pushes institutions to take research and development activities seriously. It is impossible to build up a serious research program or system without public participation because research is mainly a public activity, particularly when basic investigation is involved. Social non-monetary and pecuniary return for investment in basic sciences such as physics, chemistry, and biology, for example, are not possible if the state does not take the lead.

In El Salvador, the government decided to step back from its social duty: It gave the market for higher education to the private sector. Private investors have different priorities in a highly "mercantilistic" market and private decisions rule over public interests. Undoubtedly, research activities are not at the top of the private agenda. The rector at a private institution with one of the highest enrollment rates told the team that maximizing the number of students has been and still is one of the greatest priorities. This mercantile approach has been dominating the strategic agenda of private universities in both Latin

America and around the world. It must be taken into account that 85 percent to 90 percent of private universities' total income comes from tuition and fees and it is essential to note that private universities in El Salvador are enmeshed in this reality.

From a longitudinal perspective, from 2000 to 2005 the amount of money allocated to research work more than tripled, from \$862,661 to \$2,760,127. However, the main reason from this significant increase—from \$52,806 to \$1,619,934—is the contribution of the Universidad de El Salvador, the only national institution at the university level. Whereas in 2000, the national university accounted for only 6.1 percent of total research expenditures, in 2005 it spent more than 50 percent of the financial resources allocated to research and development in the entire university marketplace. This important contribution increased the higher education system's expenditures on R&D from 0.9 percent to 1.8 percent of its total annual income. In 2009, this percentage decreased to 1.5 percent. It is important to mention that the assessment team also identified several private institutions with substantial commitments to research. The Universidad Centro Americana José Simeón Cañas (UCA), the University Don Bosco, and the University Andrés Bello are among a group of private universities making efforts to contribute to the development of research in El Salvador.

Two additional institutions have potential for contributing to R&D efforts. A semi-elite institution, the *Escuela Superior de Economía y Negocios* (ESEN), though small in terms of the size of its student body and faculty, has a group of potential researchers among its professors. At the non-university level, ITCA-FEPADE, though limited by a small budget, has laboratories for experimentation in technical and applied sciences. Potential notwithstanding, what the numbers show is that there is only one institution with real research capacity. Unless a national institution decides to invest part of its budget in research and development, El Salvador will have little chance of building a national research system with real potential.

#### **4.2.1 The National Agenda for Research**

The *Fondo de Investigación de Educación Superior* (FIES), established in 2008, is a promising initiative for promoting a research culture among HEIs in El Salvador. The objective of these funds is to foster research activities that upgrade the quality of the research output of the post-secondary education system. All public and those accredited private institutions benefit from this mechanism for distributing financial resources. FIES established a US\$1.8 million fund for initial seed capital, with the objective of increasing the amount of funds available with both public and private donations (Ibarra, 2008). This plan is an effort to support all research activities related to the scientific development of the country. FIES has two main objectives: (a) the technical and technological formation of human resources at the university and non-university level in order to equip the country with more highly qualified human capital, and (b) the promotion of science and technology as a means of improving living standards as a vehicle for economic development. Both objectives, at least theoretically, go in the right direction in a country that in recent times has paid little attention and shown little interest in scientific and technological education.

Also, the creation of the *Viceministerio de Ciencia y Tecnología* (VC&T) in 2009 was a step toward establishing a well-defined research agenda in El Salvador. As part of the Ministry for Education, one of the main purposes of this unit is to enhance the connectivity of the whole educational system. VC&T is also a link between the productive sector and the educational system with the objective of promoting technological development in the country.

Although the creation of the VC&T and the FIES are two examples of government initiatives to change the behavior of HEIs, the new Higher Education Law (2004) does not specifically promote the development of research activities. This should be paramount for a system that historically has been reluctant to develop its research potential. Also, the Accreditation Agency (1997) has not been emphatic enough in evaluating the research productivity of higher education institutions. El Salvador only

establishes basic standards in a system where accreditation is not mandatory. In fact, less than half of the twenty-four private universities are accredited institutions. In other words, research is neither formally nor sufficiently promoted and the standards on which the accredited universities are evaluated tend to be lax.

#### 4.2.2 Research Capacity

Analyzing the characteristics of faculties as an essential form of human capital and the time professors invest in research, it is readily apparent that the quantity and quality of the research conducted in El Salvador is not sufficient.

Table 1.7 indicates that the main activity of more than 90 percent of faculty members during 2008 and 2009 was training professionals for the labor market. At the other extreme, less than 2 percent of faculty members invest more than 80 percent of their time doing research. The team find no mayor differences between 2008 and 2009.

**Table 1.7 Distribution of Faculty Member Activities, 2008-2009**

Main Activity	2008		2009	
	Number	Percentage	Number	Percentage
Teaching	7,091	93.30%	7,111	94.30%
Teaching / Research	368	4.80%	294	3.90%
Research	141	1.90%	137	1.80%
Total	7,600	100%	7,542	100%

Source: NCST 2010

There are two alarming facts: (a) few faculty members have been trained as potential researchers, and (b) only a handful of well-trained researchers are working as full-time faculty members in higher education institutions. The lack of a critical mass of PhDs can be seen as a rigid barrier that impedes El Salvador's contribution to the scientific world with cutting edge investigation, research, and consulting services. Even the number of faculty members holding master degrees is low. In fact, it is very difficult to stimulate research activities when the vast majority of professors have not been trained in the art of investigation. The following table shows the highest degrees obtained by faculty members at Salvadoran universities.

**Table I.8 Level of Education, Faculty Members 2008-2009**

Highest Degree	2008		2009	
	Number	Percentage (%)	Number	Percentage (%)
Doctorate	229	3.2%	259	3.6%
Master's	1,166	16.4%	1,267	17.8%
Bachelor's	5,290	74.3%	5,290	74.4%
Associate's	412	5.8%	254	3.6%
Others	19	0.3%	41	0.6%
Total	7,116	100%	7,111	100%

Source: NCST, 2010

Given a total of 35 higher education institutions in El Salvador, these figures show that in 2009 there was an average of less than eight faculty members with PhDs in each institution. This shortage of human capital with the potential for conducting research severely limits El Salvador's "academic productivity." Another faculty characteristic that severely limits the development of human capital throughout the country is the scarcity of bilingual professors. Because most academic writing—at least the works that advance human knowledge—is done in English, this scarcity condemns the country to a kind of academic isolation. The team has noted two related factors: (a) subscriptions to academic journals are scarce, and (b) even though universities acquire new bibliographical materials, the quality of the periodicals in their libraries is not always the best.

The national university, not surprisingly, leads in terms of research, although by international standards, the quality of its limited production is weak. In general, however, the average researcher in El Salvador, who is unlikely to be able to publish in the top international periodicals, must publish in journals edited by local universities. One obvious limiting factor is that most of the academic and research writing is done in Spanish, primarily in the social sciences, particularly in law, history, and political science. There is little if any serious research work in the basic and natural, or in the health sciences. It appears that the lack of a basic scientific infrastructure, such as access to journals, laboratories, and equipment, and faculties that for the most part have not been trained in methods of scientific research, narrows the scope of new research and publication to the Spanish-speaking world.

### 4.3 Physical and Technical Resources

The team visited universities and technical institutions, and, although a minimal time was available, the team was able to observe HEIs infrastructure and equipment.

On average, public HEI campuses are usually overwhelmed with deteriorating buildings, inadequate libraries, improperly utilized computer laboratories, and unusable scientific equipment.

#### 4.3.1 Universidad de El Salvador

In meetings with the Rector, the Director of National and International Relations, and the Director of Planning, the team was told that the UES has contracted with a local firm to undertake a feasibility study and develop plans for building and equipping four satellite campuses in Ahuachapán, Usulután, Cabañas,

and Chalatenango. The new campuses are being planned using a U.S. community college model and will offer two-year technical courses in areas such as energy, biotechnology, agro-industry and software development. Municipalities have committed land for three of the four centers and the Ministry of Finance has committed construction financing for the center in Ahuachapán. Financing for the construction of the other centers, as well as equipment, furnishings, etc. was not clear to the team. Furthermore, it is not clear how the UES will pay for the salaries of instructors and administrative personnel.

UES buildings and furnishings on the main campus in San Salvador are generally in need of repairs, remodeling, maintenance, refurbishing, and painting. According to the rector, funds for such upgrades are very limited. There is also concern about outdated or damaged laboratory equipment.

### **4.3.2 Private Universities**

The team visited six private universities. The Don Bosco, José Matías Delgado, Católica de El Salvador, ESEN, and UCA all have excellent, well-maintained buildings. The Francisco Gavidia and the Tecnológica are located in the city and many of their buildings are houses or buildings that were originally used for other purposes. Some of these buildings are not optimal for academic purposes. Most of the universities indicated that more space, furnishings, and equipment will be needed to accommodate growing enrollment and new programs.

### **4.3.3 MEGATECS**

The team visited all five MEGATECs. Three have new campuses built in the last three years and two campuses have had significant structural improvements. All are the property of the Ministry of Education but are administered by private entities: ITCA-FEPADE administers the MEGATECs at La Unión and Zacatecoluca; AGAPE administers those at Sonsonante and Chalatenango, and UniCaes, the center at Ilobasco. All the buildings are new and well equipped for the programs currently offered. None of the Directors expressed concern for the state of the buildings at present, although since some programs have been closed and there is a desire to open new programs, some new structural expansion and equipment will be needed. The Director of ITCHA did mention that someone at the MINED decided to cut funding for dairy production program equipment without discussing it with either the director or instructors. ITCHA plans to open a program in Agro-Industry that will require at least two buildings and related equipment. AGAPE has an agreement with the Zamorano School in Honduras to provide assistance with planning and curriculum development. In fact to some degree, all of the centers are contemplating new programs, some of which will require additional space, equipment, and instructors. The ITCA-FEPADE strategic plan requests just over \$3.5 million for equipment in Zacatecoluca and La Unión, but does not provide any specificity. None of the MEGATECs seem to have conducted labor-demand studies and could not provide any information on costs.

### **4.3.4 ITCA-FEPADE**

ITCA-FEPADE gave the team a document entitled, “Proyectos de Modernización de las Cinco Sedes de ITCA-FEPADE” (*Modernization Projects for the Five ITCA-FEPADE Centers*), which included the following budget:

**Table I.9 ITCA-FEPADE Expenditure for Modernization Projects, Five Campuses**

ITCA-FEPADE	Infrastructure	Equipment	Curriculum Design	Training and / or Education	TOTAL
Headquarters	\$25,478,672.00	\$21,985,602.25	\$960,000.00	\$1,561,678.91	<b>\$49,985,953.16</b>
Santa Ana	\$7,000,000.00	\$2,635,000.00	\$0.00	\$200,000.00	<b>\$9,835,000.00</b>
San Miguel	\$3,689,455.00	\$4,619,238.47	\$100,000.00	\$100,000.00	<b>\$8,508,693.47</b>
La Unión	\$0.00	\$2,500,000.00	\$200,000.00	\$200,000.00	<b>\$2,900,000.00</b>
Zacatecoluca	\$550,000.00	\$2,547,887.00	\$100,000.00	\$100,000.00	<b>\$3,297,887.00</b>
<b>TOTAL</b>	<b>\$36,718,127.00</b>	<b>\$34,287,727.72</b>	<b>\$1,360,000.00</b>	<b>\$2,161,678.91</b>	<b>\$74,527,533.63</b>

Source: Results from statistical information from higher-education institutions, 2009

As Table I.9 shows, the major amounts requested are for infrastructure and equipment: (a) building two buildings with 56 classrooms, 61 laboratories, remodeling of several workshops, and expansion and repaving of parking lots in Santa Tecla; (b) building 12 classrooms in Santa Ana; and (c) building an unspecified number of classrooms, workshops, and laboratories, and an auditorium and perimeter walls in San Miguel.

The document does not make linkages to actual labor demands. There is no information on the numbers of students to be enrolled for each area to be upgraded or added, or on projected costs per student and cost recovery plans.

#### **4.3.5 Escuela Nacional de Agricultura (ENA) and Centro Nacional de Tecnología Agropecuaria (CENTA)**

Founded in 1956, the Escuela Nacional de Agricultura (ENA) is a post-secondary institution that offers technical degrees in the areas of agricultural and animal sciences. Students graduate with a technical degree in agronomy after completing 216 credits (*unidades valorativas*). The majority of the program is theoretical (70%) and the remaining portion is practical; a quarter of the overall curriculum focuses on entrepreneurship. In 2010, there were 120 graduates (12 students from this cohort dropped out). Eighty-five percent were employed after graduation, while others continued studies at UES, UCA or Matías Delgado.

Each of ENA's 300-plus students are enrolled on a full-time basis, showing a significant increase from the early 2000s when less than 100 were in attendance. The historically low enrollment reflected national leadership that put little emphasis on developing and investing in agriculture and livestock. However, new government policies support this sector and increase the need for qualified human resources. Thus, the role of ENA is paramount, given the need for enlarging the number of graduates in a vital sector of the economy.

During an interview with the team, the Director of ENA, expressed that in addition to making improvements to the physical infrastructure of the institution, it is crucial to increase investment in technological and human resources to meet this new demand. The Director also addressed the need to have better trained faculty and to eventually transition ENA from a technical to a technological institution. Furthermore, even though ENA shares a campus with the Centro Nacional de Tecnología Agropecuaria (CENTA), which historically has been a hub for research production, there is little synergy between the two institutions. A greater amount of cooperation between the two entities would be

mutually-beneficial: graduates from ENA could receive research positions at CENTA, thereby allowing this institution to replenish a critical mass of researchers that is near retirement.

#### **4.3.6 General Comments**

The majority of spaces in HEIs are used as classrooms. Most have some laboratories, although equipment is often out-of-date or in need of repair, and disposable materials are often in short supply. The post-secondary technical institutions have workshops that in most cases need more or renewed equipment, more and better disposable materials, and instructional materials. Libraries are generally poor in terms of quantities of new books and journals. There is limited space where part-time teachers can work and meet students.

### **4.4 Science and Technology in El Salvador**

Science and technology have direct impacts on society and these impacts can translate directly into economic growth. A well-developed higher education sector is fundamental because it allows countries to generate new scientific knowledge, to wisely select and implement existing technologies, and to effectively adapt them to local circumstances. To fulfill these roles, higher education science and technology badly needs more investment and more efficient allocation of existing resources. This will require a formidable effort (World Bank, 2000).

While El Salvador is considered to have one of the strongest industrial sectors in Central America, deficiencies in science and technology curricula, relevance to current events and employers' needs, and teacher training, keep the country from reaching its full potential. El Salvador was a pioneer in technical training at the high school level in the 1980s, but since then, national and international standardized test scores in math and science have declined and instruction in these subjects does not meet the requirements of the current knowledge-based economy. Math and science teachers are generally not specifically trained in these fields, but rather have broad training that does not equip them to share the depth of skills and material students need. Math and science are also taught in a way that encourages memorization and repetition, rather than creative thinking, and in many classrooms, these subjects are presented in a way that weeds out "weaker students" from the class, rather than ensuring that all students are learning, thinking about, and applying the concepts they are presented with.

At the policy level, efforts focus on foreign language skills rather than on math and sciences and long-term visions are often imposed over short-term realities and needs. However, there are some efforts in cooperation with the private sector aimed at interesting students in math and sciences and encouraging practical skills. One example of this cooperation is the Universidad Don Bosco-TACA partnership, presented in Figure 1.11. The university has created a five-semester aircraft maintenance program and the opportunity to work for the airline. El Salvador has the opportunity to learn from this and other similar examples to prioritize the teaching of science and math in a way that has practical value and addresses national needs.<sup>36</sup>

Teachers in the higher education system of El Salvador rarely promote the development of science and technology. At most, they promote the use of computer technology for online information searches.

Furthermore, most Salvadoran universities teaching methods tend to emphasize theory over practice. HEIs have little autonomy over the most important decisions, such as the curriculum and the issuance and recognition of degrees. Curricula are determined by the Ministry of Education. Most HEIs have little autonomy as to the timing of course offerings and study modules. There is little room for promoting independent study or encourage study, skills, and competences acquired outside the institutions. These

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<sup>36</sup> IDB, 2006. Competitiveness and Science and Math Education: Comparing Costa Rica, El Salvador and Brazil (Recife) to Sweden.

types of activities could strengthen the linking of theory with practice, giving weight to individual and group research and to practice and extension activities.

Faculty members with research skills are scarce. A diagnostic study (Machuca, J., for CSUCA, 2005) found that 192 projects were presented and 109 approved in the country. The approved projects involved 311 people. Twelve projects received external funding and 13 projects have been completed.

While the UES currently has more than 230 teachers with master's degree and 18 doctors only 28 teachers (12%) and 6 PhDs (35%) have research projects underway.

#### 4.5 Local and International Partnerships

A research (IDB, 2006) found that technology transfer between transnational corporations (TNCs) and their local suppliers holds true only if the TNC shares its "knowledge" with local suppliers, or better yet, works with local suppliers to create new knowledge and to embed it into products and services. Examples from South Korea, Malaysia, Singapore, and Ireland suggest that there needs to be an explicit economic development strategy that extracts knowledge from the TNCs and transfers it to local suppliers, of which the education system is a part.

In El Salvador, there is no evidence of technology transfer between education institutions and firms or firms and education, throughout secondary, post-secondary, and lifelong learning institutions. Private companies in the country do not partner with educators and vice-versa.

El Salvador lacks policies that enable knowledge transfer from TNCs into the local supplier companies and the education system. Instead, TNCs operating in-country embed knowledge in their products back in their country of origin, largely using local suppliers as a source of cheap labor for assembly and related service work. The box below illustrates this situation.

#### Figure I.11 The Don-Bosco – TACA Industry Education Partnership in El Salvador

TACA, the regional airline has jointly developed with the Universidad Don Bosco a five-semester program for aircraft maintenance technicians. In 2006, Universidad Don Bosco graduated about 25 aircraft maintenance technicians every semester and applicants to the program were selected based on a specific evaluation exam that evaluates math and science skills. TACA sponsors about ten students per semester that cannot afford the training and most graduates go to work for TACA after graduation. Today over 750 people work in the aircraft maintenance unit of TACA (Aeroman) which is certified to do regular maintenance to Airbus units of TACA, as well as various US Airlines under FAA standards. The maintenance unit is expected to double its capacity (and number of jobs) over a 5 year horizon.

Other than the number of higher skill jobs, Aeroman has little impact on other companies or possible suppliers in El Salvador. The specific maintenance tasks are dictated by component suppliers and airplane builder Airbus. Specialized components are replaced according to plan and/or usage and its technical revision is done outside El Salvador at the original manufacturing plants. Other than feedback to suppliers on the experience and performance of the planes and their components, little information and/or technology transfer occurs. Nevertheless, the TACA-Universidad Don Bosco is a good example of academia and the private sector working together to efficiently train higher-level skills in math and science (IDB, 2006).

In industrialized countries like South Korea, policymakers insisted that: (a) any foreign-owned company wanting to do businesses in the country form a joint venture with a local, South Korean firm, and (b) the country's education and training system prepares students for future skill needs *before* demand for such skills become evident. Because of these policy decisions, local South Korean firms learned how to make sophisticated products on their own within a few years, and the education and training system had the necessary lead time to prepare graduates with the skills needed by local employers as they increasingly took the lead over domestic production (Hansen, unpublished paper 2005).

#### **4.5.1 Scientific Production in the International Community**

To evaluate the impact of the scientific production of El Salvador within the international community, the team utilized the *Ranking Iberoamericano* (SIR, 2011). This ranking evaluates the scientific production of all Latin American countries together with Spain and Portugal. The model of evaluation rests on four indicators and is based on the quantity of scientific production during the last five years (2005–2009).

Table I.11 gives an overview of the international impact of El Salvador in terms of the scientific production of their universities according to the SIR 2011 rank.

**Table I.11. Research Productivity at Select Latin American Universities**

Rank in Latin America	Institution	Country	Type	Productivity Indexes			
				SO	IC	NI	QI
1	Universidade de Sao Paulo	Brazil	Public	40,192	24,8	0.8	39,4
2	Nacional Autónoma de México	México	Public	17,622	40.5	0.8	47.2
6	Universidad de Buenos Aires	Argentina	Public	10,843	46	0.9	51.4
10	Universidad de Chile	Chile	Public	7,353	46.2	0.9	45.8
20	Universidad de Puerto Rico	Puerto Rico	Public	4,119	59.1	1	49,7
393	Nacional Autónoma de Honduras	Honduras	Public	55	87.3	0.9	54.6
436	Nacional Autónoma de Nicaragua	Nicaragua	Public	43	93	1	53.5
468	Nacional de El Salvador	El Salvador	Public	36	86.1	0.5	38.9
688	Centroamericana José Simeón Cañas	El Salvador	Private	10	70	0.9	50
821	Tecnológica de El Salvador	El Salvador	Private	5	100	0.3	0
875	Evangélica de El Salvador	El Salvador	Private	4	100	0.5	25
930	Matías Delgado	El Salvador	Private	3	66.7	0.5	66.7
934	Alberto Masferrer	El Salvador	Private	3	66.7	0.3	0
1091	Don Bosco	El Salvador	Private	1	100	0	100

Source: SIR 2011

*Scientific Output (SO)*: Number of publications in academic journals at each institution.

*International Collaboration (IC)*: Ratio of scientific production in the university that has been produced together with researchers belonging to other (foreign/international) institution.

*Normalized Impact (NI)*: Quality of the publications or academic impact of the institution.

*High Prestige Journals (QI)*: Proportion of articles that the institution has published in journals ranked in the first quartile in terms of the quality and visibility.

The team has included some universities that are at the peak of the ranking in order to make a simple comparison between them and the place that El Salvador occupies in the Latin American scientific community. The institutions in the table are considered top institutions in terms of academic production

in their respective countries. Also, to compare the scientific production of El Salvador in its own context, or geographical area, the team included the *Nacional Autónoma de Honduras* and the *Nacional Autónoma de Nicaragua* together with the Universidad de Puerto Rico, a top research university in Latin America.

A first glance at the table reveals that the difference in terms of academic production between the top universities in the ranking and the first Salvadoran university is more than considerable. While the Universidade de Sao Paulo (USP) produced 40,192 scientific articles during the period 2004–2009 and the Universidad Nacional Autónoma de México (UNAM) 17,622, the Universidad Nacional del Salvador (UES) was only able to publish 43. This is less than nine articles per year. Of course here the research capacity of the institution is being addressed, not the average faculty member's productivity. However, if measuring the research capacity per capita, it is clear that the UES lags well behind the most recognized universities of Latin America. For example, the University of Buenos Aires (UBA) has 28,400 faculty members, while the faculty body at UES employs 2,628 professors. If that number of articles is divided by the number of faculty members at each institution, UBA had a per capita productivity *index* of 0.38 compared with the UES *index* of 0.014. Thus, the average faculty member at UBA is almost 28 times more productive than his or her Salvadoran counterpart.

Another interesting characteristic of the Salvadoran higher education system is that only seven universities published at least one paper during the period under analysis. Taking into account that at the university level the whole system comprises 24 universities and 8 *institutos especializados*, only one out of every five institutions has published an article with international impact. On the other hand, there is a strong concentration in terms of academic production. In effect, only two institutions explain almost 75 percent of the whole research work. The UES, with 36 articles, and the UCA, with 10, are the leaders. The rest is distributed among five institutions. In any case, the productivity is extremely low, particularly comparing El Salvador with the top university in Latin America (Universidad de Puerto Rico). On the other hand, in terms of the quality of the research work, except for the UCA (0.9), the rest of the publications have been quoted well under the world average. For example, the research work done at the UES, the Universidad Evangélica de El Salvador, and the Universidad Matías Delgado are quoted 50 percent less than the world average. On the other hand, at the Universidad Tecnológica and the Alberto Masferrer, this indicator shows that they are 70 percent under the world average.

Evidently, with an ill-equipped and “politically condemned” national university, the higher university system in El Salvador is destined to produce low quality research output. When comparing the country to some of the most productive institutions in Latin America, El Salvador lags well behind the rest. The research production of the average Salvadoran university, mainly the privates, can be characterized as a social science oriented paper, written in Spanish, in local journals, and mainly published by the university where the researcher works. Then, in a system dominated by the private sector, both in terms of students and the number of institutions, and with only 11 accredited universities (there are 32 institutions at the university level), it is almost impossible to conduct “real” investigation. Without a national university taking the lead, hardly El Salvador will be able to carry out serious research with a genuine regional impact, and especially in the natural and basic and exact sciences. It must be taken into account that national and other public institutions are the entities in charge of the major shares of the national production of investigation and technology. Some indicators credit them for 80 percent of the whole national production in the region (de Moura Castro & Levy, 2000). In this sense, the state in El Salvador must take the lead and set an audacious but realistic investigative agenda.

In sum, research is intended as the subject search and analysis of new knowledge to enrich the scientific and social reality. As such, it is a critical function in higher education. Unfortunately, the research

capacity of El Salvador is weak. Then, it is essential to build up the research capacity of the country, where research studies must be in tune with communities' needs and industry's demands.

#### 4.6 Extension

El Salvador's Higher Education Law states that education at this level integrates three functions: Teaching, scientific research and social outreach. Social outreach is defined as the *interaction between academic work with natural, social and cultural realities of the country*. (Ch. 1, Art. 3). The concept of university extension has been equated to social outreach.

In the same way that the concept of university extension is used to describe different actions, social outreach is also understood by the institutions of higher education differently. For example, UNICAES defines social outreach as *a basic function through which services are transferred and extended*. For UES, it is defined as *the combination of planned activities that pursue academic, research and service objectives in order to put members of the University Community in contact with the national reality*. UTEC conceives social outreach as *the active relationship between the university and its different contexts directed to work with quality tied to the relevancy and responsibility with sustainable development of society*. In ITCA FEPADE, social outreach is conceived as *a joint response to the needs and solution of problems of communities and nonprofit institutions*.

The Higher Education Law grants autonomy to tertiary institutes (Art. 25, Ch. 2) to determine the form in which the teaching, research and social outreach functions shall be performed.

Based on this autonomy, university institutions include in their organizational structure social outreach in a different manner. In some, social outreach is a Unit, Office and even a Vice-Presidency office. Likewise, its activity schedule varies from one institution to another, differing as follows:

- i. Social service activities, usually performed by the students on a voluntary basis.
- ii. Promotion and development of cultural and artistic activities, including programs in the media (radio, magazines, television).
- iii. University services for the student population and local communities (clinics, legal offices, sports areas).
- iv. Transfer of scientific and technological knowledge, often with the participation of full-time faculty.
- v. Training programs that the institution offers to its members or to other external groups (courses, workshops, scientific meetings).
- vi. Consultancy and business support.

The degree of organization of social outreach activities varies. Some institutions have well-structured social outreach objectives and programs, while other institutions carry out activities without a common purpose. The weight given to social outreach in higher-education institution budgets tends to be low, as expressed by some of those responsible for this area.

In some universities and technological institutions, a link between social outreach with research and teaching has been established. This is achieved through the formulation of projects that are submitted by teams of teachers and executed by themselves. Student participation is still viewed as a voluntary and limited relationship with graduates, which limits their participation in these projects.

One of the challenges of higher education institutions in the country is to promote connections among extension activities, teaching and research, beyond the walls of the institutions. HEIs have relatively little autonomy to promote independent study; encourage study, skills, and competences acquired outside the institution. Promoting said connections could strengthen extension activities.

The challenge of reaching out to society as a whole goes beyond the social activities and providing educational services. This is to extend university culture to different communities and population groups, and of using the knowledge, studies and research produced at universities for socio-economic and human development of the country.

## **4.7 Partnership Collaborations**

### **4.7.1 Internationalization of higher education and the need for partnership to advance knowledge**

In a period of dramatic changes, where social and economic advancement is only possible if societies are able to successfully transit from an industry-based to a knowledge-based economy, the need for collaboration between governments, the productive sector, and universities to influence the public good is crucial. (Smerek et al., 2005)

The global demand for post-secondary education will increase substantially during the next decades— it is expected that by 2025, 263 million students will be enrolled in some higher education programs. With new developments in technology, it is expected that more than 7 million of those students will be engaged in distance education through online programs. Many of these students will utilize web-based courses offered by international providers

Therefore, it is necessary to build effective associations to advance the knowledge required to meet this upcoming demand. Collaboration between universities, technical and other post-secondary institutions, and the productive sector is fundamental for sustainable growth. Furthermore, university-industry partnership in research and development that lead to innovative products and better productive processes is a key factor to economic growth.

The building of an efficient academic network has as the main objective of consolidating relationships with strategic partners and reaching out to new contacts, while also establishing ties with local and foreign institutions. The aim of these partnerships will be to cooperatively look for common goals, while addressing problems that arise as a united front. Within this scheme, the creation of academic networks must also seek to:

- a. Increasing the number of qualified personnel in order to generate knowledge and technology and,
- b. Transferring of this new knowledge and technology among the institutions that are part of the network.

Given that HEIs are multifunctional entities, the productive function of these entities is complex and sometimes difficult to articulate. In addition to that, individuals within these productive units have their own motivations, in which political, professional, and economic factors, among others, determine their personal agenda. In this context, individual goals could overshadow the collective mission, making solid partnerships difficult to maintain. Therefore, the main challenge is to develop a system of well-defined incentives to encourage institutions to work together.

Teaching, research, and communal services are enumerated as the most visible task higher education institutions must fulfill in order to legitimize their presence in society. Universities must be efficient in the delivery of these services. De Wit (2002) states that these “strategic partnerships in research, teaching, and the transfer of knowledge, among universities, between universities and businesses and beyond national borders, will be the future for higher education in order to manage the challenges that globalization will place on it” (page 205). Higher education institutions must be aware of this social responsibility. It must be taken into account that they are directly accountable to national governments

and to society at large. However, the lack of reliable mechanisms to measure the productivity of HEIs, together with institutions that in the name of autonomy resist evaluation, sometimes makes accountability more a social aspiration than a real fact. These problems must be solved.

#### 4.7.2 Some Examples of Partnership and Collaboration in El Salvador

Although higher education institutions in El Salvador are not in the international spotlight, a handful of them are beginning to develop some programs and activities to help them integrate with other partner organizations. For example, in its strategic planning (2009-2013), Universidad Centroamericana “José Simeón Cañas” (UCA) states as a main objective to foster cooperation and strengthen its ties with American institutions that are part of the Association of Jesuit Colleges and Universities (UCA, 2011). Some of the member institutions are well recognized universities as the Boston College, Fordham University, and Georgetown University. The intention is to incorporate new research teams with international experience. This will help UCA in research, training and labor supply issues. There are also exchange programs with the University of Arkansas, and an agreement of technical, scientific and cultural cooperation with the Universidad Nacional Autónoma de México (UNAM).

Other examples of cooperation within the Latin American context have been the incorporation of the UES into the *Red de Macro Universidades* (Web of Macro Universities). This association was created in June 2002. A total of 32 Latin American universities are part of this network (RMU, 2011). All are among the most important centers in each country in terms of social impact. Participating institutions include the University of Sao Paulo in Brazil, UNAM, Universidad de Buenos Aires, Universidad Nacional de Colombia, and Universidad Nacional de Costa Rica. The main objective of this association is to potentiate and increase the amount of participation through collaborative projects. Members that are part of the association are benefited with joint research projects. Also, an additional goal is to increase and stimulate the mobility of students and faculty members within the web.

Another interesting initiative is *Propiedad Intelectual para América Latina* (PILA). This project comprises a total of 18 Latin American universities. The objective is to promote beneficial practices in terms of intellectual property rights. In El Salvador, the UES is the institution in charge of coordination the project which is financed by one Latin American and two European institutions.

Within a smaller scale, the *Escuela Superior de Economía y Negocios* (ESEN) can be seen as an example of international integration with well renowned research universities around the world. The *Pontificia Universidad Católica de Chile*, the *Instituto Tecnológico Autónomo de México* (ITAM), and Texas A&M University, for example, are part of a group of universities that have a partnership with ESEN. With around 600 students, this semi-elite entity (or elite within the Salvadoran parameters), has successfully developed a student exchange program with the above mentioned and other European institutions (ESEN 2011). Those students with a B+ GPA or higher are qualified to spend a whole semester abroad. Also, as a good example of integration between the academy and the current labor market, during this year (September 2011) ESEN organized its VIII International Labor Fair. A total of 31 local and international enterprises made their job offers to graduate students.

Several instances of applied research and further collaboration with the industry have been developed at ITCA-FEPADE. This flagship technical institution is attuned with two main national research projects that orient part of its investigative agenda: the *Plan Nacional de Desarrollo Científico y Tecnológico 2010-2014*, and the *Agenda Nacional de Investigación*. As part of their applied research programs, three main projects developed during 2010: a) Design of the process for managing containers at the port of Acajutla; b) Design of a Bio-climatic prototype to be implemented at public schools; c) Design of a new and innovative geothermal heat system for fruit dehydrators.

A last example worth mentioning relates to a beginning of a collaborative behavior between two public institutions: The Escuela Nacional de Agricultura (ENA) and the Centro Nacional de Tecnología Agropecuaria y Forestal (CENTA). The former trains agricultural technicians, while the CENTA is one of the most advanced research centers in El Salvador in the area of agriculture and livestock. According to one of the administrator at ENA, during the last ten years or more, the association between the two institutions had been extremely weak. Ironically, these two institutions are located on the same campus. Today, there is more collaboration between ENA and CENTA; researchers from CENTA are training some faculty members at ENA.

#### **4.7.3 El Salvador and a Weak Framework for Building Effective Partnerships**

Even given the small initiatives that have been made in El Salvador to increase association between critical stakeholders, much work is yet to be done. A first glance at the higher education system lead the team to conclude that the government of El Salvador, as the entity in charge of ruling and coordinating the market as a whole, needs to increase its efforts in building a collaborative, educated, and productive nation. The team speculates that the existence of resistance among key actors within the country has thwarted the chance of developing more productive associations.

On the other hand, there are signs of collaboration within the academic community. For example, there is a partnership among a group of 10 universities, including the UES, that are working together as a consortium to get access to on-line journals. This is a step in the right direction, given that the average higher education institution in El Salvador is coping with outdated or irrelevant libraries with scarce number of subscriptions of international journals. If the intention is to enter into a partnership with individuals and organizations committed to develop a mutually beneficial association, institutions need to offer attractive and productive partnerships and well-trained faculty members.

It is known that institutions adapt their modes of governance in accord with their internal and external environment, and the characteristics of their human resources (Williamson 1996). Institutions can be influenced by the external pressure at the moment of defining the set of norms and rules that determine their ways of production. One popular measure followed by governments has been to anticipate or predict future skills needs. For example, after the needs have been detected, the state must regulate the training activities of organizations. The objective is to generate enough incentives over training centers to push them to offer more instructional programs than they would normally do (Trendle 2008). In other words, the need for building up a stronger partnership and collaboration between the main actors (the academy, the government, the private sector) is essential if the goal is to put El Salvador in a path to enhance productivity and improve business results. If the objective is to fortify the system of higher education to fulfill the requirements of society, the need for partnership and collaboration is imperative. Without hesitation, the National Government must push Salvadoran higher education institutions to improve the quality of their teaching and their research work if a fruitful and productive alliance with society is expected. In this sense, partnership must include local regional associations as well as international cooperation.

## 5 Labor Market and Relevance of Higher Education

In El Salvador, universities generally do not analyze the behavior of labor markets related to the programs they offer, such that their program offerings are defined based on student demand, not on the needs of the labor market. In the case of technological institutes, their courses of study respond more to the needs of the local productive sector; however, the imbalance between supply and demand of technical positions has led to market saturation because schools have maintained a static academic offering.

The distribution of student enrollment, the level of unemployment of professionals and technicians for the areas of specialization, and job opportunities in the national and local markets should all be part of the analysis that higher education institutions undertake to select their technical course offerings and training programs.

The current lack of dialogue with the business or private sectors also prevents the curricula from being reviewed and updated based on the specific skills required of students by potential employers. The training provided is often too general, leaving the responsibility for specialization to the graduate or to his or her future employer. Unfortunately, private companies do not appear to be interested in assuming the cost of specialization, so this need for dialogue becomes a challenge that higher education institutions must face.

In conversations with employers and representatives of business sector associations, informants report that the training of university students is overly theoretical. For companies requiring skilled technical staff, this approach means that the supply of graduates in critical areas is very limited and that the availability of technicians at the local level does not correspond to the needs of the productive sector in that area.

Recognizing the need to improve the relevance of higher education and address labor market imbalance, some countries in the region have created mechanisms to monitor the labor market. The figure below shows examples of monitoring programs in Colombia and Chile.

### Figure 1.12 The Labor Market Monitoring Program

“Colombia and Chile have set up labor market “observatories” to monitor and analyze the occupational performance of university graduates (Brunner and Meller 2004). Better information on labor market responses and experiences of graduates in their early careers can guide human resource policy, curricular adjustments, and investments in higher education. Across the Latin America and the Caribbean region, countries are trying to boost labor mobility between higher education institutions and the productive sector” (World Bank, 2005).

Cultural traditions and infrastructure limitations also frequently cause students to pursue humanities and arts programs, which have limited job opportunities and lead to “educated unemployment.” At the same time, there is often an unmet demand for qualified science graduates. Better information on the labor market combined with policies that promote economic growth and labor absorption are necessary. Promoting an entrepreneurial culture will encourage the creation of more productive jobs.

## **5.1 Effectiveness of HEIs in Terms of Job Placement**

The responsibility of higher education does not end with the granting of degrees. It is important that higher education institutions ensure that their graduates have access to opportunities to apply the skills acquired during their education. In El Salvador's case, higher education institutions -- both universities and technological schools—have not yet become the arena where those who demand education and those who offer professional or technical jobs interact.

Job opportunities in El Salvador currently are few, so the market has become highly competitive for technicians and professionals. In 2009, 7 out of 10 Salvadorans expressed concern about whether they could become unemployed in the next 12 months (UNDP 2010). According to DIGESTYC (2010), 68 percent of people who have 13 years or more of education are employed. When broken down by gender, 7 in 10 men with over 13 years of study are working and 6 of every 10 women are.

While the effectiveness of job databases and job fairs has not yet been statistically measured, some higher education institutions have created these resources to assist their alumni. It has been argued that these practices should be promoted more widely, giving employers and graduates the opportunity to come together. In some technical institutes, instructors often link the graduating student body with local employers, especially in those companies where students have carried out internships. This initiative developed by instructors to create a network of contacts should be institutionalized so that its results become more meaningful and sustained over time.

Some higher education institutions, especially technical institutes, are promoting programs emphasizing entrepreneurship. This initiative recognizes that starting a small business is both of interest to the student body and a potential source of income when students are unable to obtain formal employment. These may range from the incorporation of content related to establishing a business to organizing informational sessions with possible sources of financing. These initiatives should be promoted and strengthened to effectively develop the skills needed for creating and managing a business, including providing information on financing methods and the advantages of creating partnerships.

Universities and technical institutes must organize their programs and resources to guarantee that their students obtain jobs in their areas of training, contributing to higher levels of productivity. Higher education institutions should also consider expanding and strengthening their continuing education programs as a way to respond to the needs for specialization of employers and to extend their roles in preparing workers and transferring technology beyond the campus.

### **5.1.1 Online Survey**

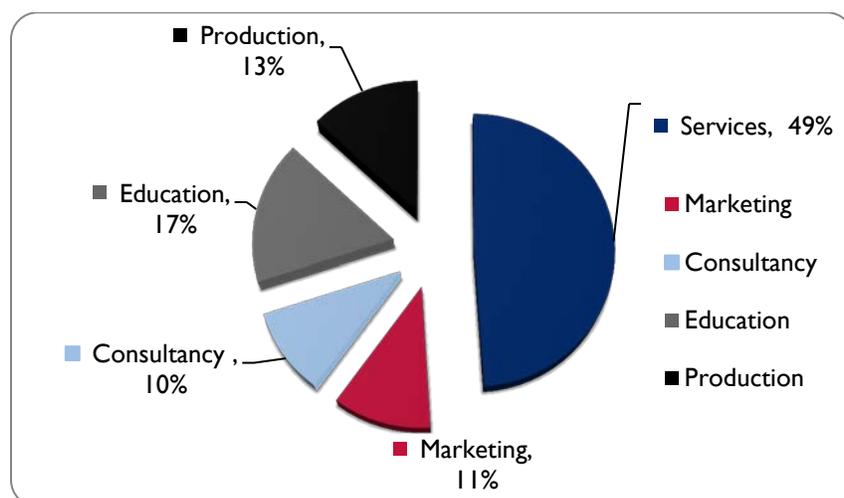
To describe the outcomes of university and technical training, the assessment team prepared an online survey aimed at graduates from different universities and technical institutions. The data shown below have been obtained from a sample of 214 people (51.4% women and 48.6% men) who graduated from five universities (UCA, UES, UNICAES, UEES, UPES) and two specialized institutes that offer technical programs (ITCA-FEPADE, ESFE-AGAPE).

Forty-two percent of respondents obtained a bachelor's degree, 34 percent studied engineering or architecture, and 11 percent graduated from a technical career program. Only 3 percent had a teaching degree and 1 percent had doctorates in medicine. Nine percent had a master's degree.

Among the respondents, 90.2 percent currently have a job, 52.3 percent work in private companies and 19.2 percent work in public entities in both the central and local governments. Gender is not a factor in unemployment (i.e. there is not a significant difference between the number of unemployed men and women), based on the population sample used in this analysis. Similarly, because unemployed individuals graduated from different degree programs, there is no apparent causation between a certain area of study and unemployment.

Just over half of those who have jobs say their work activities are located in the working field they studied, while a third of respondents said their current work had little to do with the program from which they graduated. Current graduates' employment is mainly in service jobs in both the commercial and governmental sectors. To a lesser degree, graduates work in the productive sector. When comparing these data with the Household Survey (2010) data, the trend is the same. The area of economic activity that shows high levels of employment is the trade sector (29%), while the employment in the domestic industry is only 15 percent. Twenty percent of the occupied population works in the agriculture and livestock industries. Usually people with a university or technical degree don't work in this area, except for programs that deal with the economic aspect. Those who have 13 years or more of schooling are mainly employed in commerce, banking, education, and health services (DIGESTYC, 2010). Figure I.13 shows the percentage of graduates in each popular area of work.

**Figure I.13 Graduates' Area of Work**



Salary conditions for graduates surveyed vary; however, 75 percent receive monthly salaries of less than US\$1,000. This figure coincides with the average wage reported by the Household Survey for professionals (\$711.53) and technicians (\$422.13). When looking again at gender data, a slight difference can be seen in favor of women when it comes to technical program graduates, while the difference favors men if professional salaries are compared; here, there is a much larger difference. Figure I.14 shows the average salary, by gender and type of work.

**Figure I.14 Average Monthly Wages of Professionals and Technicians, by Gender**



Source: Household survey

When asked about their level of satisfaction in different aspects of their education experience, the most favorable opinions are concentrated in library services and study center infrastructure. The assessments are still favorable, although to a lesser extent, when it comes to teacher performance and the availability of updated literature.

Satisfaction decreases when estimating access to technology resources, allocation of grants, and school support for finding work. As for the relevance of curricula, availability of laboratories, flexible schedules and services for student wellbeing, responses vary, depending mostly on the specific program.

Seventy percent of respondents expressed a high degree of satisfaction with their studies. However, when asked whether they had any reasons for some level of dissatisfaction, responses that occurred most frequently were about the lack of activities or university extension programs (26.2%) and the highly theoretical content of their education (23.8%). To a lesser extent, graduates expressed dissatisfaction with curricula that did not favor the development of skills to perform a job in their field of study.

Their workload, family responsibilities, and limited availability of continuing education are factors that limit graduates' professional development. When asked how they continued career-related study after graduation, the most common approach was by taking refresher courses, usually outside of students' alma maters. Only 10 percent of students said they had continued on to graduate studies.

In exploring the link between the graduates and their schools, no systematic or significant relationships were found. People surveyed attend primarily scientific or technological exhibitions and few mentioned any involvement in research or writing articles for journals published by their former schools. These statements coincide with the lack of programs linking higher education institutions with their graduates. This is a development opportunity for universities and technological institutes.

Higher education institutions need to conduct more research on the effects of training received by the graduate population, beyond the completion rate they have in their degree programs. It would be interesting to know, for example, about the relevance of the curricula for skills development that will ensure greater employment opportunities and development in graduates' areas of work. The ministerial department responsible for quality assurance in higher education also must establish mechanisms and tools that facilitate the collection of information about the development of skills in all graduates.

### **5.1.2 Areas of coordination with the USAID/ES Workforce Development Program in the Economic Growth Office**

The Improving Access to Employment program managed by USAID/ES has been identifying labor demand areas and has been working with Ministry of Labor and private job placement agencies to match the supply of potential employees to the companies in demand for them. In some cases they have contracted training institutions to prepare workers, through certificate or diploma training programs. This USAID program can certainly identify labor demand areas that require higher education capabilities and share information and coordinate with the new USAID higher education initiative.

## **5.2 Labor Market and Higher Education Status and Prospects**

### **5.2.1 Current and future expected economic behavior**

In this section, estimates and projections for the economic situation of El Salvador are presented to provide a context for an estimate of labor market behavior for the period 2011-2015. To develop the projections, the assumption is that the Salvadoran economic scenario will follow the trends outlined by the Economist Intelligence Unit (EIU) in its Country Reports Series and ViewsWire Series, which include

preliminary results for 2010, projected and estimated results for 2011, and forecasts of the economic activity for the period 2012-2015. The results presented by the EIU are consistent with other analyses, such as the ones carried out by the IMF in its World Economic Outlook 2011.

Table 1.12 below shows general assumptions of world economic behavior. Notice that even when the general estimates of the IMF WEO's coincide with the EIU's estimates, some important differences arise. For example, the IMF estimates that the world economy as a whole will grow at an average of 4.5 percent during the period 2011-2015, more than 1.3 percent higher than the EIU forecast. However, in order to assume a more conservative position regarding growth, which is why the EIU's estimates and forecasts have been adopted.

**Table 1.12 World Economy: Current Behavior and Forecast Assumptions, 2006-2015**

Indicators	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Economic Growth</b>										
World GDP growth	4.1	3.9	1.5	-2.3	3.8	2.9	3.2	3.2	3.1	3.2
US GDP growth	2.7	1.9	0.0	-2.6	2.9	2.4	2.5	2.5	2.5	2.6
EU27 GDP growth	3.4	3.0	0.4	-4.3	1.8	2.0	1.6	1.8	1.9	1.9
Latin America growth	5.6	5.5	4.0	-2.1	5.9	4.5	4.1	4.2	4.3	4.4
World trade growth	8.6	7.1	2.7	-11.7	13.6	7.7	6.3	6.4	6.5	6.6
<b>Inflation</b>										
US CPI	3.2	2.9	3.8	-0.3	1.6	2.9	2.1	2.3	2.5	2.5
EU27 CPI	2.2	2.3	3.5	0.8	2.0	2.7	2.2	2.1	2.1	2.2
Industrial raw materials export price	49.6	11.2	-5.1	-25.6	44.5	29.1	-7.0	-4.8	-5.9	-3.0
<b>Prices</b>										
Oil price (Brent; US\$/b)	65.4	72.7	97.7	61.9	79.6	108.5	94.5	90.0	85.0	83.0
US\$ 3-month commercial paper rate	5.0	5.1	2.2	0.3	0.3	0.2	0.4	1.3	2.7	2.8
<b>Exchange Rates</b>										
USD : Euro (average)	1.26	1.37	1.47	1.39	1.33	1.41	1.36	1.28	1.23	1.28
Yen : Euro (average)	145.93	161.19	151.94	130.53	116.51	115.78	110.36	103.88	100.81	106.46
USD : Yen (average)	115.82	117.66	103.36	93.91	87.60	82.11	81.15	81.16	81.96	83.17

Notes: \* EIU estimates. \*\* EIU forecasts.

Source: Economist Intelligence Unit ViewsWire, 2011.

Under this scenario, the Salvadoran economy will still face some problems, as shown in Table 1.13. Even with projected growth of around 3.5 percent on average for 2012-2015, the weak expansion of the industrial sector, particularly in trade, will continue to challenge economic policy. Low productivity in the sector will undermine growth, partly due to a workforce shortage. Also, a depressed investment environment and a slow recovering private demand will keep growth at a low level. However, the gradual recovery of pent-up domestic demand will lead to faster growth in the period under analysis.

In this context, the external sector is still a weak front. Given that El Salvador is a small, open economy, it is highly dependent on its international performance. The Salvadoran economy has particularly strong ties with the economy of the United States, both through trade and remittances. Remittances are very relevant to explain private consumption in El Salvador, and a slow recovery in the United States for next few years will slow the recovery of the flow.

Low job creation is also an important challenge. Even when the unemployment rate is expected to slowly decrease, the general perception is that unemployment and underemployment will continue at a similar pace during 2012-2015. This will also pose barriers to the unleashing of private demand.

International prices will also affect inflation in the country. Even when the country is dollarized and its inflation is below the regional average, the economy has to absorb changes in international prices, such as increasing prices of commodities (especially food and oil). This, in turn, will affect imports that will recover to historical levels during the forecast period.

Table I.13 El Salvador: Economic Forecast, 2010-2015

Indicators	2010*	2011**	2012**	2013**	2014**	2015**
<b>Economic Growth (% Change)</b>						
Real GDP growth	1.4	2.4	2.9	3.4	3.5	4.0
Private Consumption	2.3	2.8	3.2	3.9	4.0	4.5
Government Consumption	5.8	5.6	5.4	5.3	5.4	5.1
Gross Fixed Investment	1.6	3.6	4.5	6.5	6.0	7.0
Domestic Demand	2.4	3.1	3.5	4.3	4.4	4.9
Unemployment rate (average)	7.2	7.0	7.0	6.9	6.9	6.7
<b>Production Growth (% Change)</b>						
Industrial production growth	1.2	1.9	2.3	2.6	2.7	3.0
Gross agricultural production growth	3.3	2.1	3.0	3.3	3.7	3.8
Services	1.1	2.5	3.0	3.5	3.6	4.0
<b>Prices (%)</b>						
Consumer price inflation (average)	1.2	5.3	3.6	4.0	3.7	3.6
Consumer price inflation (end-period)	2.1	5.8	4.0	3.8	4.0	3.0
Lending interest rate	7.6	7.0	7.5	7.6	7.7	7.7
<b>External Sector</b>						
NFPS balance (% of GDP)	-4.4	-3.9	-3.3	-2.6	-3.0	-2.2
Exports of goods fob (USD billions)	4.6	5.8	6.5	7.3	8.3	9.8
Exports of Goods and Services (% Change)	12.3	7.0	6.9	6.1	6.3	6.4
Imports of goods fob (USD billions)	8.2	10.3	10.9	12.0	13.2	15.0
Imports of Goods and Services (% Change)	11.1	7.0	7.0	7.0	7.0	7.2
Current-account balance (USD billions)	-0.5	-1.4	-1.0	-1.1	-1.0	-0.9
Current-account balance (% of GDP)	-2.3	-6.0	-4.2	-4.2	-3.5	-3.1
External debt (end-period; USD billions)	12.1	13.3	13.9	14.8	15.7	16.5
<b>Exchange Rate</b>						
Exchange rate USD : Yen (average)	1.1	1.2	1.2	1.2	1.2	1.2
Exchange rate USD : Euro (average)	1.3	1.4	1.4	1.3	1.2	1.3
Exchange rate USD : Euro (end-period)	1.3	1.4	1.3	1.2	1.3	1.3

Notes: \* EIU estimates. \*\* EIU forecasts.

Source: Economist Intelligence Unit Views Wire 2011.

On the fiscal front, the efforts to aggregate demand and employment through government spending will result in an increased external debt that is expected to rise about 4.4 percent in the period 2011-2015. See Table I.14.

Table I.14 El Salvador: Current and Expected Evolution of Productive Sectors

	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>GDP at factor cost</b>	<b>8,790</b>	<b>9,127</b>	<b>9,243</b>	<b>8,954</b>	<b>9,082</b>	<b>9,296</b>	<b>9,556</b>	<b>9,865</b>	<b>10,201</b>	<b>10,583</b>
<b>Origin of GDP (US\$ m at constant 1990 prices)</b>										
Agriculture	1,042	1,130	1,164	1,130	1,168	1,192	1,228	1,268	1,315	1,365
Industry	2,316	2,343	2,369	2,299	2,327	2,372	2,425	2,488	2,554	2,631
Services	5,432	5,654	5,711	5,525	5,587	5,729	5,901	6,108	6,330	6,584
<b>Origin of GDP (real % change)</b>										
Agriculture	5.8	8.5	3.0	-2.9	3.3	2.1	3.0	3.3	3.7	3.8
Industry	3.0	1.2	1.1	-3.0	1.2	1.9	2.3	2.6	2.7	3.0
Services	4.7	4.1	1.0	-3.3	1.1	2.5	3.0	3.5	3.6	4.0
<b>Origin of GDP (% of factor cost GDP)</b>										
Agriculture	9.9	10.6	10.4	10.6	11.3	11.1	11.1	11.1	11.1	10.6
Industry	30.1	30.0	28.7	29.3	30.7	30.1	30.0	29.6	29.3	27.9
Services	60.0	59.4	60.9	60.2	58.0	58.9	58.9	59.3	59.7	61.5

Notes: \* EIU estimates, \*\* EIU forecasts.

Source: Economist Intelligence Unit ViewsWire 2011.

Part of the public expenditure intended to finance infrastructure projects (such as the social housing program for low income families), together with some foreign direct investment is expected to boost investment in the country. This will also affect the construction sector that after contracting for four consecutive years, will start recovering with moderate growth in 2011-2012. This will help the secondary sector to keep growing.

However, the manufacturing sector, which is dominated by *maquila* plants, will slowly expand during the next years due in part to high input costs and specialized workforce shortage. Exports will accompany this sector development, and will be mostly tied to the reaction of the partners of the DR-CAFTA.

Finally, the agricultural sector is expected to expand during the next years. The sector will be benefitted by above-average international prices for coffee and sugar. The services sector, on the other hand, will accelerate its growth attending to increasing internal demand, led by commerce, transport, and communications.

## 5.2.2 Current and Future Student and Market Demands versus Academic Offerings

In this section some estimates and projections of the situation of the labor market in El Salvador are presented, highlighting the role of highly skilled Salvadorans, mainly those endowed with higher education. Part of this information has been presented in different sections of this report but is concentrated here to support estimates and to facilitate reading.

According to the EIU, and under the general international context, the Salvadoran economy will grow slowly in the short-medium term. The economic conditions of the United States and European Union

countries will limit growth of the trade sector, and productivity issues will contribute to this situation. These combined effects will keep employment generation steady during the next years, as shown in Table I.15. Moreover, employment is expected to grow slowly, below GDP growth.

Part of the contraction or slow growth of the productive sectors is explained by the particular dependence of El Salvador's economy on international prices, together with a slow-recovering demand mostly oriented to imports consumption. Growing international prices of commodities will affect the domestic prices, and also obstacle production of trading given the higher cost of inputs. Thus, increasing prices will also affect job creation.

**Table I.15 El Salvador: Current and Expected Evolution of Employment**

	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Labor Market Behavior</b>										
Labor force (millions people)	2.9	2.3	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Labor force (% change)	2.9	-19.3	7.5	2.2	0.5	0.5	0.5	0.5	0.5	0.5
Employment (%)	2.7	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.5
Employment (% change)	3.7	-19.1	8.1	0.7	0.6	0.7	0.5	0.5	0.5	0.8
Unemployment rate (%)	6.6	6.3	5.9	7.3	7.2	7.0	7.0	6.9	6.9	6.7
<b>Wages and Prices</b>										
Consumer prices (average %)	4.0	4.6	6.7	1.1	1.2	5.3	3.6	4.0	3.7	3.6
Consumer prices (year-end %)	4.9	4.9	5.5	-0.2	2.1	5.8	4.0	3.8	4.0	3.0
Producer prices (average %)	4.7	4.7	16.6	-11.6	4.7	13.5	8.2	7.2	6.8	6.9
GDP deflator (average %)	4.1	4.4	5.2	-0.8	0.1	5.4	3.7	4.3	3.9	3.8
Private consumption deflator (average %)	3.4	5.2	6.4	-0.2	1.2	5.3	3.6	4.0	3.7	3.6
Government consumption deflator (average %)	8.5	1.9	5.7	5.5	-0.5	5.3	3.6	4.0	3.7	3.6
Fixed investment deflator (average %)	2.1	5.9	5.1	5.5	0.0	5.3	3.6	4.0	3.7	3.6

Notes: \* EIU estimates. \*\* EIU forecasts.

Source: Economist Intelligence Unit ViewsWire 2011.

To analyze productivity, the assumption is that there are no changes or interventions in the higher education sector. This assumption is not as strong as could be thought; if any change is implemented in the educational sector, it will take some time for the results to become evident in the broader economy. To support this conclusion, take the example of the timing of the development of a new career program at ITCA-FEPADE: according to the board, it takes about two years to set up a new technical career, and two more years for the first group of graduates to complete their training, adding up to a total of a four-years lag time to respond to a current demand. Universities will likely take even longer to develop and set up a new career program, and of course, after having the career set up, it will take at least another five years to have the first cohort of graduates.

Hence, assuming that the higher education sector will have no major impact on the economy in the short run, productivity will increase slowly during the subsequent years, as depicted in Table I.16. This forecast implies that productivity is expected to grow at about 0.5 percent less than GDP, on average, during 2011-2015, which makes it difficult for the GDP to take off. Yet one of the barriers to economic strengthening, as reported by USAID (2011) and as was discussed previously, is the low productivity of the workforce.

The slow growth of capital also poses a problem, especially with the low participation of foreign direct investment and a low domestic savings rates. This combination, added to the expected low productivity of work (especially in the manufacturing sector), leads to a vicious circle that disincentives productive investment, lowers wage expectations, and diminishes returns to skills and educational qualification, a point that is very important for our analysis.

**Table 1.16 El Salvador: Current and Expected Evolution of Productivity and Growth**

	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Productivity (% Change)</b>										
Labour productivity growth	0.6	28.3	-6.2	-3.5	0.8	1.7	2.3	2.8	2.9	3.2
<b>Growth (% Change)</b>										
Capital stock	3.0	2.9	2.1	0.2	0.3	0.6	0.9	1.3	1.7	2.1
Potential GDP	3.8	3.7	1.0	-1.8	1.4	2.3	2.8	3.4	3.4	3.9
Real GDP	4.3	3.8	1.4	-2.9	1.4	2.4	2.9	3.4	3.5	4.0
Real GDP per capita	3.9	3.3	1.0	-3.3	1.0	1.9	2.4	2.9	2.9	3.5

Notes: \* EIU estimates. \*\* EIU forecasts.

Source: Economist Intelligence Unit ViewsWire 2011.

On the other hand, our estimates of academic offerings will follow the pace suggested in Table 1.17. However, even when higher education enrollment increases on daily basis, this does not imply that students will be endowed with a better quality education or better prepared to face the market. If there is no important new initiative in the near future (that is, not taking into account a possible intervention of USAID in the higher education sector), the demand for higher education will be driven only by population growth and income availability.

**Table 1.17 El Salvador: Higher Education Sector Current and Expected Evolution, 2006-2015**

Institutions	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Public Institutions</b>										
<b>Total Enrolment</b>	<b>42,144</b>	<b>44,658</b>	<b>46,345</b>	<b>48,554</b>	<b>49,758</b>	<b>52,363</b>	<b>55,189</b>	<b>58,014</b>	<b>60,840</b>	<b>63,666</b>
Universities	36,416	38,094	39,399	40,903	41,500	42,529	43,559	44,588	45,617	46,646
Specialized Institutes	336	346	5,492	6,733	8,037	9,833	11,630	13,427	15,223	17,020
Technological Institutes	5,392	6,218	1,454	918	221	0	0	0	0	0
<b>Private Institutions</b>										
<b>Total Enrolment</b>	<b>82,812</b>	<b>87,588</b>	<b>92,270</b>	<b>95,295</b>	<b>99,610</b>	<b>103,616</b>	<b>107,623</b>	<b>111,629</b>	<b>115,635</b>	<b>119,641</b>
Universities	79,299	83,720	88,286	91,058	95,183	98,983	102,783	106,583	110,383	114,184
Specialized Institutes	1,383	1,468	1,481	1,653	1,669	1,735	1,801	1,867	1,933	1,999
Technological Institutes	2,130	2,400	2,503	2,584	2,758	2,898	3,038	3,178	3,318	3,458
<b>Overall Total</b>	<b>124,956</b>	<b>132,246</b>	<b>138,615</b>	<b>143,849</b>	<b>149,368</b>	<b>155,979</b>	<b>162,811</b>	<b>169,643</b>	<b>176,475</b>	<b>183,307</b>
Estimated Population	543,163	553,771	566,173	579,518	592,847	606,482	620,431	634,701	649,300	664,233
<b>HE Gross Enrolment Rate</b>	<b>23.0%</b>	<b>23.9%</b>	<b>24.5%</b>	<b>24.8%</b>	<b>25.2%</b>	<b>25.7%</b>	<b>26.2%</b>	<b>26.7%</b>	<b>27.2%</b>	<b>27.6%</b>

Notes: \* Estimated. \*\* Forecast.

Source: Calculations based on information from MINED (2006, 2007b, 2008, 2009d, 2010).

Given that economic activity is not expanding as quickly as desired, and no abrupt “take off” is likely in the near future, it is uncertain if the productive sectors will be able to hire more graduates in such traditional careers as business administration and law. However, these careers are still the predominant choice of new students entering higher education. Our forecast in Table I.18 shows that these careers will continue to dominate the scene.

**Table I.18 El Salvador: Higher Education Population by Academic Program, Current and Expected Evolution, 2006-2015**

Programs	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Postgraduate Programs</b>										
<b>Total</b>	<b>1,786</b>	<b>2,034</b>	<b>2,322</b>	<b>2,347</b>	<b>2,668</b>	<b>2,910</b>	<b>3,157</b>	<b>3,406</b>	<b>3,656</b>	<b>3,907</b>
Doctorates	10	14	15	81	67.7	81.7	96.0	110.4	124.9	139.5
Masters	1,521	1,684	1,857	1,824	2,037.5	2,181.9	2,330.1	2,479.0	2,628.5	2,778.6
Specialization	--	--	14	23	32.0	41.3	50.7	60.2	69.8	79.5
Pedagogical Training	255	336	436	419	531.3	605.1	680.4	756.4	832.9	909.9
<b>Degree Programs</b>										
<b>Total</b>	<b>107,229</b>	<b>111,726</b>	<b>115,754</b>	<b>119,028</b>	<b>122,125</b>	<b>126,264</b>	<b>130,565</b>	<b>134,850</b>	<b>139,121</b>	<b>143,378</b>
Medicine and Law	7,161	7,349	7,718	7,904	8,099.1	8,368.9	8,649.3	8,928.7	9,207.0	9,484.4
Arquitecture	2,733	2,912	3,141	2,913	3,123.1	3,222.9	3,326.8	3,430.2	3,533.1	3,635.7
Engineering	17,756	18,766	19,858	20,542	21,264.9	22,182.6	23,131.4	24,080.0	25,028.3	25,976.3
Other degrees	79,579	82,699	85,037	87,669	89,638.0	92,489.3	95,457.4	98,411.3	101,352.3	104,281.8
<b>Technical Programs</b>										
<b>Total</b>	<b>15,941</b>	<b>18,486</b>	<b>20,539</b>	<b>22,474</b>	<b>24,574</b>	<b>26,805</b>	<b>29,089</b>	<b>31,387</b>	<b>33,699</b>	<b>36,022</b>
Technological	794	917	965	951	1,006.5	1,049.8	1,094.6	1,139.4	1,184.2	1,229.0
Teacher Training	3,292	3,683	4,136	4,617	4,832.0	5,203.4	5,584.1	5,966.9	6,351.4	6,737.6
Technical	11,855	13,886	15,438	16,906	18,735.9	20,552.2	22,410.3	24,280.9	26,162.9	28,055.1
<b>Overall Total</b>	<b>124,956</b>	<b>132,246</b>	<b>138,615</b>	<b>143,849</b>	<b>149,368</b>	<b>155,979</b>	<b>162,811</b>	<b>169,643</b>	<b>176,475</b>	<b>183,307</b>

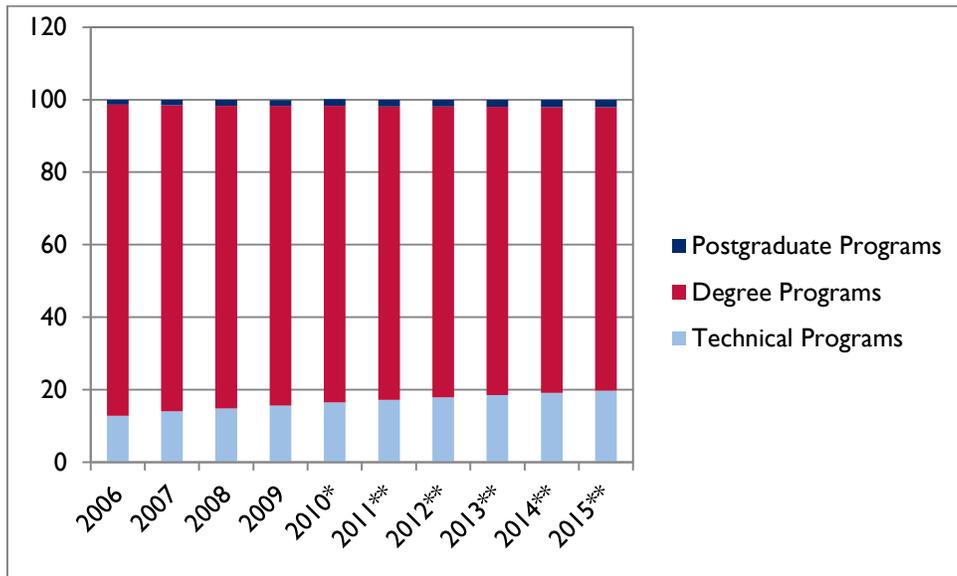
Notes: \* estimated. \*\* forecast.

Source: Calculations based on information from MINED (2006, 2007b, 2008, 2009d, 2010).

However, technical careers will grow proportionately in higher education enrollment. In fact, it is likely that much of the increase in new student population will be attracted by the technical education sector, based on the perception of increasing prospects in job placement in the future.

It is also important to note that postgraduate programs will be gaining new candidates, and this represents an important growing sector in higher education, a group that is currently extremely scarce. Figure I.15 depicts the current and expected distribution of higher education enrollments by degree program.

**Figure I.15 Current and Expected Enrollment of Higher Education Students, by Level, 2006-2015**



Notes: \* estimated. \*\* forecast.

Source: Calculations based on information from MINED (2006, 2007b, 2008, 2009d, 2010) and Table 22 above.

Graduation rates are expected to stabilize in the following years, thanks to a combined effect of (i) institutional policies and activities to retain students, (ii) financing availability at a relative low cost, given the expected evolution of prices in the economy, and (iii) smooth by stable growth pace for the whole economy. See Table I.19.

Table I.19 El Salvador: Higher Education Graduation by Academic Program, 2006-2015

Programs	2006	2007	2008	2009	2010*	2011**	2012**	2013**	2014**	2015**
<b>Postgraduate Programs</b>										
<b>Total</b>	<b>524</b>	<b>746</b>	<b>650</b>	<b>923</b>	<b>871</b>	<b>923</b>	<b>975</b>	<b>1,028</b>	<b>1,080</b>	<b>1,133</b>
Doctorates	1	1	1	2	2	2	2	2	3	3
Masters	346	470	468	558	525	542	559	575	592	608
Pedagogical Training	177	275	181	363	343	379	415	450	486	521
<b>Degree Programs</b>										
<b>Total</b>	<b>9431</b>	<b>10192</b>	<b>10249</b>	<b>10151</b>	<b>10,474</b>	<b>10,653</b>	<b>10,832</b>	<b>11,011</b>	<b>11,189</b>	<b>11,368</b>
Medicine and Law	695	665	651	683	565	511	458	405	352	299
Architecture	191	179	202	197	198	199	201	203	205	206
Engineering	1,198	1,252	1,368	1,362	1,407	1,448	1,489	1,529	1,570	1,611
Other degrees	7,347	8,096	8,028	7,909	8,305	8,494	8,684	8,873	9,063	9,252
<b>Technical Programs</b>										
<b>Total</b>	<b>3434</b>	<b>3873</b>	<b>4902</b>	<b>5094</b>	<b>5,507</b>	<b>5,948</b>	<b>6,389</b>	<b>6,829</b>	<b>7,270</b>	<b>7,710</b>
Technological	157	146	168	172	162	161	160	159	158	156
Teacher Training	946	831	837	752	606	503	400	296	193	90
Technical	2,331	2,896	3,897	4,170	4,739	5,284	5,829	6,374	6,919	7,464
<b>Total HE Graduates</b>	<b>13389</b>	<b>14811</b>	<b>15801</b>	<b>16168</b>	<b>16,852</b>	<b>17,524</b>	<b>18,196</b>	<b>18,868</b>	<b>19,539</b>	<b>20,211</b>

Notes: \* estimated. \*\* forecast.

Source: Calculations based on information from MINED (2006, 2007b, 2008, 2009d, 2010).

### 5.2.3 Some Comments on the Future of the Higher Education – Labor Market Linkage

Higher education institutions in El Salvador are not as well connected to the labor market as might be expected (or at least, as the authorities of the higher education institutions claim). For example, authorities in certain HEIs assert that they analyze market demand for their graduates, but they were unable to provide clear information about the time it takes their graduates to find a job or in which industry they are working.

Another example of this lack of coordination with the labor market can be found in the case of ITCA-FEPADE. In its development/expansion plan for the next five years, the institution did not include estimates of labor market expansion and of how their graduates will enter into it. Moreover, much of the information used to determine the program offerings (the ‘report of academic relevance 2010-2014’) is based on past government plans, some of which have been stalled – e.g. Puerto La Unión since 2008<sup>37</sup> – or fully dismissed – e.g., the Educational Plan 2021, a project of a former Minister of Education).

An increase in funding could develop and strengthen research at universities and technical institutions, which is currently a weak aspect of higher education in El Salvador. However, the first requirement for developing an authentic research capacity in the higher education sector would be to train potential researchers and investigators in how to conduct R&D, and this will take several years. Hence, even

<sup>37</sup> The port will not be ready to fully operate at least until 2014 when a port operator would be in charge. Currently, the port is ready for low volume traffic but CEPA, the port administrator, hopes that a tender process may provide a port operator that not only operates the port a larger scale, but also completes infrastructure works needed and deploys equipment that will ensure continuous operability to shipping companies.

when there is an increase in the number of people reporting themselves to be researchers, it will take some time for R&D to obtain results and, of course, transmit new knowledge to the HEI's students.

Offering new degree programs and expanding current capacity to absorb new students implies an increasing demand for instructors and professors in the higher education sector. Nonetheless, it is difficult to infer how the institutions will provide additional instructors for their programs. Attracting more qualified teachers and professors will require changes in the wage structure of the sector, which in turn will increase the overall costs of higher education. This will ultimately have an impact on the costs that students must bear, which may create a significant disincentive to enrollment. Hence, a quality-quantity trade-off arises.

The same problem applies to researchers and investigators: the provision of MAs, MSs, PhDs, and other highly qualified workers for the sector is in doubt. Even when highly skilled visiting or part-time professionals come to the country, they may be more likely to provide guidance than actual research. The part-time labor schemes that characterize the circumstances of so many faculty also reduce the possibility for local researchers to be supported and mentored by highly experienced researchers and to share experiences on a daily basis.

Finally, while most universities have high expectations about expanding their degree offerings in the short run, their plans are subject to the availability of funding to expand their infrastructure rather than meet real market demand for their graduates. This implies that they are considering increasing their program offerings in traditional careers with what may be minimal specific specialization (e.g. judicial sciences, or business administration). This is likely to be disconnected from the real needs of the labor market (which, for example, is not demanding lawyers broadly defined, but rather specialized environmental lawyers, criminal defense attorneys, lawyers specialized in international trade law, etc.), which could well result in a waste of effort and money.

Secondary education has also not changed the way that it orients students towards career tracks and does not promote alternative views of higher education degrees and work prospects. This limited exposure to relevant career information for secondary school-age students contributes to the fact that new HEI entrants tend to choose traditional over more up-to-date technical careers that are in greater demand. Thus, even if degree offerings are much broader, there is no guarantee that students will enter them unless external constraints provide them with information and incentives to do so.

## 6 International Donor Programs in Higher Education

A very small percentage, approximately 7.5 percent, of bilateral development funds, goes to support education programs in El Salvador. Only a handful of these programs focus on higher education. Almost half of the development funds contributed by the top ten donors go to infrastructure and economic development programs.

### Top Ten Donors (based on 2007 figures)

Spain  
United States  
Japan  
European Union  
Germany  
Luxembourg  
United Kingdom  
Inter-American Development Bank  
International Fund for Agricultural Development  
France

The following projects provide some support to post-secondary educational programs in El Salvador.

### Switzerland

#### Swiss Contact<sup>38</sup>

Swiss Contact is the organizational equivalent to USAID for international development programs funded by the Swiss government. Swiss Contact currently funds and manages a *Vocational Education and Training Project* – During the current phase (2009-2012) the Project's goal is to ensure that at least 5000 youths and young adults have the opportunity for a career-oriented vocational training that enables them to gain employment. Since individual trainees enter the program at varying levels of skills and experience, the vocational training curriculum is organized in modules. Trainees who cannot demonstrate mastery of the skills in specific modules can focus on those skills they still need to master. The courses last up to three months and are offered in the following vocational areas: bricklayer, bricklayer foreman, sewing machine mechanic, refrigeration and air conditioning technician, welder, carpenter, cook, tailor, waiter, bartender, confectioner. For those who want to start up their own business or have done so already, the project offers training courses in topics like jewelry and handicraft production, hair dressing and production of traditional sweets. The main target groups are unemployed and low-income women and men, primarily from rural areas districts, who, because they lack vocational qualifications, have very limited opportunities for gainful employment. These people (and young men especially) without any

<sup>38</sup> Swiss Contact. <http://www.swisscontact.ch/English>

career prospects are at risk of being recruited by criminal gangs and this is exactly what the project aims to pre-empt. The courses are run by local partners, primarily small community-based organizations. Swiss Contact is providing its partners with technical, organizational and quality control support to manage these programs. SMEs providing additional job openings for young people are receiving technical support in how to organize and implement on-the-job training programs for targeted youth. As a result, the national vocational education system has been significantly strengthened. In conclusion, Swiss Contact's activities and partnerships in El Salvador have increased opportunities for young people entering the labor market by providing them with marketable skills and providing linkages to employers who need those skills.

## **Germany**

Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation) or GIZ<sup>39</sup> formerly GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit, the Society for Technical Cooperation), implements a "Programme for economic development and employment promotion".

The program supports private and public organizations at local and national level. Capacity building for participants at local level helps them identify local employment potential and jointly agree on measures to take with the available resources. This includes developing and improving vocational orientation programs, training opportunities, job placement, and help with starting a business.

GIZ programs in technical vocational education and training have had positive impact on the tertiary programs offered at institutions such as ITCA-FEPADE in the integration of on the job experience with classroom instruction (Dual Program). GIZ has also actively supported the training of prosthesis technicians through a program at Don Bosco University.

## **Japan**

Japan International Cooperation Agency JICA<sup>40</sup>

JICA's Project for the Strengthening of Teaching Quality of MEGATEC La Union provided funds to construct and equip the MEGATEC and provides instructor training on-site in La Union.

## **World Bank<sup>41</sup>**

The World Bank supports a current Income Support and Employability Project. Approximately 15 percent of the project is targeted to improve vocational training for vulnerable populations.

## **The European Union<sup>42</sup>**

The EU has provided assistance to higher education in El Salvador through three regional programs: ALFA III, AlBan, and @ Alliance for the Information Society 2 programs. The ALFA III program (2007 to 2013) focuses on modernizing and reforming higher education systems in Latin America and strengthening the partnerships between Higher Education Institutions from Latin America and European regions. The AlBan program has provided scholarships for 22 Salvadorans to pursue graduate degrees (16 masters, 5 doctorates, and 1 specialized) in European Universities. The new Erasmus Mundus External Cooperation Window program, which replaced AlBan program in 2008, will

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<sup>39</sup> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). <http://www.giz.de/en>

<sup>40</sup> Japan International Cooperation Agency JICA. <http://www.jica.go.jp/english/index.html>

<sup>41</sup> The World Bank. <http://web.worldbank.org/external/projects/>

<sup>42</sup> European Union. [http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/index\\_en.htm](http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/index_en.htm)

provide scholarships and promote academic exchanges. The @ Alliance for the Information Society 2 - @LIS 2 – program aims to continue the promotion of the Information society and fight the digital divide throughout Latin America. The @LIS program has 3 lines of action with as many projects to be implemented between 2009 and 2012. Each of the projects will contribute to bring closer the communities of players and users of the two regions and facilitate the integration of the Latin-American countries in a global information society.

- Policy and Regulatory Dialogue: Pursue the strengthening of political, technical and social links with Europe in this area, contributing to a greater visibility of this issue in the LA political agendas, leading to more resources channeled to R&D and greater civil society participation in the generation of public policies, involving demonstration projects of the former phase.
- Stimulate and support research intra LA and with Europe: The Program will sustain the continuity of RedCLARA, whilst supporting relations among the researchers and promoting joint projects. To this end it will look to: (i) provide a proper framework for the technical decisions and the subsequent investments in order to ensure compatibility between investments in technology and operational capabilities (ii) favor the long term network sustainability, formalizing operational objectives such as service levels. (iii) allocate funds to promote and support key strategic applications that use RedCLARA. (iv) identify actions to guide the strategic technology decisions. (v) promote co-operation with the Caribbean Knowledge and Learning Network (CKLN).
- Homogenization and harmonization of regulatory processes, in Latin Americas' telecommunications sector. There is a broad consensus that an effective and stable regulatory framework is essential for the further development of the IS, and notably to strengthen competition and consequently favoring access to ICTs. According to the Financing decision and the provisions of the current Financial Regulation the three grants have been directly awarded to: ECLAC (*Economic Commission for Latin America and the Caribbean*), CLARA (*Latin American Cooperation of Advanced Networks*), and REGULATEL AD (*Association of Regulators REGULATEL AD*).

## **Spain**

The Spanish Agency for International Development Cooperation (La Agencia Española de Cooperación Internacional para el Desarrollo (AECID)<sup>43</sup> provides some scholarships for graduate level education in Spanish universities.

## **The United States**

Through the Millennium Challenge Corporation and USAID, the United States has been promoting an array of initiatives to improve efficiency of the Salvadoran education system, support interventions for at-risk youth, and provide employment training. Some of the main programs include:

### **A. The Millennium Challenge Corporation (MCC is known as Fomilenio in El Salvador)<sup>44</sup>**

Approximately three percent of the total MCC fund for El Salvador addresses improvements in higher education. MCC funded the construction and equipping of new facilities for the MEGATEC in

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<sup>43</sup> Spanish Agency for International Development Cooperation (AECID). <http://www.aecid.es/es/aecid/>

<sup>44</sup> The Millennium Challenge Corporation. <http://www.mca.gob.sv/index.aspx#>

Chalatenango. In addition to infrastructure improvements MCC has funded the development of a tourism curriculum and provided scholarships for students attending MEGATECs and the National Agricultural School. MCC is also supporting the creation of a national system for Technical and Professional Formation in El Salvador by bringing together the Ministry of Labor, the Ministry of Education and the Salvadoran Institute for Professional Formation (Instituto Salvadoreño de Formación Profesional, INSAFORP) to jointly design such a system.

#### B. Partnership for Growth (PfG)

The Partnership for Growth is a major USAID initiative that represents a key element of United States support for expanding national growth and productivity in El Salvador. President Obama visited El Salvador mid-2011 and announced this new program that will be piloted in El Salvador. Together the United State Government (USG) and Salvadoran government (ESG) have identified as constraints to growth: 1) Crime and Insecurity and 2) Low Productivity of the Tradable Sector. The factors that limit El Salvador's productivity in tradable include a) quality of infrastructure, b) quality of human capital, c) financial capital and d) institutional environment. The USG and GOES are in the process of identifying the priorities to be targeted. For the HE program, it will be necessary to clearly identify the priority production areas so the program can provide support to institutions that can provide quality training.

#### C. SEED (Scholarships for Economic Education and Development Program)

SEED, formerly known as CASS, is an USAID scholarship program administered by Georgetown University. The program currently focuses on rural youth who evidence leadership capabilities and gives them an opportunity to travel to the USA to study and experience a new and different culture. At present there are youth studying agricultural administration with an export orientation, primary teachers, and health promoters in the USA. The program requests NGOs to recommend possible candidates. The students are enrolled in Community Colleges in the USA. Five Salvadoran universities recognize credits: UES, Gavidia, UCA, Matías and the Tecnológica. The local SEED office helps returned scholarship students to find jobs if they do not already have one (some work for NGOs or local governments and return to same or upgraded positions). The purpose of the SEED program is primarily to strengthen the leadership capabilities of the youth, as well as strengthen their technical capabilities. The program has awarded more than 206 scholarships to Salvadoran students since 2008.

#### D. US Embassy Public Affairs Office (PAO)

The US-funded Public Affairs Office in El Salvador supports Don Bosco, UNICAES, and the SUPERATE Program. One of its main activities with HEIs is the sponsorship of English as a Second Language (ESL) programs. During the team's visit to PAO, they learned that there is much emphasis on the need to increase English-language learning among higher education students. While many HEIs offer coursework in English, it is often only to meet the proficiency required by international tests, such as TOEFL—the English level students achieve is not necessary marketable to employers. PAO representatives expressed the potential for allowing the institution, *Centro Cultural*, to become an English testing or certification entity for HEIs to utilize. Advocating for English-language learning, however, also necessitates better training for English teachers within HEIs.

In addition, the US Government supports a number of scholarship programs designed to address different levels of higher education needs. These include: Fulbright Scholarships for Graduate Studies Fulbright Faculty Development Program, International Fulbright Science and Technology Award for Ph.D. study, Hubert H. Humphrey Fellowships, Global Undergraduate Exchange Program, Education USA Opportunity Funds, and Scholarships for Education and Economic Development.

## References

- Alvarado, César (2010). "Análisis de la productividad y los costos laborales unitarios reales en El Salvador 1990-2009. Aspectos teóricos e implicaciones en la competitividad," Boletín Económico, Banco Central de Reserva de El Salvador.
- Avanzini, Diego (2011). "Clase Media y Política Fiscal en América Latina," Working paper, Economic Development Division, UN-ECLAC.
- Burke, Dolores. (1987) The academic market place in the 1980s: Appointment and termination of assistant professors. *Review of Higher Education* 10 (3): 199-214.
- Cárdenas, Leonor. (2011) *Educación impulsa preparación profesional de los docentes*. DiarioCoLatino.com. Available online at:  
<http://www.diariocolatino.com/es/20110414/nacionales/91500/Educaci%C3%B3n-impulsa-preparaci%C3%B3n-profesional-de-los-docentes.htm>
- Center for Global Development (2008). "Beyond the ABCs: Higher Education and Developing Countries".
- Centro de Estudios de Estado y Sociedad. 1995. *Educación Superior en América Latina: Una Agenda de Problemas, Políticas y Debates en el Umbral del Año 2000*. Santa Fé de Bogotá: Universidad de Colombia.
- Dada, Carlos (2011). "El Salvador: Country Report," commissioned for the Fourth Meeting of the Central America Working Group sponsored by the Inter-American Dialogue, FUSADES, and FUNDE (May 12-13, 2011, San Salvador).
- de Moura Castro, Cláudio, and Daniel Levy. (2000) *Myth, reality, and reform: Higher education policy in Latin America*. New York: Inter-American Development Bank.
- de Wit, Hans. (2002). *Internationalization of higher education in the United States of America and Europe: A historical, comparative, and conceptual analysis*. Westport, Conn.: Gree
- Di Gropello, Emanuela (2004). "El Salvador: Education Strategy Paper," Human Development Department, Latin America and the Caribbean Region, World Bank, Washington, D.C.: World Bank.
- DIGESTYC (2005). "Encuesta de uso del tiempo," Database and report, San Salvador: El Salvador.
- ECLAC (2004). "La juventud en Iberoamérica: Tendencias y urgencias," Santiago de Chile: United Nations Economic Commission for Latin America and the Caribbean.
- Escuela Superior de Economía y Negocios. (2011) *Intercambio internacional*. Available online at <http://www.esen.edu.sv/experiencia-esen/intercambio>
- Haskel, Jonathan, and Holt, Richard. 1999. *Anticipating future skill needs: Can it be done? Does it need to be done?* Skills Task Force Research Paper # 1. Sheffield, England: Department for Education and Employment.
- Holm-Nielsen, Lauritz B.; Thorn, Khristian; Brunner, Jose J.; Balan, Jorge. 2004. *Regional and International Challenges to Higher Education in Latin America..* World bank, Washington, DC

- Ibarra, Lito. 2008. *FIES y Jóvenes Talentos: Dos aportes al desarrollo científico*. La Prensa Gráfica. Available online at: <http://blogs.laprensagrafica.com/litoibarra/?p=63>
- Inter-American Development Bank (de Moura Castro, Claudio, and Daniel Levy). 1997. *Higher Education in Latin America and the Caribbean: A Strategy Paper*. Washington, D. C.: Inter-American Development Bank.
- Latinobarómetro (2007). "Informe Latinobarómetro 2006," Corporación Latinobarómetro: Santiago, Chile.
- MINEC and DIGESTYC (2010). "Encuesta de hogares de propósitos múltiples - EHPM 2009," San Salvador: Ministerio de Economía, Dirección General de Estadística y Censos.
- MINED (2006). "Resultados de la Información Estadística de Instituciones de Educación Superior 2005," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2007a). "Censo Nacional de Educación," San Salvador: Ministerio de Educación.
- MINED (2007b). "Educación Superior en cifras El Salvador 1997-2006," Edición Especial, Gerencia de Evaluación e Información Estadística, Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2008). "Resultados de la Información Estadística de Instituciones de Educación Superior 2007," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2009a). "Cuentas Nacionales de Educación: Visión general 2009," San Salvador: Ministerio de Educación.
- MINED (2009b). "Invertir más en educación: ¿Cuánto cuesta cumplir los compromisos pendientes?" San Salvador: Ministerio de Educación.
- MINED (2009c). "Cuentas Nacionales de Educación: Visión general 2009." San Salvador: Ministerio de Educación.
- MINED (2009d). "Resultados de la Información Estadística de Instituciones de Educación Superior 2008," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2010). "Resultados de la Información Estadística de Instituciones de Educación Superior 2009," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador.
- MINED (2007). *Educación superior en cifras. El Salvador: 1996-2007*. San Salvador: Dirección Nacional de Educación Superior.
- MINED (2010). *Resultados de la información estadística de instituciones de educación superior*. San Salvador: Dirección Nacional de Educación Superior.
- National Council for Science and Technology. 2010. *Indicadores de ciencia y tecnología: Estadísticas sobre actividades científicas y tecnológicas. Sectores de educación superior y de gobierno*. San Salvador: CONACYT.
- Picardo Joao, Oscar. 2009. *Transición, retos y problemas de las universidades en El Salvador: Opiniones circunstanciales y pensamiento pedagógico (1997-2007)*. San Salvador: CICH, Universidad Dr. José Matías Delgado.

- RMU. 2011. *Red de macro universidades de América Latina y el Caribe: Estatutos*. Available online at: <http://www.redmacro.unam.mx/estatutos.html>
- Schwartzman, Simon. 1993. La Profesión Académica en América Latina. In *Notas para el Debate 10*, 41-58. Edited by GRADE. Lima: GRADE.
- Scimago Institutions Ranking. 2011. *Iberoamerican Ranking SIR 2011*. Available online at: [http://www.scimagoir.com/pdf/ranking\\_iberoamericano\\_2011\\_en.pdf](http://www.scimagoir.com/pdf/ranking_iberoamericano_2011_en.pdf)
- Siskind, Cory (2011). "Central America Working Group. Rapporteur's Report," Inter-American Dialogue, San Salvador (May 12-13, 2011).
- Smerek, Ray, Pasque, Penny, Mallory, Bruce, and Holland, Barbara. 2005. Partnerships for Engagement Futures. In *Higher education collaboratives for community engagement and improvement*, 7-9. Edited by Penny Pasque, Ryan Smerek, Brigid Dwyer, Nick Bowman, and Bruce Mallory. Ann Arbor: National Forum on Higher Education for the Public Good. University of Michigan.
- Trendle, Bernard. 2008. *Skill and labor shortages: Definition, cause and implications*. Working Paper # 54. Queensland: Department of Education, Training and the Arts.
- UCA/IUDOP (2007). "Los salvadoreños y salvadoreñas evalúan la situación del país a finales de 2007," Boletín de Prensa, Vol. XXII, No. 2. San Salvador, El Salvador.
- Universidad Centroamericana "José Simeón Cañas". 2009. *Plan estratégico 2009-2013*. Available online at: [http://www.uca.edu.sv/documentos/Plan\\_estrategico\\_UCA\\_2009\\_2013.pdf](http://www.uca.edu.sv/documentos/Plan_estrategico_UCA_2009_2013.pdf)
- UNDP (2008). "Informe sobre Desarrollo Humano El Salvador 2007-2008. El empleo en uno de los pueblos más trabajadores del mundo," UNDP, El Salvador Office.
- UNDP (2010). "Informe sobre Desarrollo Humano El Salvador 2010. De la pobreza y el consumismo al bienestar de la gente. Propuestas para un nuevo modelo de desarrollo," UNDP, El Salvador office.
- UNDP, CIOPS and PRODEC (2007). "Encuesta sobre cultura laboral y cohesión social," Inédito. San Salvador (referenced by UNDP, 2008).
- UNESCO. (2008). "Trends in Higher Education in Latin America and the Caribbean". IESALC.
- UNESCO. (2009) "Regional Overview: Latin American and the Caribbean".
- USAID – El Salvador (2011). *Partnerships For Growth Constraints Analyses*, Internal Report, USAID, El Salvador Office.
- Williamson, Oliver. 1996. *The Mechanisms of Governance*. Oxford: Oxford University Press.
- World Bank (2000). "Higher Education in Developing Countries: Peril and Promise" World Bank Report
- World Bank (2005). "El Salvador: Poverty Assessment. Strengthening Social Policy," World Bank Report

## Section II ITCA-FEPADE: Diagnosis of the Institution, its Expansion Plan, and Recommendations

### Executive Summary

The Instituto Tecnológico Centro Americano (ITCA) is a network of technical institutions managed by the Fundación Empresarial para el Desarrollo Educativo (FEPADE). The analysis of ITCA-FEPADE has been included in the current study due to this institution's central role in post-secondary technical education in El Salvador. The main objective of the institution is to train competent professionals in technological fields for which there are both demand and opportunities in the local, regional, and global markets. As part of the overall assessment of higher education in El Salvador, the JBS team provides an in-depth assessment of ITCA/FEPADE, evaluates its technical programs Expansion Plan, and provides strategic recommendations for the future.

### 1.1 The Current Situation

The evaluation team developed an analysis of the current situation of ITCA-FEPADE through an examination of its teaching capacity, curricula, levels of research, the relevance of its technical programs, its management, and its infrastructure. Overall, the study found the following:

***ITCA-FEPADE students make up a quarter of El Salvador's total post-secondary student population who study in technical and technological certification programs.*** Its market share of university-level courses is much lower, with only three academic degree programs and a student body that represents only 0.09% of the total university population.

***A recent study concludes that only half of its current educational programming is relevant.*** This source (ITCA-FEPADE, 2010) found that nearly half of the technical programs of the institution need to be revised, and in some cases, reoriented. The study authors proposed modernizing the degree programs, adapting them to changed technological demands of the market, and in certain cases, eliminating some degree programs.

***Establishing a competency-based instructional methodology has been difficult due to a lack of coordination between technical education and traditional higher education.*** The traditional calendar-based system of instruction continues to dominate in which all students in one cohort, in one course, begin and end a semester together. In contrast, competency-based instruction permits each student to proceed at his/her own pace, some starting at the beginning and others at advanced stages. The student can either demonstrate full competency<sup>45</sup> at some point, or make a decision to drop the course. In contrast, the traditional system creates difficulties for both the institution and its students, who have no established means to validate the competency-based approach with other local academic institutions. This is especially true for students in the engineering programs.

***ITCA-FEPADE does not provide interdisciplinary teaching.*** Students within the same campus do not find easy to interact academically with other students since academic activities do not include interdisciplinary activities. Students expressed that "it is not allowed" to undertake projects or term papers jointly with students from other departments. In particular, students in computer networking programs noted the frustrations of developing projects focusing on interconnectivity as they cannot link their work to other departments and specialties that are taught within the same campus.

***ITCA-FEPADE lacks flexibility.*** Lack of flexibility makes difficult transfer credits from one program to another. The team found that many students enroll in technical programs hoping that transferring

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<sup>45</sup> Competency can be demonstrated through producing an item judged perfect by an examiner (furniture, mechanical apparatus, food preparation, electronics repair), and/or scoring at an acceptable "competency" level on an exam,

credits from technical to engineering programs could be feasible but in reality it rarely happens. According to interview with parents, the team found that many of them have encouraged their children to join technical programs hoping that transferring credits from technical to engineering programs could be easily done.

**Instructors are limited in time spent with students, both in and outside of classrooms, especially time that might be devoted to collaborative instructor-student research.** Although the per-student ratio at ITCA-FEPADE matches the national average (about 16 students per instructor), instructors interviewed reported that the majority of full-time instructors spend more than 50% of their time on administrative and academic coordination tasks.

**The budget allocated to research is insufficient,** especially for an entity such as ITCA-FEPADE that carries out activities in applied sciences like mechanics, electronics, and general engineering. These fields, unlike the humanities and social sciences, require much greater resources to undergird research if the goal is to achieve a real impact or contribution to science.

**The number of faculty with masters and doctorates remains low,** not only by international standards, but also compared with the rest of the Salvadoran national post-secondary system. Only about 5% of ITCA-FEPADE faculty members have graduate degrees, compared with about 14% in other non-university institutions nation-wide. Some 44% of the instructional staff holds only technical-level degrees. So few faculty with advanced degrees places limits on the ability of the institution to become involved in research at national and/or international levels.

**ITCA-FEPADE's faculty is dominated by males;** the percentage of female instructors is less than the national average of all non-university institutions. The teaching staff at ITCA-FEPADE only has 33% female representation, 10 percentage points less than the national average of 43% among non-university institutions.

**ITCA-FEPADE technical programs do not align fully with labor market demands.** There is a mismatch between technical programs in ITCA-FEPADE regional centers and what the labor market needs. For instance, in the Zacatecoluca region the largest employer of technical specialists is Aeroman (an airplane repair facility), but the MEGATEC operated by ITCA-FEPADE has no offerings in this technical area. In La Unión, the course in computer skills produced enough graduates in three years to saturate the market but continues to enroll students. ITCA-FEPADE should strive to attract students to those degree programs that are most relevant based on continuing analysis of the labor market and industry trends.

**ITCA-FEPADE receives public subsidies well below the national average of state contributions to public higher education.** The average public subsidy per student for students at ITCA-FEPADE is only 57% of the subsidy for students at the University of El Salvador. At a time when there is nearly unanimous agreement on the important role of technical degree programs, this disparity in the economic support is worrisome. ITCA-FEPADE should make note of this inequity.

**ITCA-FEPADE facilities are largely classrooms used for traditional teaching, where the instructor speaks and students, sitting at desks, listen.** The campus infrastructure does not reflect the principles of modern school design, especially in the creation of spaces that enhance different modes and methods of learning. Each technical program may require different classroom contexts: stools and high counters on which students can work; furniture that can be easily moved into various configurations; high ceilings to hang objects or to ensure that air circulates and adequately ventilates; special flooring to support heavy equipment or to contain specialized electrical, plumbing, and mechanical devices; spaces that enable equipment or materials to be manipulated, etc. Under a competency-based methodology, instructors are facilitators and should continually be moving around to work with a student or group of

students. Competency-based classrooms are alive and full of activity. This must be taken into consideration when planning spaces for learning.

## I.2 Expansion Plan

The current study has also analyzed ITCA-FEPADE's Expansion Plan based on a curricula-relevance study (ITCA-FEPADE, 2010). The plan discusses expanding the infrastructure at a cost of approximately USD 75 million (according to the "Expansion Plan for the Five Venues" provided to the team by the institution). The objective of the infrastructure development is to progressively triple the current student enrollment over a five-year period. This projection is directly related to the expansion of the technical programs at all five campuses.

Based on available information, including presentations made to the assessment team by the Board of Directors; conversations held with ITCA-FEPADE authorities; and documents, presentations, and emails, the team reviewed different aspects of the institution's expansion plan, with the following findings:

- ***There is no clear linkage between the future technical programs and future labor market demands.*** The earlier study (ITCA-FEPADE, 2010) had a very specific objective: "to determine the expansion necessary<sup>46</sup> to at least triple the current enrollment of ITCA-FEPADE over a period of five years, taking into account an analysis of labor demand and its relationship to curricular offerings." However, the expansion plan presents no compelling evidence of any analysis of technical programs and labor demand that supports the feasibility of this expansion.
- ***The team believes that growth in enrollment will barely double by 2015,*** due not to limitations of ITCA but to the limited capacity of the market to absorb this highly skilled workforce. The most reliable projections for future employment suggest that during the period from 2011–2015, employment will grow slowly and unemployment will remain around 7%—a high figure that may result in downward pressure on wages, potentially making technical education less attractive to potential students.
- ***The 2010 study of the relevance of technical programs exhibited significant shortcomings,*** such as:
  - the absence of a prospective monitoring of labor demand;
  - a limited economic analysis for properly adjusting the visions and assumptions of stakeholders to create a stronger estimate of future sources of employment;
  - insufficient emphasis on the need to fully incorporate English and computer skills into curricular programming to increase the competitiveness of ITCA-FEPADE graduates; and
  - no mechanism proposed for adjusting degree programs to reflect the reaction of other tertiary institutions to changes in the labor market supply and in the demand for graduates with higher education. Particularly troublesome is the fact that the analysis of program relevance is based largely on historical information, without an adequate analysis of the degree of success by which the institution was able to adjust to changes in labor demand in the past.

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Here it is assumed they mean expansion of infrastructure, equipment, materials, and human resources.

- **While the plan discusses the creation of degree programs, it does not discuss how long these programs will or should be maintained.** This issue refers to the number of times a specific degree program may be offered until the market becomes saturated, when a balance is reached between the number of graduates seeking employment and the number of available jobs. Historically, degree programs are launched with no thought or planning given to market saturation, future changes in the respective technological field, and obsolescence.
- **The plan only covers the expansion, not the adaptation of the current curricular structure to the demands of the market.** A comprehensive forward-looking plan that includes both current programs and proposed additional offerings should be the primary goal in the very short term, so that the institution can have a complete map of action, not only additions to what already exists.
- **The expansion plan does not include a detailed strategy for attracting and retaining students.** Given the scarcity of resources for higher education in El Salvador, the establishment of criteria that work to ensure retention, emphasizing social commitment and equal access, must be within the guidelines of the plan. The investment lost when a student leaves ITCA-FEPADE (the dropout rate is 12%) is significant. A detailed analysis of the causes of dropping out is required, as well as the development of strategies and plans for programs to attract students and to provide support so that students will not leave before finishing their studies.
- **The expansion plan should also articulate a clear strategy relating to support activities that ITCA-FEPADE will provide its graduates throughout their working life.** ITCA-FEPADE should plan how to maintain contact with its graduates, enabling it to monitor not only the status of its students but also to learn how its technical programs are being used in the market, how long it takes for the knowledge and skills to become obsolete, and how to know when it is time to provide its graduates with new training and on what topics.
- **It is not clear that the institution has an explicit strategy for the development of research, both theoretical and applied, at the instructor, instructor-student, and student levels.** The plan does not currently discuss a future research program.
- **The expansion plan does not describe what the broader strategic relationship between ITCA-FEPADE and the broader Salvadoran society should be.** Developing a clear communication strategy of the institution's relationship to a vibrant Salvadoran society goes hand-in-hand with the vision to serve the labor market. The institution will need to reach out to find out how it can contribute to the development of society, to meet labor demand and to place students in relevant jobs. It cannot unilaterally decide what it wants to transmit, teach, and produce and be an effective contributor to El Salvador's economic growth.

### 1.3 Recommendations

Finally, the evaluation team presents strategic and practical recommendations, though these are intended to provide guidance that is in no way exhaustive or restrictive. To achieve what the team recommends, ITCA-FEPADE may consider the following:

**Take on a leading role as the national promoter of technical and technological training.** ITCA-FEPADE should be the primary entity that leads the sector, setting standards for educational quality and coordinating with the productive sectors. The team recommends that ITCA-FEPADE present itself as the lead educational agency in this regard, focusing its intervention on the quality of service and technology, ensuring employment opportunities through public-private partnerships, and focusing its degree programs on the needs of the private sector. This will facilitate its ability to place young people in the workplace, based on the evident excellent quality of the education of its graduates.

**Broaden and deepen its relationship with employers.** One of the cornerstones of ITCA-FEPADE's policies should be to meet the demand for specific skills. The end result for ITCA-FEPADE should be that its graduates are equipped with the skills necessary to meet the demands of the productive sectors of the country. This focus on market demand should be at the forefront of its plans to be able to make the greatest contribution to the country's economy and society.

**Strengthen its institutional framework.** To ensure success, ITCA-FEPADE should strengthen its institutional framework, that is, strengthen its internal organizational structure such that the institution draws on an internal network of support, development, and interrelationships that allow it to become the leader in its technological and scientific arenas. This will require a strengthening of internal communications, the integration of degree programs and schools, and the development of a robust job placement capacity.

**Develop a strategy to promote institutional growth.** ITCA-FEPADE needs to focus on strengthening its investment in developing specialized high technology schools through a range of actions, including: (a) aligning educational programs with current demands of the productive sectors; (b) aligning its development strategy to be consistent with broader needs of the economy and external programs such as the Partnership for Growth program; (c) regularly renewing and deepening its research on labor demand; (d) strengthening a competency-based educational approach and drawing on a dual (“work-study”) model that reinforces those competencies; (e) developing new degree programs and adjusting existing ones; (f) decreasing the time required to establish new degree programs; (g) developing its institutional research activity; and (h) adequately planning for the expansion of infrastructure and equipment.

**Undertake a thorough plan for strengthening its instructional capacity.** ITCA-FEPADE should develop a plan for strengthening instructional resources, with goals that include: (a) training instructors in “leading edge” technologies; (b) providing instructors with training in competency-based instructional methodologies; (c) expanding the training of instructors in English language mastery; (d) providing support for instructors to enhance their research methodologies; (f) encouraging the participation of instructors and students in research programs; and (g) reducing the administrative burdens for full-time instructors.

**Take some initial action steps to ensure the quality, viability, sustainability, adjustment, and financing of the expansion plan.** The team recommends that ITCA-FEPADE consider the following specific activities for analyzing its Expansion Plan in greater depth, in order to ensure its relevance, feasibility, funding, and sustainability:

- update the feasibility studies (e.g., by including a specific strategy for harmonizing the current educational programming);
- analyze in greater depth the technical feasibility of proposed new degree programs;
- ensure the provision of instructors and specialists for each proposed area of expertise;
- promote a discussion on standards or principles for ensuring academic and research quality;
- work to broaden funding sources;
- strengthen ties with the productive sectors to ensure their interest and desire for its graduates; and
- ensure that the Expansion Plan is aligned with the broader national economic development strategy of the country.

## **Introduction**

In the context of productive and cultural transformation in pursuit of development, El Salvador made major efforts starting in the second half of the nineteen sixties. In 1965, a decree was signed that formed a commission responsible for the creation of the Central American Technological Institute (*Instituto Tecnológico Centro Americano*, or ITCA). This would be, by definition, an autonomous body in the style of the University of El Salvador, which, based on its official origins, would come under the Ministry of Education. Due to its nature and the context in which it arose, it became a reference point for higher education in the country and in the Central American region.

In 1967, a technical cooperation agreement was signed between the Government of El Salvador and Great Britain. According to the agreement, this partnership would strive to develop the technical expertise needed to position the institution as a prime technology training institute. At the same time, in 1967–1968, workforce training structures were established in the Ministries of Education, Agriculture, and Labor. Further, secondary education was reformed in 1968 to expand and diversity options that would enable students to learn technical skills in order to become part of the productive sectors.

In 1969, ITCA formally arose with the goal of training young men and women at a higher level of technical education (though non-college), aimed at strengthening the economic and social development of the country.

ITCA was under British administration until 1979. In the early seventies, the institution had been able to work to significantly benefit the country's productive sectors, which were taking important steps towards industrialization. However, from 1979 until the war ended in 1992, the national educational system, and technological education in particular, suffered significant budget cuts. Added to this were the contraction of state and private investment and the consequent economic slowdown.

In this context, institutions such as ITCA received budgets only to meet salaries of instructors and administrative staff. They consequently had to sacrifice funding for maintenance and renewal of equipment and facilities. The research, extension, and diversification of training offerings, the upgrading of programs and of the teaching staff itself suffered from these cuts.

In 1990, a loan contract was signed between the Government of El Salvador and the Inter-American Development Bank (IDB), for a total of \$14.4 million for the execution of ITCA's improvement project. One of the conditions of the loan was that ITCA would be administered by a private institution. In that same year, a tripartite agreement was signed by the Government of El Salvador (GOES) / IDB and Fundación Empresarial para el Desarrollo Educativo (FEPADE), which granted the latter the administration of ITCA for 50 years (from 1991 onwards). FEPADE was a body formed by a group of businessmen who warned of the importance of education for improving human resources and achieving the country's economic development.

Although accreditation is not mandatory in El Salvador, ITCA-FEPADE submitted an evaluation performed by the MINED-Council of Higher Education Accreditation in 2003 and received its renewable certificate for five years. This accreditation is granted at the institutional level, not for specific programs. Additionally, in 2008, ITCA obtained the "ISO 9001:2000 Certification."

In 2006, the MINED established the Gradual Educational Model for Technological Learning (*Modelo Educativo Gradual de Aprendizaje Técnico y Tecnológico - MEGATEC*). ITCA-FEPADE, which already administered regional programs in the country, was assigned the administration of MEGATEC, which had campuses in the departments of La Unión and La Paz (Zacatecoluca). With this, the technical education system grew.

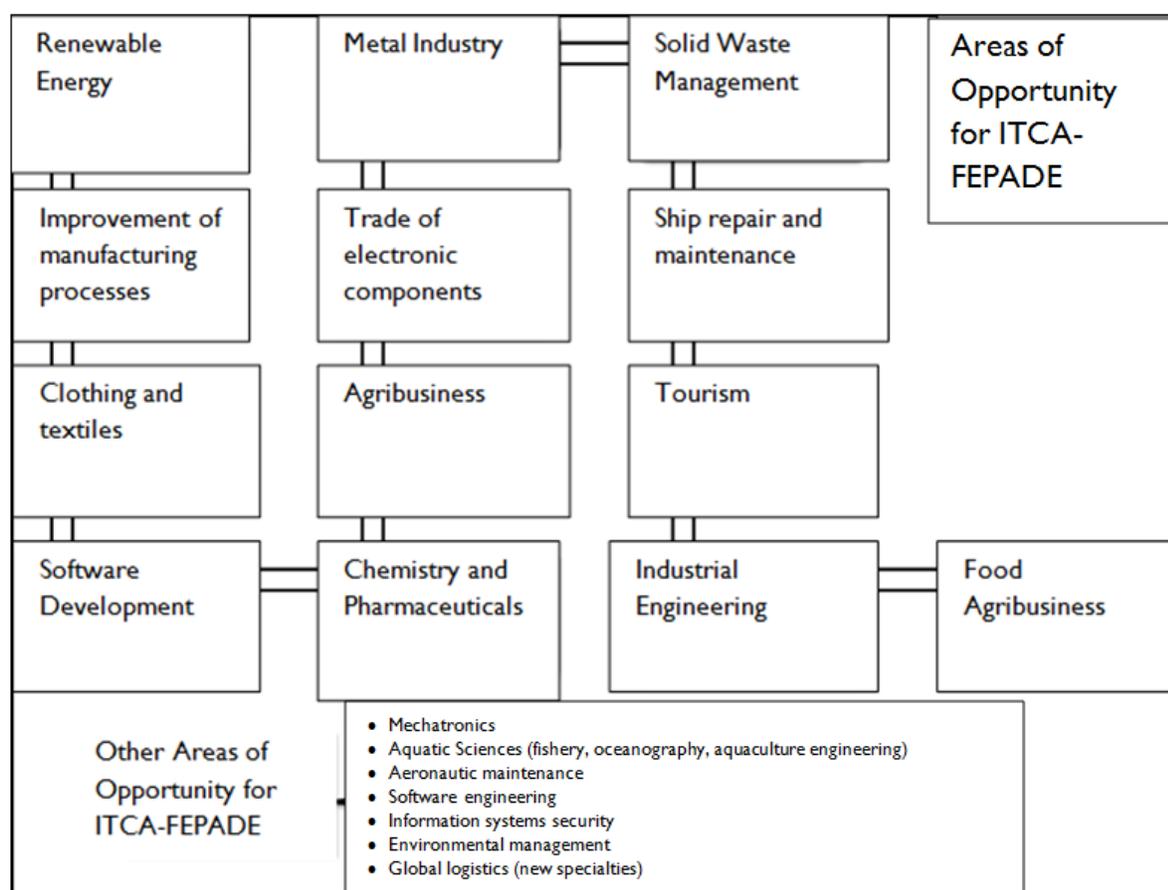
In 2008, ITCA-FEPADE established a specialized institute for higher education in science and technology and adopted the name of the Specialized School of Engineering. The engineering school has MINED-recognized programs as a human resource training institution with degrees granted as Technician, Technologist, Bachelors, Engineer, Architect, Master and Doctorate in the Science Technology area.

### 1.1 Academic Programs Offered

In the quest to better target its actions to promote development of the country, ITCA-FEPADE recently analyzed the relevance of its educational curriculum. Using a methodology proposed by a consulting technical team, it arrived at several significant conclusions for the future of the institution.<sup>47</sup> The study determined that half of the educational programs, especially technical degree programs related to IT systems using both virtual and onsite modes, were fully up to date and appropriate. But the study also found that nearly half of the technical programs of the institution need to be revised and, in some cases, reformulated. As a result, the institution proposes to modernize the degree programs, adapting them to the technological demands of development, and in specific cases, programs may be eliminated.

The main areas of opportunity identified by ITCA-FEPADE through its reviews and consultations appear in Figure 2.1.

**Figure 2.16 Main Areas of Opportunity Identified by ITCA-FEPADE**



Source: ITCA-FEPADE, "2010 Curricula Relevance," Santa Tecla, 2011

<sup>47</sup> ITCA-FEPADE, "Analysis of Curricula Relevance 2010," Santa Tecla, 2011.

ITCA-FEPADE's plan includes the implementation of various technical and engineering degree programs between 2011 and 2014 throughout its regional campuses, although most programs will be based at the main campus.

## 2 Institutional Analysis

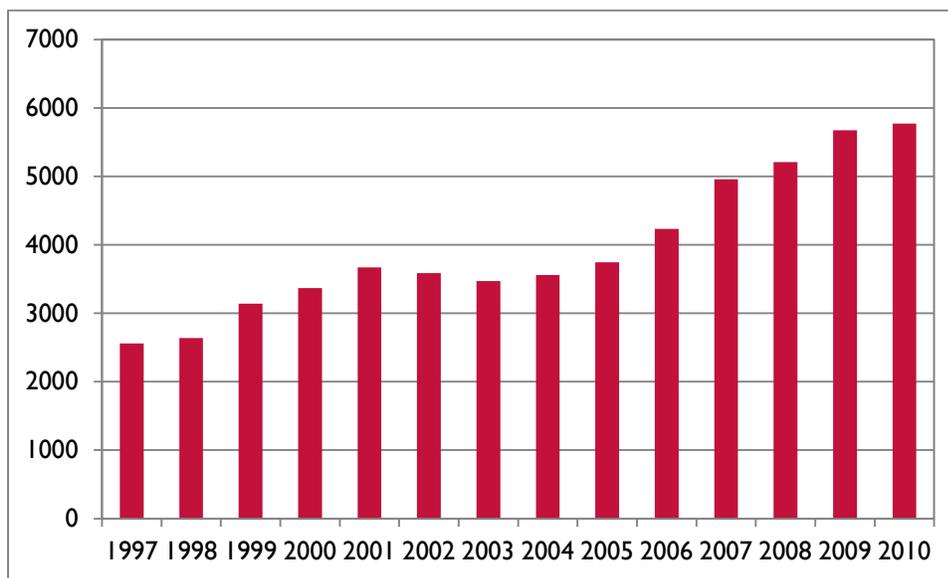
### 2.1 Academic Offerings

#### 2.1.1 Enrollment and Academic Programs

ITCA-FEPADE is an institution of higher technical education; however, it attracts, overall, a low percentage of secondary school graduates who aspire to higher education. In 2009,<sup>48</sup> only 3.94% of total student population in the higher education system of El Salvador was enrolled in the various campuses of ITCA-FEPADE. Secondary school graduates continue to be attracted to traditional liberal arts careers and those academic programs that lead to such degrees as the *licenciatura*, *ingeniería*, or other higher degrees. However, in 2010, ITCA-FEPADE students represented 23.5% of the country's students studying in technical and technological degree programs. As for university-level courses, its market share is even lower, with only three engineering degree programs and a student body that represents 0.09% of all students pursuing university degree programs.<sup>49</sup>

Even so, ITCA has seen a significant increase in student enrollment, especially since 2003 (see Figure 2.2). By 2009, the numbers had more than doubled the enrollment of 1997.

**Figure 2.2 ITCA-FEPADE: Enrollment 1997-2010**



Sources: MINED (2006). "Resultados de la Información Estadística de Instituciones de Educación Superior 2005," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador; MINED (2007). "Educación Superior en Cifras El Salvador 1997-2006," Edición Especial, Gerencia de Evaluación e Información Estadística, Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador; MINED (2008). "Resultados de la Información Estadística de Instituciones de Educación Superior 2007," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador; MINED (2010). "Resultados de la Información Estadística de Instituciones de Educación Superior 2009," San Salvador: Ministerio de Educación.

<sup>48</sup> Latest official statistical information available at the time of preparation of this document, corresponding to the statistical compendium of the MINED (2009).

<sup>49</sup> In 2010, 125,976 students were pursuing traditional academic (or "university") degree programs (124,166 at universities and 1,810 at specialized institutions). As for technical degree programs, the total enrollment was 24,036 students (13,601 at universities, 6,673 at specialized institutions, and 3,762 at technological institutes).

Currently, the technical programs of ITCA-FEPADE are distributed as follows: five campuses offer a total of 32 technical degree programs and three university degree programs in the field of engineering (see Table 2.1). The campus headquartered in Santa Tecla offers 15 technical degree programs and two engineering degree programs linked with the corresponding technical degrees. The two regional campuses in San Miguel and Santa Ana, offer three technical degree programs each. Two remaining sites, Zacatecoluca and La Unión, belong to the MEGATEC Network and are also managed by ITCA-FEPADE. In Zacatecoluca, four technical degree programs are offered, and, in La Unión, seven technical degree programs and the remaining engineering degree program.

**Table 2.10 ITCA-FEPADE, Academic Programs Offered 2011**

<b>ITCA Santa Tecla</b>	<b>Regional San Miguel</b>	<b>Regional Santa Ana</b>	<b>MEGATEC Zacatecoluca</b>	<b>MEGATEC La Unión</b>
<b>Technical Programs</b>				<b>Technical Programs</b>
Civil Engineering	Civil Engineering	Electrical Engineering	Global Logistics	Information Systems Engineering
Architecture	Electrical Engineering	Computer Maintenance	Electronics	Gastronomy
Electrical Engineering	Information Systems Engineering	Information Systems Engineering	Computer Maintenance	Hospitality and Tourism
Telecommunications Engineering			Information Systems Engineering	Customs and Logistics
Mechanical Engineering				Port Administration and Operation
Industrial Engineering				Fishery
Automotive Mechanic				Aquaculture
Laboratory Chemistry				<b>University Programs</b>
Information Systems Engineering				Logistics and Customs Engineering
Information Network Engineering				
Gastronomic Business Administration				
Gastronomy				
Mechatronics				
<b>University Programs</b>				
Electronic Engineering				
Mechatronic Engineering				

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

## 2.1.2 Institutional Performance

Table 2.11 outlines several indicators on ITCA institutional performance with respect to teaching and how they compare with national averages.

There is a high number of students per instructor, both at the institutional level (from one year to the next) and when compared to the average of specialized institutes. While the number of full-time instructors has improved, the number of instructors per student is still below international averages. This situation results in less time and availability of instructors to serve their students, both in and outside the classrooms, and to devote substantial time to collaborative instructor-student research.

**Table 2.11 ITCA-FEPADE: Performance Indicators in Context, 2008-2010**

Indicator	ITCA 2008	ITCA 2009	ITCA 2010	National Average (2010)	Specialized Institutions Average (2010)
<b>Student Teacher Ratio (S:T)</b>					
S:T	17.30	18.15	16.22	16.47	12.78
S:T - Full Time	50.27	48.98	44.77	49.40	41.67
S:T - Per Class Hour	26.53	28.98	25.66	31.55	18.73
<b>Library</b>					
Books per Student	3.91	3.86	4.46	6.46	9.24
Average Number of Volumes per Bibliographical Title	2.12	2.10	2.14	1.58	2.14
Percentage of Budget used on Books	0.91	0.00	0.39	0.48	0.40
<b>Technology</b>					
Number of Students per Computer	4.53	3.92	3.81	10.92	3.95
Number of Students per Internet-connected Computer	4.91	4.46	3.81	11.67	4.02
Percentage of Budget Allocated to Purchase Equipment	0.00	8.01	2.97	2.15	2.10
<b>Physical Space</b>					
Academic Space per Student (m2)	4.73	5.10	5.02	2.30	6.77
Recreation Space per Student (m2)	33.04	29.68	29.18	9.71	46.30
<b>Cost of Programs</b>					
Average Annual Cost of Technical Programs	433.16	414.83	427.22	637.40	524.58
Average Annual Cost of University Programs	-	940.00	448.02	678.20	3,836.79

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

This high number of students per instructor is exacerbated by the fact that the majority of full time instructors spend more than 50% of their time on administrative and academic coordination tasks, according to the discussions held with groups of instructors. The instructor shortage, coupled with instructors' non-academic duties, leave the students relegated to the background, which can negatively impact the quality of education.

Given that ITCA-FEPADE was conceived as an institute where the paradigm is "learning by doing;" however, large student-teacher ratios only detract from the learning experience, putting the fundamental mission at risk. Much of the skills development focuses on contact with the instructor, from whom the student learns by individual attention and coaching. It is difficult for large groups of students to have this experience under current conditions.

These findings are consistent with the perceptions and experiences of the young people that the team interviewed in Santa Tecla and in La Unión. The general feeling is that individual contact with instructors is limited. In classes, it is difficult to approach the instructor to observe what he/she is doing, while out of class, it is problematic, according to the students, to be able to arrange appointments for consultation.

Another concern is that support for library resources has lost ground. As an institution where technology-based degree programs which have a high rate of renewal and innovation are taught, having a "zero" budget policy with regard to the acquisition of literature prevents students and instructors to update knowledge, see new trends and explore alternatives. Access to technology is a more complex issue. While the number of students per computer is better than the national average, two important issues should be considered: first, a pivotal aspect of the degree programs is that they are associated with information technology, which naturally requires an intensive use of these tools. Second, given the low socio-economic profile of students (who have been defined as a priority by the institution), there is a high probability that the students do not have access to a personal computer at home, on which they can complete their homework, practice and experiment. Thus, having better access to information technology than other institutions does not necessarily imply that conditions are optimal. However, further judgments cannot be made from the information available, and the team recognizes the need for further study of this issue.

Students and instructors alike report significant restrictions on Internet access. Connectivity varies depending on the campus location, a situation that should be resolved without further delay. However, the most significant obstacle to Internet access is the restriction on content, a problem raised by both students and instructors. In its good intention to control data traffic, avoiding the waste of bandwidth with social networking programs, chatting, and video streaming, access to valuable resources that can be an important part of the learning process has also been restricted. In our interviews, students noted that on repeated occasions, it has been difficult to access content, especially web pages in English, although a significant amount of the Internet's content is available only in English.

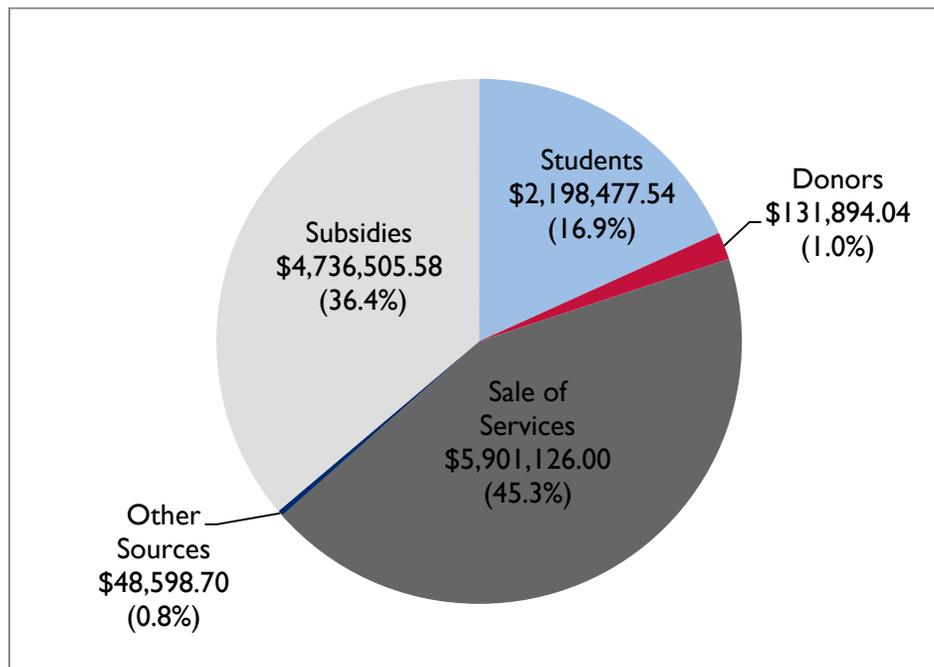
A positive feature of ITCA-FEPADE lies in the availability of space for academic activities and student recreation. In these respects, the institution is in a very good position in the national context and compared with specialized institutes. Having a spacious, pleasant environment which is suitable for study and recreation helps the students to improve their performance and adopt the institution as their own, since they can participate in other activities. However, the team recommends that the layout of these spaces and the way in which they are used, must be carefully analyzed. Again, information is limited on this matter; the team suggests that ITCA-FEPADE consider a careful assessment is required of building use in order to rationalize the use of the existing infrastructure.

### 2.1.3 Financing of Degree Programs

The final section of Table 2.2 provides information on relative costs of training, both in ITCA-FEPADE and in national averages (note especially the final two rows). These costs refer to what students pay, on average, for their education (tuition, monthly costs, laboratory fees, materials, etc.). The average annual cost of formal university career programs at ITCA-FEPADE is two times greater than the national average. On the other hand, for higher technical (non-university) programs the cost for training is about 50% less than the national average. These percentages reflect the effort made by the institution to attract both public sector and private financing to subsidize the cost of technical education.

Figure 2.3 disaggregates income to ITCA-FEPADE according to its sources, based on 2010 information provided by the Ministry of Education. It is important to stress that only about a third of ITCA-FEPADE revenues come from the public sector, providing it a healthy financial autonomy. On the other hand, the relatively low contribution by donors, representing only one percent of the total resources of ITCA-FEPADE, is a cause of concern. This suggests that more than 60% of the institution's budget is comprised through the student's contributions students (about 16.9%) and the sale of goods and services (45.3%).

**Figure 2.3 Distribution of Income Sources, 2010**



Source: Calculations based on MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

In higher income countries, higher education institutions support a significant portion of their budget with donations from their own students, private sector companies, and national and international organizations. Such is the importance of these sources of resources in other countries that institutions can fund as much as a quarter of their total resources with donations.<sup>50</sup> It is evident that the socio-economic situation of ITCA-FEPADE graduates makes it difficult to solicit contributions, but a program that increases of alumni involvement could help strengthen the institution's fundraising capability. For

<sup>50</sup> See, for example, <http://www.insidehighered.com/news/2008/02/20/gifts>.

example, the strategy of "matched funding" provides a modality that encourages firms to provide a matching contribution when their employees (alumni of ITCA-FEPADE) make their own financial contribution. This encourages the involvement of both the graduate and his or her employer. In the final analysis, the fact that a company hires a graduate of ITCA-FEPADE implies that the company is receiving the benefit of having a highly skilled person who has been educated thanks to the contribution of others like themselves. Such involvement would also help strengthen ties between the institution and its (potential) donors and client companies in recognition of the value of its graduates.

It is also important to examine ways to enhance the donation of time, goods, and practice spaces. In terms of time, this refers to developing agreements with companies that allow specialized workers to come to ITCA-FEPADE classrooms regularly to share their experience, discuss the technological advances that are being incorporated into companies, and draw the attention of students and instructors to different areas of training and specialization. In-kind donations are also an important contribution because it would allow, for instance, for the latest equipment to be made available for students to practice. Finally and perhaps most importantly, is the creation and dissemination of practice areas, such as internships and visits to manufacturing plants. As for the public subsidy received by ITCA-FEPADE in its various forms (scholarships, fellowship stipends, direct subsidies, etc.), its situation appears to the team to be disadvantageous compared to the amounts received by other institutions in the public education sector. Table 2.12 shows, comparatively, the evolution of such subsidies to various Salvadoran institutions. In this regard, a significant problem is revealed in the equity of allocation of funds, with technical institutions such as ITCA-FEPADE and others receiving contributions below the national average for state contributions to public higher education. At a time when there is almost unanimous agreement on the importance of technical and technological degree programs, this disparity in public funding is worrisome.

**Table 2.12 El Salvador Distribution of Higher Education Subsidies, 2005-2009**

Institution	2005	2006	2007	2008	2009	Enrollment 2009	Subsidy/ Student (USD)
<b>Subsidies per Institution (in thousands of dollars)</b>							
Universidad De El Salvador	47,401.17	52,211.52	53,127.12	56,949.03	56,659.59	40,903	1,385.22
Escuela Especializada en Ingeniería ITCA-FEPADE	2,299.30	3,532.87	3,089.03	4,744.49	4,482.60	5,674	790.02
Escuela Superior Franciscana Especializada/Agape,	194.69	171.43	171.43	271.43	271.43	698	388.87
Instituto Especializado Escuela Militar Capitán General Gerardo Barrios	475.05	944.64	1,152.49	1,186.50	1,105.30	361	3,061.77
Instituto Tecnológico De Chalatenango	188.17	188.17	188.17	188.17	212.98	252	845.16
Instituto Tecnológico De Usulután	171.43	171.43	171.43	171.43	171.43	343	499.80
Instituto Tecnológico Escuela Nacional De Agricultura Roberto Quiñonez	1,135.19	1,182.82	1,249.54	1,367.51	1,504.26	324	4,642.78
<b>Total:</b>	51,864.98	58,402.88	59,149.21	64,878.55	64,407.59		
<b>Annual Student Enrollment in Public Higher Education Institutions</b>	42,438.00	42,144.00	44,658.00	46,345.00	48,554.00		
<b>Annual Investment of Public Funding per Student</b>	1,222.14	1,385.79	1,324.49	1,399.90	1,326.51		

Source: MINED 2002-2009

#### **2.1.4 Teaching Methodology**

Currently, the institution uses three main teaching approaches: (a) traditional, (b) competency-based, and (c) a dual (work-study) education based on a competency model. ITCA-FEPADE is carrying out, according to their senior management, a strategic plan to convert all its programs to the competency-based approach, which will prepare students more appropriately for the labor market.

While the team concurs with ITCA-FEPADE that a competency-based is the best approach, said methodology is not compatible or comparable with the traditional instructional approach offered by other higher education institutions where seat time is the metric for learning. A competency-based system would provide a flexible, customer-oriented learning environment emphasizing certifications, work experience credit, competency-based outcomes, self-paced, individualized instruction, and the infusion of technology into programs of study.

However, the Salvadoran higher education system has not yet developed a framework to equate competency-based to traditional credit-worthy education. For instance, ITCA-FEPADE students cannot transfer credits from technical to engineering programs or vice-versa. This lack of coordination between both credit-worthy systems undermines training efforts undertaken by students. The ramifications of this problem are varied:

- Many students choose ITCA-FEPADE under the assumption that credits from technical programs could be transferred to other programs such as engineering. So far, only three technical degree programs have been able to accomplish that. This has been a disappointing situation for both students and parents. According to interviews with parents, the team found that many of them have encouraged their children to join technical programs hoping that transferring credits could be easily done. This issue has been repeatedly highlighted throughout the interviews.
- As it is difficult to transfer credits from one program to another, let alone between institutions, many students choose to not continue their studies once the technical program is complete. They usually start working right after graduation and once they start working it is difficult for them to go back to long period university programs.

The third approach is the dual education (work-study), a combination of classroom learning with on-the-job training, which provides students with hands-on experience. This work-study combination has been developed through a partnership between private companies and ITCA-FEPADE. Private companies provide benefits such as funds for students' degree program, which reduces tuition costs to practically zero for students. This partnership also allows students to contribute with household income and increase the possibility of companies to hire them after graduation.

All these advantages of the dual education approach implemented by ITCA-FEPADE should be extended and strengthened within the institution. This partnership should become one of the main policies of the institution.

Another important aspect of the academic strategy of ITCA-FEPADE is the development of internship programs, including the institution's own businesses, such as auto repair shops, cafes, and the "El Mesón de Goya" restaurant. Internships as part of technical programs, based on "learning by doing," can provide an important opportunity to students relate theory and practice. Consequently, partnerships and internship programs with the private sector should be strengthened so that all students have the opportunity to have field practice for a reasonable time that allows not only for strengthening their theoretical and practical knowledge, but also for strengthening their social interaction skills with staff trained in other specialties.

Regarding the latter, the team recognizes the need to train students in a multidisciplinary environment, giving them the experience of interacting with specialists in different areas from the beginning. However, interviews with students at both Santa Tecla and La Union revealed that students within the same campus do not find easy to interact academically with other students since academic activities do not include inter-disciplinary activities. Students expressed that “it is not allowed” to undertake projects or term papers jointly with students from other departments. In particular, students in computer networking programs noted the frustrations of developing projects focusing on interconnectivity as they cannot link their work to other departments and specialties that are taught within the same campus.

At the same time, faculty stated that there is lack of integration between degree programs and HEIs. Interviewees brought up the paradoxical situation of the limited availability and functionality of computer equipment and the long waiting period for them to be repaired (sometimes more than a year), while a large number of computer repair technicians is being trained and need hands-on experience.

## **2.2 Curriculum**

ITCA’s course offerings range from technical courses related to civil, electrical, and electronic engineering, to, in recent years, food, Mechatronics and systems engineering, among others.

From recent research conducted with students in their final year of secondary school in the Eastern region and with employers, it was found that there is interest in Automotive Mechanical Technician and Hospitality & Tourism Technician programs. The research findings also showed that the career of Food Engineering Technician was not seen as viable in that area of the country. In turn, young people as well as employers preferred other courses of study that allow rapid job placement and self-employment such as Computer Maintenance Technician and Technician in Food Service Administration. Lately, in addition to Mechatronics, there is interest in new areas such as biomedical, aerospace, telecommunications and others that some universities have already begun to develop.

As previously suggested, the launch of new programs of study should be linked to a comprehensive process to ensure relevance and quality. New programs should focus on institutional and curricular linkages and address educational and training options. This necessarily requires newly defining or redefining new competency models for these industries, which consider both specialized and comprehensive training, as well as the need for linkages within the education system. In this view, UNESCO recommends aiming for training options focused on developing fundamental competencies and permanent learning.

However, despite the demand of students in areas such as IT, there is a tendency towards both a saturation of the labor market and more specialized demand by companies for specific technical areas. ITCA has not shown itself to be agile in providing a timely response with job opportunities and continuing education, due in part to the legal limitation to the creation of new degree programs, and on the other hand, the absence of courses with a focus on competencies directly linked to labor market needs.

In this regard, the team suggests that in the coming years, ITCA seek an effective balance in its investment plans, prioritizing the training of human resources, strengthening the academic offerings (curricular review and updating, competency-based programs, introduction of English, especially at the technical level, and a methodological approach to learning by doing), combined with investment in infrastructure and equipment with advanced technology.

Moreover, the study referred above also found that businesses demand specialized human resources in technical areas, because young graduates need to be prepared to meet job expectations supporting business growth and development. In that regard, ITCA should seize that opportunity and develop

more policies of coordination and establishment of partnerships with private companies and other subsystems.

This means that ITCA-FEPADE should take a leadership role in the sector by building public-private partnerships (PPP), that promotes quality, greater competitiveness, and stronger relationships among public institutions and private businesses. This requires a transformation of the relationship and approach towards society, i.e., greater competitiveness, flexibility and investment in technology programs and institutions.

## 2.3 Faculty

### 2.3.1 Education of ITCA-FEPADE Teaching Staff

It is known that highly educated and trained human capital is a scarce resource in El Salvador. Invariably, this reality affects the specialized ITCA-FEPADE engineering school. Within a somewhat bleak national outlook, this institution is simply a reflection of a country that has faced numerous difficulties in the education of academic staff with real impact, not just at the international level, but also in regional terms.

ITCA-FEPADE faculty has been increasing over the past 15 years, particularly after the Ministry of Education granted it the administration of the Zacatecoluca Technological Institute in 1997. One year later, it was granted the management of the Technological Institute of San Miguel. In 1999, it began to manage the Technological Institute of Santa Ana, and in 2006 the Technological Institute of La Union (the first site of the MEGATEC National Network). Thus, ITCA, now has been re-categorized as a Specialized Institute within the higher education category, and has increased its staff from 178 instructors in 1997, to a total of 356 in 2010. Thus, ITCA-FEPADE not only maintains its status as the top trainer of technical jobs, but it also has become the dominant player in this market. Its participation in terms of demand for academic labor grew from 39% of all non-university tertiary instructors, to more than half of them (53.6% in 2010). On the other hand, when compared with the rest of the higher education sector, instructors teaching at ITCA-FEPADE make up just about four percent of all tertiary education instructors, given that the national total is 9,104 instructors.

As an institution which primarily provides technical degree programs, with the exception of the two engineering degree programs at its site in Santa Tecla, and one engineering degree in logistics and customs in the MEGATEC of La Union, the requirements for instructors at ITCA-FEPADE mirror the requirements of the non-university-level programs in that they seek instructors with practical knowledge and experience at the level of a graduate of a similar non-university-level program. Thus, it is not surprising that almost half of the faculty of the institution does not have a university level degree. In fact, according to what is observed in Table 2.4, 46% of the academic staff of this institution, according to records in 2009, has completed its training at the technical level only.

**Table 2.4 ITCA FEPADE Instructors by Level of Education, 2008-2010**

Year	2008	2009	2010
percentage of instructors with technical education	53.2	46.0	43.7
percentage of instructors with university education	43.0	48.9	51.1
percentage of instructors with graduate education	3.5	5.1	5.2
TOTAL	100	100	100

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

On the other hand, 51.1% of the instructors have completed university training, with a bachelor's degree or, mainly, engineers. Thus, it is seen that the shortage of instructors with graduate degrees is truly worrying, which reflects one of the weaknesses of the post-secondary academic market in El Salvador. In any case, if an inter-temporal comparison (2008- 2010) is made, it is revealed that the percentage of instructors with university education is increasing. Clearly, at least for the short period under analysis, it is seen that there is a substitution of personnel with technical training for those with university education, whether undergraduate or graduate. However, the levels of graduate education remain low, and not only by international standards, even in comparative terms with the rest of the Salvadoran national post-secondary system. Postgraduate education of the faculty appears largely to be at the Masters level, comprising 81% of postgraduate degrees earned by instructors (MINED 2011). It was observed that, until 2006, ITCA-FEPADE did not have any instructor on its faculty who had completed doctoral level (Ph.D.) training.

As shown in Table 2.5., it appears that formal training of academics that work in the institution is, in terms relative to the rest of the market, low.

**Table 2.5 ITCA FEPADE Instructor Education and other Non-University institutions (2010)**

Level of Education	ITCA-FEPADE	Average Non-University Institutions
Percentage of instructors with technical level	43.7	36.6
Percentage of instructors with university level	51.1	49.0
Percentage of instructors with post-graduate level	5.2	14.4
TOTAL	100	100

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador. Note: "Non-University System" includes statistics from both technical/specialized and technological institutions

While ITCA-FEPADE's percentage of instructors with university training matches that of the rest of the non-university system or technological institutes (the difference is less than 1%), the largest deficit is seen in the relative amount of professors who have studied at the postgraduate level, where there is a difference of 9%. This suggests that the institution is relatively weaker in terms of the education and training of its faculty. At least in core subject matter courses, the average instructor of Central American Technological Institute has a strong disadvantage compared with the rest of the non-university system.

### 2.3.2 Gender and Hiring Method

Gender issues have caused a true shock in the labor market over whether being male or female differs when seeking employment. Although no gender inequality appears in terms of student recruitment, the educational market for instructors in El Salvador has a strong bias that markedly favors males. Indeed, it was observed that the odds of getting a job in the academic market are higher for male applicants compared to women. For example, according to the MINED (2007), in 2001, of every ten (10) positions in the post-secondary market, only three (3) were obtained by women. As of 2010, the situation had not changed substantially. With a total of 9,104 tertiary education instructors, about 35% are female. (MINED 2011)

Table 2.6 presents a comparison of the faculty of ITCA-FEPADE in relation to the rest of the post-secondary system. Having been part of the non-university sector, a first parallel with this market shows a strong imbalance compared with other technological institutes. While in the latter, the recruitment of women dominates (nearly 7 of every 10 instructors are female), ITCA-FEPADE shows a strong bias in the hiring of men. In fact, for every four men hired, the institution employs only one woman. This bias in hiring, although not as strongly held, is a characteristic of the Salvadoran university system that has endured over time.

**Table 2.6 Gender Distribution of Higher Education Instructors, 2010**

Type of Institution	Male	Female	% Female
<b>ITCA-FEPADE</b>	<b>267</b>	<b>89</b>	<b>33.3%</b>
Universities	5,335	2,778	34.2%
Non Universities	564	427	43.0%
Total System	5,899	3,205	35.2%

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador. Note: "Non-University System" includes statistics from both technical/specialized and technological institutions

In short, almost 65% of higher education instructors are male. This especially applies to ITCA-FEPADE, whose imbalance in relation to the average of the university sector reaches almost 10 percentage points (75% of males in ITCA-FEPADE and 65% in the rest of the universities). The team speculates that the profile of a technical nature of this school, specializing mostly in auto mechanics, electrical engineering and mechatronics, for example, partly explains the bias in the type of hiring by the institution. Either way, it would be desirable to find a better balance in terms of gender beyond any core subject grounds.

With regards to different forms of instructor recruitment, El Salvador exhibits (as in most post-secondary systems in the region) the domination of part-time or hourly arrangements. There is a substantial difference between these two modes: according to the definition followed in this analysis and research project, part-time hiring implies that the employee will have an array of social benefits that are mostly enjoyed by all workers, such as paid vacations, social security and contributions to the pension system. On the other hand, the hourly wage mode does not provide such benefits. Social security contributions for instructors hired for hours of work are not usually paid by the employer. The latter method, mostly used in the private sector of higher education (although it has been and is also used in the public sector), is seen as a way to reduce labor costs.

In summary, and as noted in Table 2.7 ITCA-FEPADE hires full-time instructors in a proportion above the average for the sector (36.24%, and 33.6% for the rest of the university system). This percentage is even higher when compared with the non-university sector.

**Table 2.7 ITCA-FEPADE and the Higher Education System According to Contract Type and Gender, 2010**

	Full Time	Part-Time	Hourly/Class Hour	TOTAL
ITCA-FEPADE				
Male	28.4%	0.6	46.0%	75.0%
Female	7.9%	0.0%	17.1%	25.0%
TOTAL	36.2%	0.6%	63.2%	100.0%
University System				
Male	20.4%	9.8%	35.6%	65.8%
Female	13.4%	4.8%	16.0%	34.2%
TOTAL	33.7%	14.6%	51.7%	100,0%
Non-University System				
Male	17.7%	1.4%	37.8%	56.9%
Female	12.6%	11.9%	18.6%	43.1%
TOTAL	30.3%	13.3%	56.4%	100,0%

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

Note: "Non-University System" includes statistics from both technical/specialized and technological institutions

One notable difference in percentage terms is evident in the part-time category. ITCA-FEPADE has virtually no labor contracts of this type, a significant contrast with both the non-university and university sectors. Also notable is the high percentage of instructors at ITCA-FEPADE who are hired on an hourly basis, which are, generally, more precarious labor contracts. While ITCA-FEPADE has become a specialized institute, it continues to have mostly technical programs, with many of the features of a technological institute. Thus, in ITCA-FEPADE, 63.2% of instructors are hourly workers, a proportion higher than that observed in the university system (46.0%) and the non-university tertiary sector (56.4%).

Finally, it is also interesting to note how labor contracts are distributed by gender. Only 7.9% of all instructors working at ITCA are women working full-time. Again, the difference with the rest of the system is significant (13.4% in the university sector and 12.6% in the non-university sector). There is a greater relative parity in the women paid hourly in relation to the other institutions in the post-secondary market in El Salvador. A final comparison in terms of gender provides even more evidence of the low proportion of women in this institution, especially those who work full-time (see Table 2.8).

**Table 2.8 ITCA-FEPADE Faculty According to Contract and Gender, 2010**

	Full Time	Part-Time	Class Hour
Male	78.3%	100%	72.9%
Female	21.7%	0	27.1%
TOTAL	100%	100%	100%

Source: MINED (2011). "Resultados de la Información Estadística de Instituciones de Educación Superior 2010," Dirección Nacional de Educación Superior, Ministerio de Educación: San Salvador, El Salvador

While in global terms 25% of ITCA-FEPADE's instructors are women, the percentage drops to only 21.7% if full-time employees alone are taken into account.

### 2.3.3 Instructor Perception and Working Conditions

The following narrative description is derived from data collected in focus groups carried out with ITCA-FEPADE instructors who perform work in the institution's headquarters in Santa Tecla. Detailed information was obtained on the working conditions of a group of 16 full-time instructors. A second group, composed of 11 instructors, was also consulted. The groups took place in August 2011.

Via an open interview approach based on a semi-structured questionnaire, the focus group technique is helpful in gathering rich information about the experience of the institution's instructors and researchers. Framed within social-qualitative research, this process helps us to explore and interpret phenomena that cannot be observed at first glance and that affect the behavior of the actors who are being studied. Despite being a micro representation (with a limited number of instructors), it can be considered a projection with macro features (the universe of instructors working at the Santa Tecla site).

#### 2.3.3.1 Full-time instructors: Features and perception of their employment status

Within this category, the instructors devote their time to carrying out three main tasks: teaching, research and administration. The distribution of time depends on the load that the instructor is carrying at that time and the school to which s/he belongs. In the case of academic coordinators, this group told the team that 75% of the activities relate to tutoring students. At the other extreme, instructors without a specific management position invest only 30% of their time on administrative tasks or tutorials. All of the interviewees state that they have little time to perform research. In percentage terms, it is distributed in a range from 50% of the time they work in the institution, to only 20% of the total time. As compared to classroom teaching, it is clear that, in general, it is the dominant activity. About half of the instructors told us that they are required to work a maximum of 32 hours per week. They consider this to be excessive. In short, a large disparity exists between schools regarding the distribution of hours for the instructor to fulfill all three tasks described above.

On the monetary or salary issue, while a dedicated faculty was observed that is in conformity with belonging to or being part of the institution, there was a clear concern over the topic of remuneration. Almost all respondents stated that their salary was insufficient (between \$500 to \$1,000), and they needed another job to "make ends meet." Some of those present give courses in the same institution during the night shift to supplement their income. Others have a second job at another institution to earn additional income to supplement the income they receive at ITCA-FEPADE.

### **2.3.3.2 Instructors per class hour: Features and perception of their employment status.**

This group mainly fulfills teaching duties. In general, they appear dissatisfied with their working conditions, which they consider precarious and inconsiderate. There is, according to their statements, a sort of stratification at the instructor level, where they receive little consultation on academic or organizational topics or institutional activities. A feature of this group of 11 instructors is that only 1 of them works in the non-academic sector. The rest of them work as instructors per class hour, many of them serving up to 30 hours per week. They told us that this is the minimum number of hours for earning for a "decent" salary. It is about \$6 per hour. Only two instructors in this group work at another institution. While in some cases, particularly those who have accumulated a larger number of hours, they have been offered full-time faculty jobs, they told us that, for salary reasons, it is desirable to remain under the hourly modality, despite not receiving the social benefits enjoyed by a full-time instructor.

While it is recognized that the institution provides benefits for employees in the education sector, such as learning English and teaching training, the lack of time for this kind of activity is given as a common denominator. In addition, not having an exclusive or shared computer room from where to check their emails or work documents emerges as a divisive phenomenon. They depend, as stated, on the "goodwill" of the full-time instructors. Nevertheless, the lack of integration between instructors of these different categories (full-time and hourly), has created a divisive situation.

## **2.4 Link with the Labor Market**

Technical degree programs are chosen for two main reasons: earning a degree within a short time period, and obtaining an attractive well-paid job. Therefore, the educational programs offered must respond to the labor demand, both current and potential. In addition, the training developed should meet the needs and expectations of employers.

### **2.4.1 Degree Programs and Labor Demand**

The technological institutes of ITCA-FEPADE offer a wide range of technical degree programs. In the case of the headquarters, located in Santa Tecla, the offerings are quite broad: 17 degree programs. Fifteen of them provide a technician degree and two of them an engineering degree. If the target population is considered to be that living in San Salvador and La Libertad, the sectors offering the largest number of jobs are trade, industry and services, with the industrial sector presenting greatest employment in La Libertad, since the largest industrial zones of the country are concentrated in that department. The diversity of degree programs facilitates that a response is provided to the hiring needs; nevertheless, it is also necessary to check that the number of graduates does not exceed the labor supply.

**Table 2.9 Degree Programs Offered at ITCA-FEPADE**

<p><b>DEGREE PROGRAMS</b>                  Technician in civil, electrical, industrial electronic, telecommunications, mechanical, industrial, IT systems, computer networks, mechatronics engineering.</p>	<p><b>LA LIBERTAD:</b>                  Industry 42.31%                  Commercial activities 27.19%                  Services 22.38%                  Transport and Communications 3.82%                  Construction 2.57%                  Agribusiness 1.14%                  Electricity and Water Supply 0.54%                  Mines and Quarries 0.06%</p>
<p>Technician in architecture, computer maintenance, auto mechanics, chemical laboratory, culinary business management, gastronomy.</p> <p>Electronic Engineering                  Mechatronics Engineering</p>	<p><b>SAN SALVADOR</b>                  Commercial activities 32.48%                  Services 31.36%                  Industry 26.87%                  Transport and Communications 4.42%                  Construction 3.37%                  Electricity and Water Supply 1.13%                  Agribusiness 0.35%                  Mines and Quarries 0.02%</p>

Source: 2005 Economic Census (DIGESTYC) and degree program offerings at ITCA-FEPADE (online).

In the regional center in Santa Ana, the number of degree programs is only three: technician in electrical engineering and computer systems, and computer maintenance technician. Trade is the main employer in Santa Ana (49.22%) followed by the manufacturing industry, which employs 21.73%. The service sector employs 19.54%, while transport and communications employs 4.29%. The agricultural industry employs only 3.35% and the construction sector, only 1.17%. Electricity and Mining have a low level of employment, 0.66% and 0.04% respectively. In this case, besides the fact that the supply of degree programs in this region is reduced, they do not seem to respond to actual demand, considering the sectors that generate the highest level of employment in this department. It should be added that the current program offerings feed the excess supply of technicians in the IT field

The Zacatecoluca MEGATEC offers four degree programs: technician in global logistics, electronics, computer maintenance and technician in computer systems engineering. The department of La Paz, as well as hosting Comalapa International Airport, which offers employment in various areas, is the department with most activity in the industrial sector. This generates 50.12% of employment, while trade is 28.37%. The services sector contributes 13.45% of employment, and transport and communications employ 7.09%. The contribution of Agribusiness and electricity is extremely low, 0.52% and 0.19%, respectively. In the same situation, Mining employs 0.15% and construction 0.11%. Given this composition and economic activity, the supply of this regional headquarters is probably not responding to the demand for employment in the area, considering the specialties offered. It is necessary to determine the range of degree programs and specialties based on a forward-looking analysis of the labor market in this area.

In the case of the regional headquarters in San Miguel, three degree programs are offered: technician in civil engineering, electrical and computer systems. San Miguel is a department where the greatest concentration of employment is in the trade sector: 51.19%. The services sector contributes with 26.89% and industry, only 13.4%. The agricultural industry generates 3.1% of employment in the area, while transport and communications, construction and electricity, 2.97%, 1.92% and 0.52%, respectively. This is an area that offers few opportunities for employment in industry; and the trade sector likely absorbs staff that does not require specific technical skills. Therefore, there should be a deeper

exploration of the relevance of degree programs in this site to increase employment opportunities in the department.

The MEGATEC of La Union offers eight degree programs. Although in this Department, according to data collected in the Economic Census (DIGESTYC, 2005), the trade sector employs 53.62%, the establishment of Grupo Calvo has led to rapid growth of activities related to fishing and fish preparation and packaging. Likewise, the recent construction and operation of the Port of Cutuco offer employment opportunities in port management and operation. Seven of the degree programs offered by this institute respond to the potential demand of the area (Technician in gastronomy, hospitality and tourism, logistics and customs, port administration and operation, fisheries, aquaculture and logistics and customs engineering). Analysis should be performed of whether to maintain the computer systems technical degree program, given the fact that there are few or no job opportunities remaining in the region.

In a baseline study (FOMILENIO, 2008), it is emphasized that there is a low supply of jobs in the country and a saturation of traditional degree programs, leading to low wages, among other effects. This situation should lead to a periodic assessment of degree programs and their curricula, in addition to the establishment of strategic alliances between technical training institutions and the productive sector.

ITCA-FEPADE is facing significant challenges in upgrading the degree to which its technical programs are consistent with the demands of the labor market, so that it can ensure that its graduates gain competencies that reflect the real and potential needs of potential employers, especially in the areas around their training sites.

In discussions with the team, local business people expressed the difficulty they face in not finding technicians or specialists in the immediate geographic area around their production and marketing facilities. They add that hiring people not living in the local area adds a disincentive for employees, who must bear the cost of a new home or transportation costs over long distances. The case of MEGATEC of La Union illustrates this situation. Of the total enrollment at this institute, only 44% of students come from the different municipalities of La Union.

ITCA-FEPADE must attract students to those degree programs that are most relevant based on a continuous analysis of the labor market. This can be achieved through the dissemination of such degree programs in semi-technical high school institutions and in the sites of flexible high school education (EDUCAME program). These arrangements provide the opportunity to complete secondary education for young people and adults.

Another way to recruit students is by offering scholarships to encourage young people to enroll in technical degree programs that are in fields providing the best probabilities for obtaining an attractive job. Currently, only full scholarships are offered in the MEGATEC in Zacatecoluca and La Union, which are granted by the MINED.

#### **2.4.2 Graduating Profile of Students in Technical Degree Programs**

In the description of each of the degree programs offered by ITCA-FEPADE, the competencies to be developed are proposed, in addition to establishing the possible fields of work according to the degree program. All the curricula of the degree programs include English language courses, which students must master in order to graduate.

In focus groups, students were asked about the development of work competencies, and they expressed satisfaction with their training, although they acknowledged that the resources and procedures used are not always the most current. They stressed the importance of professional practice such as internships as an important prerequisite for entering the world of work, but they also argued that experiences in companies do not always fulfill their expectancies due to the type of company to which they are assigned as well as due to the lack of monitoring and supervision of their internships.

According to a survey conducted in the framework of this analysis on a random sample, graduates of ITCA-FEPADE expressed a high degree of satisfaction regarding the relevance of the curriculum. The level of satisfaction falls when referring to the access to technological resources and the availability of laboratories.

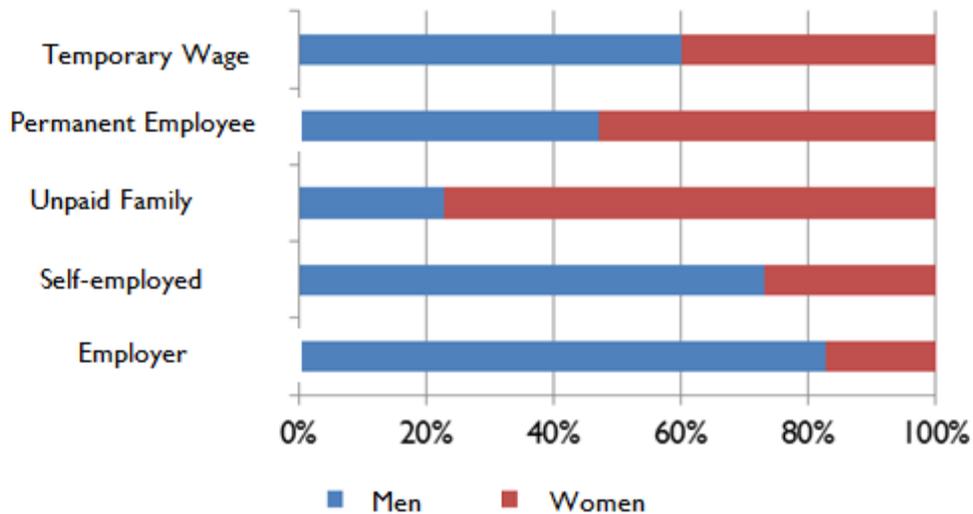
### 2.4.3 Job Placement of Graduates

Mid-level technicians and professionals account for 7% of the employed persons and 5% of unemployed persons (DIGESTYC, 2010). The highest employment levels of these professionals are in the fields of education (24%), community social services and health (20%) and financial and real estate intermediation (19%). Meanwhile, the manufacturing sector, especially, employs those classified as artisans or operators.

The departments showing highest employment levels for mid-level technicians and professionals are San Salvador, La Libertad, San Miguel and Santa Ana, with San Salvador having the highest absorption. On the other hand, the departments of Cabañas, San Vicente and Morazán show a lower level of employment of this population.

Eighty-two percent of technicians are full-time employees. The rest works primarily in self-employment activity, which is more common in men than in women. Of the 18,307 people who engage in self-employment activities, 73% are men and 27% are women.

**Figure 2.4 Occupational Category of People with Mid-Level Technical or Professional Degrees, according to sex**



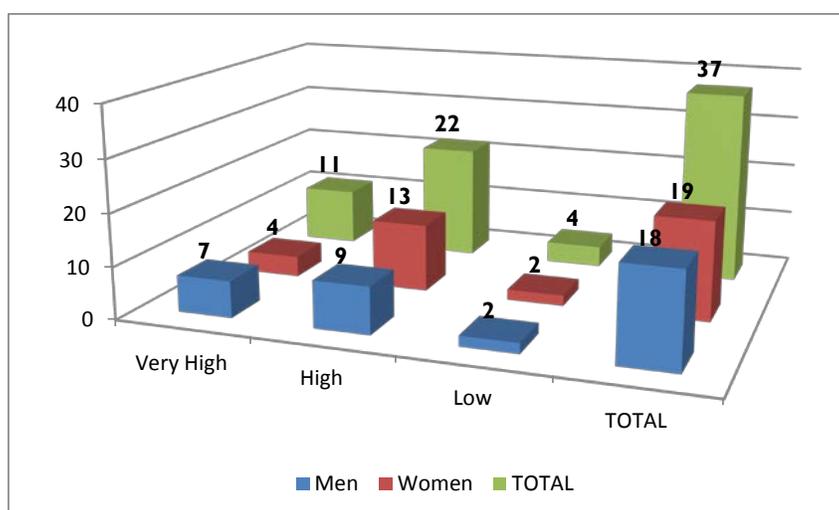
Source: Authors' calculations based on EHPM (DIGESTYC, 2010).

People in a technical degree program tend to be full-time students; some engage in part-time activities, often in family businesses. The hours in the regional ITCA-FEPADE centers are diurnal, evening hours are offered only at the headquarters and in some degree programs.

A group of students active in the technological institutes run by ITCA-FEPADE expressed, through a survey, high expectations that they will get a job upon graduation in their degree program. According to the sample of surveyed graduates of ITCA-FEPADE, the time it took them to find their first job after

graduation was 3 to 6 months, although some of them still haven't found a job. (see Figure 2.5). They indicate that the main reason is the lack of demand for technicians in the area of their degree programs.

**Figure 2.5 Possibility of Getting a Job**



Source: Authors' calculations based on survey results of ITCA-FEPADE students

According to information provided by ITCA-FEPADE representatives, out of every 100 graduates from the technical degree programs, 26 achieved placement in the short term. Job opportunities are better in some degree programs than in others. For example, in La Union, food preparation is the MEGATEC degree program that offers greatest job potential, while the possibility of employment in computer technology is almost nulled.

The average monthly salary for a mid-level technician or professional in El Salvador is \$422.13, a figure that matches the salary reported by 67% of the sample of respondents ITCA graduates surveyed, who claim to earn less than \$500.00 per month.

ITCA-FEPADE provides its students a Placement Program that provides students with work force readiness (e.g., resume writing, letters of interest, etc.), and at the same time provides information on job opportunities.

This institute also has a specialized Student Aid division that exchanges information between the graduate and his employer. The information obtained is used as a reference for updating or improving the degree programs.

Despite the efforts developed by ITCA-FEPADE to strengthen their ties to the private sector, employers do not believe their influence will determine which degree programs will be offered. Rather than established inter-institutional ties, many of the successful efforts to create links between students and the private sector are the result of intervention by instructors, who make use of contacts they have established with local businesses by arranging student internships, to recommend specific graduates who meet the requirements of employers.

ITCA-FEPADE should strengthen links with the business sector, systematizing the initiatives that have been activated in its different locations and institutionalizing them, to achieve better results in the placement of its graduates. This permanent institutional linkage is also necessary for defining the degree programs and assessing the relevance of its curricula.

Moreover, ITCA-FEPADE should also rethink the way in which it prepares its student body for entrepreneurship, since it should ensure not only the development of capacities for formulating a business plan but also the advice and support in managing funds, in the effective management of a company and the advantages offered by the partnership.

## 2.5 Extension

There is consensus that the University extension includes the social and educational activities that an institution carries out beyond its institutional environment, interacting with various social sectors and groups. Conceived in this way, extension involves a bilateral relationship in which society benefits from the results of teaching and research, while the institution obtains contributions that feedback on the teaching and research processes. From this perspective, understanding extension as social outreach limits the possibility of influence of higher education institutions and prevents the educational work within the institution from being enriched by the contributions of the social environment.

In ITCA-FEPADE, in line with the Law on Higher Education, social outreach is conceived as a supportive answer to the needs and solutions of problems of communities and non-profit institutions. The Research and Social Outreach Office is the unit responsible for coordinating both functions at headquarters and in each of its regional centers. This unit develops the Social Outreach Program geared towards helping students find ways to improve their quality of life and find jobs.

In the Report on the Results of the Social Outreach Program of ITCA-FEPADE (2010), the execution of 24 projects is reported, carried out under the responsibility of full-time instructors with the support of students of different degree programs (see Table 2.10).

**Table 2.10 Social Outreach Projects by Site**

Site	Number of projects	Participating instructors	Participating students
Central	10	55	251
Santa Ana	3	6	101
San Miguel	4	3	36
La Unión	5	6	45
Zacatecoluca	2	2	10
TOTAL	24	72	443

Source: Taken from Annual Report of Results 2010. ITCA-FEPADE

The same report describes the projects according to the following areas:

- i. Introduction for the elderly to digital technology.
- ii. Training for work.
- iii. Training of women in vocational areas.
- iv. Community projects for civil engineering, tourism and aquaculture.
- v. IT and Internet Training for people with physical disabilities.

vi. Computer training for public school students and instructors.<sup>51</sup>

The projects were implemented in coordination with local governments, ministries and NGOs.

ITCA-FEPADE includes within its social outreach program the lending of its facilities for holding sports and cultural activities.

The measures taken in 2011 are of a similar vein: courses in electricity and baking, training in aquaculture, digital literacy for adults and electrical installations in social service agencies, among others.

Even though the above measures are laudable, given the services the institution is providing to the surrounding communities, their impact on the academic dimension of ITCA-FEPADE appears minimal. A broad view of extension would suggest that the interaction with the outside environment should lead to internal impacts, mainly changes in the curricula and teaching practices that enhance the institution's relevance and quality. Further, only a limited number of students are able to participate in these outreach activities, such that the student body broadly defined does not have the opportunity to participate in these more "hands-on" activities as a means to consolidate their professional, social, and personal skills with the social world around them.

The equating of social outreach and extension limits the effectiveness of the efforts in terms of connecting this higher education institution and its social environment. The team recommends that ITCA-FEPADE consider expanding its interaction with a broader range of stakeholders and social sectors, including employers, past graduates, and business associations, among others. It is also important that linkages be created between research, curriculum design and teaching methods and the broader community so as to have an effective impact on solving the problems faced by communities and the society at large. This should start by offering degree programs that meet the country's needs and developing the technical and social skills in the student body that effectively foster their insertion into society and the workplace.

The development of skills through continuing education must also be established as an essential component of ITCA-FEPADE's extension program. In the survey conducted, ITCA-FEPADE's graduates mentioned that to develop themselves professionally, they take refresher courses in other institutions, which showed the lack of appropriate programs available in the institution that educated them as technicians.

ITCA-FEPADE should offer its graduates continuing educational opportunities. Former students, in addition to providing resources to the institution, also become a source of valuable information for the adaptation of curricula and teaching methods.

Making continuing education available to everyone will also involve managing strategic alliances that foster the development of programs for updating and specialization with population groups whose contribution to the economic and social development of the country is significant in the future.

## **2.6 Research**

### **2.6.1. ITCA-FEPADE and Research in Salvadoran Universities**

Research is not the strength of higher education institutions in El Salvador. In a document released in 2010, the World Bank reports that El Salvador had only 49 researchers per million inhabitants. During this period, other Latin American countries had more than five times this figure (see Table 2.11).

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<sup>51</sup> Includes the provision of electrical installations and computer networks.

**Table 2.11 Number of Researchers in Select Countries, 2000**

	Per Million Inhabitants	Per every Thousand Workers
Germany	3,104	6.40
Argentina	711	1.62
Bolivia	72	0.17
Brazil	424	0.88
Canada	3,518	6.66
Chile	410	1.04
El Salvador	49	0.13
Hungary	1,410	3.46
USA	4,494	8.58
Uruguay	277	0.59

Source: World Bank. 2010

The gap compared to developed countries in the above table is also revealing. For example, while El Salvador has 0.13 researchers per thousand workers, Germany, has more than 6 per thousand workers. In relative terms, Germany has 63 researchers per every Salvadoran researcher.

In El Salvador, scarcity of human resources trained to perform research is mainly related to lack of financial resources. Historically, HEIs in El Salvador have invested little in research and development issues. Within this panorama, ITCA-FEPADE merely reflects these shortcomings and limitations. While lack of investment is one of the main causes to inadequate number of researchers, perhaps political willingness can be a driving force to change this historical trend. ITCA-FEPADE should play a more active role to contribute to research and knowledge production in the Salvadoran higher education system.

Table 2.12 shows the amount that ITCA-FEPADE has allocated to scientific research during the 2000-2006 period. The objective is to analyze the variation through 6 year period and compare it to its total revenues.

**Table 2.12 Annual Budget for Research, 2000-2006 (in dollars)**

Year	Budget for Research	Annual Change	Investment / Total Budget
2000	40,601		1.1%
2001	36,393	-10.4%	0.7%
2002	38,256	5.1%	0.7%
2003	43,113	12.7%	0.8%
2004	42,217	-2.1%	0.8%
2005	45,072	6.8%	0.9%
2006	78,406	74.0%	1.3%

Source: MINED. 2007 and authors' calculations

There is not a totally consistent policy in terms of resources that are used or allocated for the research sector. The year-on-year variations are significant, with an erratic and "pendular" trend. As a result, investment in research as a percentage of the total budget falls in the early years of the period under analysis (from 1.1% of the budget in 2000 to a low of 0.7% in the two subsequent years). The last year

of this first series of time shows a clear recovery, with 74% growth. Thus, investment in research in terms of the total budget reaches 1.3%, surpassing even the values of the 2000. Either way, the impression remains that the budget allocated to research is not sufficient, especially for an entity, such as ITCA-FEPADE, which carries out activities in applied sciences such as mechanics, electronics and general engineering. This field of research, unlike the humanities and social sciences, for example, requires vast resources if the goal is to achieve a real impact or contribution to science. Clearly, although the 2006 budget has almost doubled compared with investment in 2000, it is clearly insufficient for an institution that had 257 professors in 2006. In short, the institution invested only \$305 per year per instructor.

On the other hand, the comparison with other related entities is important. In other words, how the ITCA-FEPADE ranks within a set of universities selected according to their levels of investment in research. Universities with which ITCA-FEPADE<sup>52</sup> are compared are all those institutions that are accredited by the Commission on Accreditation of the Quality of Higher Education. There are eight out of twenty three private universities. Within this group there are institutions regarded as the elites and semi-elites, using the classification according to international criteria. Also, as the largest university, considering the number of students, instructors, and the largest budget for research, the National University of El Salvador is also included in the comparison.

According to the 2009 percentages presented in the Table 2.13., the latest official data available, it is clear that in absolute terms, the Technological University of El Salvador (UTEC) is the institution investing most resources in research (\$641,052). It is followed by the University of El Salvador, and very close behind is the UCA and the Universidad Matías Delgado. Please note that this comparison does not analyze either the relevance or the quality of the research; it simply refers to the amount of investment and its relationship to the total budget of each University.

**Table 2.13 Annual Budget for Research in Selected Universities in El Salvador. 2009 (in dollars)**

University	Total Budget	Research Budget	Investment / Total Budget
<b>University of El Salvador (UES)</b>	64,818,834	473,177	0.7%
<b>ITCA-FEPADE</b>	9,549,829	140,382	1.5%
<b>Católica de El Salvador (UNICE)</b>	4,984,350	80,248	1.6%
<b>Centroamericana José Simeón Cañas (UCA)</b>	21,125,409	327,444	1.6%
<b>Don Bosco (UDB)</b>	8,362,691	155,546	1.9%
<b>José Matías Delgado (UDJMD)</b>	11,710,859	311,509	2.7%
<b>Evangélica de El Salvador (UEES)</b>	5,805,312	56,312	1.0%
<b>Francisco Gavidia (UFG)</b>	12,870,818	307,613	2.4%
<b>Salvadoreña Alberto Masferrer (USAM)</b>	3,123,885	62,478	2.0%

<sup>52</sup> It should be noted that this comparison is made with university institutions, since in 2008 and Executive Decree 88 issued by the Office of the President of the Republic, ITCA-FEPADE was conferred the status of technological institute, the equivalent of a university-level ranking.

University	Total Budget	Research Budget	Investment / Total Budget
Tecnológica de El Salvador (UTEC)	15,336,177	641,052	4.2%

Source: MINED. 2009 and authors' calculations

Before assessing ITCA-FEPADE and its research investment policy compared with other universities in the system, it should be noted that private institutions receive virtually no public contributions specifically intended for research. While there are public funds to be allocated to accredited private universities, the amounts are extremely low. In short, and on average, over 90% of the proceeds obtained by private institutions come from fees charged to students. Thus, non-public institutions are limited in their ability to perform basic research, or research that involves significant spending on laboratories and field work.

The Table 2.13 also shows that the two public institutions in the sample, the UES and ITCA-FEPADE, in relative terms to their resources levels, are among the 3 institutions with the lowest investment in research. Nevertheless, there is evidence that ITCA-FEPADE has increased investment in research compared to the year 2006, but its relative share is still low. As a positive development, the percentage in terms of the total budget has increased compared to 2008, during which period the institution allocated only 1.2% of its resources to research. Compared to 2001, resources allocation to research practically doubled. It remains to be confirmed whether the upward trend will continue over time. Thus, it is essential to have a redefinition of its budget, or else to obtain additional revenues that are used to strengthen the area of research and development. This objective is presented as a *sine qua non* condition for the only public technical institution in El Salvador, and therefore leader in its academic and research program.

An additional perspective when assessing the effort that an institution makes in terms of research and development is to evaluate investment in this area compared to the number and capacity of their faculty. The team used the concept of full-time equivalent faculty (FTEF) as mean to arrive at a more adjusted value. This measure gives a more realistic and comparable outlook, as it corrects for total instructors according to their hours worked. In the current case, full-time instructors receive a value or coefficient of 1, those working part-time 0.5, and instructors contracted by hour receive 0.25. In other words, four instructors working per hour in our calculation are equivalent to one (1) full-time instructor. Thus, for each case, the values of how the organization has invested per capita and in terms of hours worked can be obtained. It should be clarified, however, that the FTEF values obtained are only an approximation of actual numbers. Nevertheless, they are more accurate than those usually obtained by simply dividing the total funds for research by the entire faculty at each institution.

Table 2.14 provides a more precise outlook of how much each HEI has invested in research, taking into account their human capital. In a first approximation, three distinct groups can be identified: institutions that have invested less than \$500; between \$500 and \$900; and more than \$1,000.

**Table 2.14 Annual Budget for Research per FTEF in Selected Universities in El Salvador, 2009 (in dollars)**

Institution	FTEF	Investment in Research / FTEF
University of El Salvador (UES)	1,866	253.6
ITCA-FEPADE	165	850.8
Católica de El Salvador (UNICAES)	112	719.7
Centroamericana José Simeón Cañas (UCA)	250	1,308.5
Don Bosco (UDB)	176	883.8
José Matías Delgado (UDJMD)	249	1,249.8
Evangélica de El Salvador (UEES)	157	359.2
Francisco Gavidia (UFG)	262	1,173.0
Salvadoreña Alberto Masferrer (USAM)	126	496.8
Tecnológica de El Salvador (UTEC)	214	3,002.6

Source: MINED. 2009 and authors' calculations

Only two universities have allocated less than \$500 per FTEF (the UES and UEES). Four have exceeded \$1,000 (UCA, UDJMD, UFG, and UTEC). ITCA-FEPADE is located in the intermediate group, which have invested between \$500 and less than \$1,000. More specifically, this institution has provided, for every instructor equivalent, only \$850 per year. Again, it is not a significant amount. As mentioned, it is a small amount for an institution that, with its new status as a university institution and, holding a leadership role within applied sciences and engineering, should allocate a greater share of its budget to carry out these activities. It is clear, in this way, that even correcting for the stock of human capital of this institution, ITCA-FEPADE is in a relegated position. In addition, the two public institutions, the UES and ITCA, are shown to be at a disadvantage. Paradoxically, in the world of higher education, public institutions are charged with leading investment in research and development. Thus, the location of public agencies in the post-secondary market in El Salvador should be redefined. Almost invariably, these are the entities that have or should have the human, capital, and financial resources to carry out projects that generate higher social returns. Specifically, those related to natural, exact and applied sciences. In the latter discipline, at least from its status as an institution aimed at the market of production, ITCA-FEPADE must find its leadership.

## 2.7 Research and Development Products of ITCA-FEPADE

Like any institution that mostly trains applied science technicians, ITCA-FEPADE has led a number of projects in the areas of engineering and technology. These projects are implemented and executed by the faculty, with the active collaboration of students of different degree programs that are taught in the four locations of this specialized school. Some examples of the research projects applied in which the institution has been involved will help to define, highlight and contextualize the different areas in which ITCA-FEPADE has made its greatest contributions. Some examples of the applied research projects in which the institution has been involved will help to define, highlight, and contextualize the different areas in which ITCA-FEPADE has made its greatest contributions.

Table 2.15. presents only some of the activities in which the institution has been involved in recent years. It identifies the name of the department in charge of the project, and a brief description.

**Table 2.15 Main Applied Science Projects: ITCA-FEPADE (2006-2009)**

Year	Project Name	Department Involved	Description / objective
06	Feasibility of use of coconut fiber	Civil Engineering and Architecture	Using a wasted natural resource for tile manufacture
06	Simulator and designer of computer networks	Regional Center of San Miguel	Development of software for educational use
07	Design of test bench for automatic transmissions	Automotive Engineering	Performing testing on automatic transmissions for cars with the largest circulation
07	Feasibility of preparation of organic compost	Chemical Engineering	Leveraging aquatic plants (elodea and water hyacinth) to generate byproducts
08	Non-traditional food products	Food technology	Fifty new non-traditional recipes with the aim of promoting culinary innovation were obtained
08	IT platform with tourism data	La Unión Center	Creation of database in La Union with information on natural and historical tourism resources
09	Feasibility for design of an intelligent system	Computer Engineering	A theoretical framework was established for the design of an intelligent tutor aimed at teaching and learning
09	Visual power consumption monitor	Electrical and Electronic Engineering	Contribute to energy savings in homes
10	Electro-pneumatic automation system	Mechanical and Electronic Engineering	Development of a teaching training for simulation and real testing of circuits
10	Hospital management model	Computer Engineering	Automating the hospital management model in Santa Ana National Hospital

Source: ITCA-FEPADE (2006- 2010)

In order to provide a general overview of the degree of participation of ITCA-FEPADE as an applied research institute, during the last five years (2006-2010), two (2) applied research projects per year have been carried out. The selection of projects presented here took into account the diversity and different schools that have been involved, not just their magnitude, whether regarding budgetary or social impact. Thus, these represent, in general, only some of the activities in which the institution has been involved annually. The review takes into account, for example, that in 2006 over 25 projects were conducted in different specialties and fields of application. On the other hand, during 2010, ten projects were recorded. Most have been funded with their own funds, as well as non-reimbursable funds from the MINED. On the other hand, it should be noted that, during 2010, 19 instructor researchers participated, plus 71 students in research and social outreach programs of this institution.

As for the profile of research projects and the decision that establishes their feasibility and desirability, many of them have been determined within an interdisciplinary perspective and with inter-regional scope. It is noteworthy that, in the applied research projects within which ITCA-FEPADE has been involved recently, it has encouraged the active participation of the communities where the project took place. This is a positive social outreach action that benefits both the institution and society as a whole.

Also, as stated in its report on activities (2009), the policy of its applied research program is aimed at generating solutions to specific problems. Among its specific objectives is the implementation of projects to link with other higher education institutions and the productive sector, at least within what is expressed through its main objectives. Additionally, the recording and promoting of the intellectual property research results stand as a hallmark of the institution. As an example, Table 2.16 four (4) results of research results in 2010 are under intellectual property protection. Three of them are currently in the final stage of patent applications in the CNR.

**Table 2.16 Management of Intellectual Property: ITCA-FEPADE. 2010**

Location / School	Title	Registration mode and management status
Santa Ana	Comprehensive demotic process for educational institutions.	Patent applications for invention in the final stage of the process: substantive examination in the CNR.
	Remote control circuit of electrical devices.	
Santa Tecla	Ground Resistance Tester for 120 volt AC outlet.	
	55 Software for teaching courses taught in virtual mode in ITCA-FEPADE.	55 Copyrights Registered in the CNR.

Source: PIID. 2010.

## 2.8 Some Reflections by Instructors on their Role as Researchers

The purpose of this section is to present, on the basis of responses obtained during the *focus group* session conducted in August 2011, perceptions of a group of instructors on their research role. A total of 16 professors and researchers who perform work in the institution's Santa Tecla location were part of this session. They all work full-time, given that this is the main teaching category involved in research and development topics.

If it were necessary to define a common denominator, or a pattern of response made by all instructors interviewed, the lack of time for performing research activities dominates. Clearly, there is dissatisfaction regarding the availability of time for involvement in research and development projects. Only three (3) instructors stated that they spend 50% of their work time on the research area. It is mainly the work of teaching and tutoring students that, as stated, take up the most time. On the other hand, one constraint, as was stated by the entire group, was limited internet access; specifically, the lack of certain programs, or software, on their computers. This situation restricts the collection of information that is considered useful and valuable for satisfactorily performing research tasks. It also became clear that databases with access to international journals are limited. This is a restriction that prevents ITCA-FEPADE instructor-researcher from updating their knowledge and relevant information on the frontier of knowledge in the discipline.

On the other hand, when asked about their mastery of another language, basically the English language, only one of the group members stated having full mastery of the language. Two instructors responded that they are able to read a text, but are not competent to hold a conversation or write in English. The rest said that their level of English was almost zero. This situation presents as a constraint when preparing or developing research projects, since it prevents the instructor from accessing the results of the latest public investigations, predominantly in English, and restricts or limits interaction with professors from foreign universities.

## **2.9 Management**

The management model should ensure a system of continuous quality improvement; this implies further modernizing systems and ongoing capacity building and evaluation. The ideal would be a system of empirical and independent assessment that certifies and accredits high-level technical and technological degree programs with standards that enable international competitiveness. Also, students can have better opportunities to be integrated in the labor market.

The ITCA-FEPADE current management is highly recognized by the business sector. However, during interviews companies conveyed that competitiveness, quality, and job placement for students are not well-established. They also stated that while the institution responds slowly to the labor market demand there is not enough support from the public sector in terms of investment.

There is willingness to invest by the private sector if the public sector intervenes with greater determination and funding, both in degree programs and research and social outreach.

On the other hand, ITCA-FEPADE has been considered highly centralized. From this perspective, there is a technical and technological projection of the National University that promotes the decentralization of supply, although it may generate unnecessary competition given the limitation on resources. ITCA-FEPADE has conditions to invigorate the sector and represents an opportunity with external resources to improve the quality of its programs.

## **2.10 Infrastructure and Equipment**

ITCA-FEPADE offers its higher education program in five locations: Santa Tecla, Santa Ana, San Miguel, La Unión and Zacatecoluca. Each location is almost at its capacity limit. The headquarters in San Salvador has been working with the same infrastructure since 1993, when the enrollment attending the institution was fewer than 600 students. Now, enrollment is over 6,000. Besides the headquarters, the locations in Santa Ana and San Miguel are the oldest. La Union and Zacatecoluca are two recently built locations.

All the locations have the land to expand their campuses to increase future enrollment. The buildings in general do not show a design based on a program of spaces where educational use informs the design. El Mesón de Goya at the headquarters provides an illustration of how a program of spaces informs design. El Meson de Goya is a restaurant designed as a restaurant so that students have experience working in a restaurant. It is practically the only space that shows that the educational use forms the basis of the building design. The other spaces in the five venues - except the gyms - are nothing more than generic designs. Even in recently built sites, a program of spaces has not been implemented in their design. In the kitchens in La Union, for example, not all the equipment that is needed fits, and there is no room for demonstrating pastry techniques to students.

Campus expansion and remodeling seems to follow very traditional concepts. The expansion plans call for building classrooms and workshops but there is no mention of the sizes and types of spaces, equipment, furnishings, costs, etc. Each technical program, most courses, require different space designs. Instructor ITCA -FEPADE has a plan to expand the infrastructure in four of the five venues.

The sum of the amounts they want to invest in infrastructure and three other areas of modernization is seen in Table 2.17 below.

**Table 2.17 ITCA-FEPADE Investment in Infrastructure**

<b>ITCA-FEPADE</b>	<b>Infrastructure</b>	<b>Equipment</b>	<b>Curriculum Design</b>	<b>Training and / or Education</b>	<b>TOTAL</b>
Headquarters	\$25,478,672.00	\$21,985,602.25	\$960,000.00	\$1,561,678.91	<b>\$49,985,953.16</b>
Santa Ana	\$7,000,000.00	\$2,635,000.00	\$0.00	\$200,000.00	<b>\$9,835,000.00</b>
San Miguel	\$3,689,455.00	\$4,619,238.47	\$100,000.00	\$100,000.00	<b>\$8,508,693.47</b>
La Unión	\$0.00	\$2,500,000.00	\$200,000.00	\$200,000.00	<b>\$2,900,000.00</b>
Zacatecoluca	\$550,000.00	\$2,547,887.00	\$100,000.00	\$100,000.00	<b>\$3,297,887.00</b>
<b>TOTAL</b>	<b>\$36,718,127.00</b>	<b>\$34,287,727.72</b>	<b>\$1,360,000.00</b>	<b>\$2,161,678.91</b>	<b>\$74,527,533.63</b>

Source: ITCA-FEPADE, Modernization projects of the five ITCA-FEPADE venues

### 3 Expansion Plan

#### 3.1 General Features of ITCA-FEPADE's Expansion Plan

ITCA-FEPADE presented, on-site and through various documents, the outlook for its expansion plan for the next 5 years. The original plan covers the period from 2010-2014. Overall, the expansion plan covers: (i) academia, and (ii) infrastructure and equipment. The most important aspects related to academic expansion refer to the implementation of separate degree programs in the five campuses of the institution, as shown in Table 2.18.

The assessment team is unclear as to how the decision on the degree programs that are proposed for the short and medium term responds to an analysis of labor demand. The plan includes expanding the infrastructure for an amount of approximately USD\$75 million. The objective of the infrastructure development is to provide space for three times the current student population over the five year period. This projection is directly related to the expansion of academic programs at all the institutions.

**Table 2.18 ITCA-FEPADE: New Degree Programs to be Implemented in 2011-2014**

Program by Campus	2011	2012	2013	2014
<b>Sede Central</b>				
Hardware Engineering				
Information Security Systems Engineering				
Aeronautical Maintenance				
Electronic Engineering				
Software Development Engineering				
Information Network Engineering				
Specialized Mechanical Engineering				
Specialized Industrial Engineering				
Pharmaceutical Engineering				
Environment Management Engineering				
Renewable Energy Management				
<b>Santa Ana</b>				
Food Services Management				
Software Development Engineering				
<b>Zacatecoluca</b>				
Global Logistics Engineering				
<b>San Miguel</b>				
Hardware Engineering				
Information Systems Engineering				
Food Engineering				
<b>La Unión</b>				
Hardware Engineering				
Aquaculture Engineering				

Note: The colored areas indicate the year of implementation planned for the major.  
Source: Presentation of ITCA-FEPADE Authorities, August 2011

## **3.2 Aspects Assessed**

Based on available information—documents, presentations, mail, presentations made to this team by the Board of Directors, and conversations held with ITCA-FEPADE authorities—the team proceeded to assess different aspects of the institution’s expansion plan. Below, the team’s analysis is presented, while recommendations relating to the plan appear in the recommendations section.

### **3.2.1 Actions Concerning Current Degree Programs**

Similarly, the team finds that the plan has no information regarding the administration of the situation of the degree programs currently taught. The lack of a deep and thorough analysis of the relevance of the current degree programs, and corresponding decisions, casts doubt on the viability of the project. From the information received, the team infers that the plan only covers expansion but does not systematically adapt the current curricular structure to the demands of the market. A comprehensive forward-looking plan, which includes both the current academic and technical offerings and the proposed addition, should be the primary goal in the very short term, so that the institution can have a complete map of action, not only additions to what already exists.

### **3.2.2 Strategies for Student Recruitment and Retention, and Placement of Graduates**

The relationship between the institution and the student must be prioritized in all its stages. However, the team detected several potential weaknesses in this regard.

The expansion plan does not explain a detailed strategy for attracting students. Asked about the matter, the board of directors believes that the availability of resources and the history of the institution are sufficient qualities to attract a large number of students. However, this is not enough. Given the scarcity of resources for higher education in El Salvador, the establishment of criteria that are serious, socially committed, and which allow equal access must be within the guidelines of the plan. It is not possible to meet the entire demand for education at ITCA-FEPADE, therefore, a major effort should be made to convey clear rules of admission, the commitment they assume when entering the institution, and the true cost that each student means to the institution. A social contract should be created between the student, his family, and ITCA-FEPADE, so that the mutual commitments ensure quality and efficiency in the use of resources.

This issue is also related to a student retention strategy. The institution currently has a dropout rate of 12%. As this is a somewhat high rate for an institution that largely subsidizes its students, the team believes that the expansion plan should contain a detailed student retention strategy. The lost investment by a student who leaves ITCA-FEPADE is significant, both in the current context and in light of the expansion plan. A detailed analysis of the causes of dropping out is required, as well as the development of mechanisms to reduce the impact of such causes and strategies for attracting students who are less likely to drop out.

Finally, the plan should contain a clear strategy for activities that ITCA-FEPADE will undertake with its graduates throughout their working life. ITCA-FEPADE should plan how to track and maintain contact with its graduates, enabling it to monitor not only their current status but also to gather information on the relevance of their technical programs, how long takes for the knowledge and skills taught to become obsolete; and when it might be time to provide graduates with new training (and on what topics).

ITCA-FEPADE should always keep the graduate as the focus of its expansion policy. It should seek to impart quality education to produce competent graduates; help connect graduates to the labor market to ensure their integration in the most advantageous conditions possible; and follow graduates to see how the labor market receives them, and what else it is asking for. At the end of the day, the graduate is the flagship product of the institution.

### **3.2.3 Relationship of the Plan with Labor Demand**

From the information received, it was not possible to infer job placement rates expected for future graduates; the size of the productive sectors in which they will be placed; potential possibilities and efforts to establish on-the-job practice and internships; nor the institutional strategy for meeting fluctuations and changes in labor demand (both expansions and contractions that affect the forecasts).

A portfolio with commitments signed by industrial and trade chambers, letters of support and the potential offer of space for practice and internships, and commitments from private parties to enroll in work-study dual education programs, can, among others, be strong tools for linking the labor market and the institution, that is, to link labor demand with the supply of technical graduates.

### **3.2.4 Upgrading of Faculty**

Another important aspect of an expansion of the educational program of ITCA-FEPADE is the provision and re-adjustment of the teaching staff. This aspect is not only applicable to ITCA-FEPADE: it is part of a reality of El Salvador. The lack of professionalization imposes a limit on trying to professionalize new generations.

Therefore, an appropriate plan should include a rigorous proposal regarding the provision of instructors, including how instructors will obtain appropriate knowledge (national, foreign, permanent, visitors), what kind of training will be provided to ensure quality (languages, research methodology, pedagogical tools oriented to competency-based instruction, professionalization), and what contractual status and wage rates will be offered (full-time, part-time, or class hours). Mechanisms for providing refresher training for instructors should also be designed, and these should include access to literature, finance of training courses, and the ability to gain exposure to new developments in the technical fields.

### **3.2.5 Research**

Beyond teaching itself, a major activity of the institution should be research. From documents viewed and from the discussions with the board of ITCA-FEPADE, it is not clear that the institution has an explicit strategy for research development, both theoretical and applied.

### **3.2.6 Social Inclusion**

In the higher education system of El Salvador, there is substantial talk of the future of society. Adopting a concept current in such discussion, the team feels that the plan should include an area for "Social Insertion." It is no longer a matter of "projecting" the institution, its values and its conception, into society, but instead seeking how the institution can find its place in society, contributing to its construction, strengthening its bases, in a framework of tolerance for different views.

This means of proposing the relationship between the institution with society goes very much hand-in-hand with the vision to serve labor demand: it is not the institution that unilaterally decides what it wants to transmit, teach, produce, but rather the institution tries to find how it can contribute to the development of society, to meeting labor demand, to placement of students in working life.

The current expansion plan lacks this very important aspect, which the team believes fundamental for guiding the action of ITCA-FEPADE in a society that requires and demands answers from it.

### **3.2.7 Scope of Investment**

The estimated investment for the expansion and upgrading of the existing infrastructure and equipment for current and new degree programs is almost eight times the budget established for 2009 and somewhat less for that established in 2010. The proposed investment budget exceeds even the budget distributed by the Ministry of Education among public higher education institutions, including ITCA-FEPADE itself.

Such a substantial investment requires a detailed study of every relevant aspect. This investment, given its breadth, should change the landscape of higher education in El Salvador. In this regard, the team concludes that further details are still needed for ensuring that such investment is suitable, viable, sustainable, and above all, socially profitable. Many steps need to be taken in the planning of this project that merit a thorough and deep study of the case.

### **3.2.8 Maintenance of the Investment**

Beyond the amount of investment, an important issue is how the institution plans to sustain this investment over time. An investment of this magnitude requires not only planning of execution and the quest for funds to initially finance it, but also involves a steady flow of future funds for maintaining it and permanently re-upgrading it. The current expansion plan does not address this issue, nor does it outline measures of the budgetary impact that will have an expanded functional structure, and how this demand for funds will be dealt with.

### **3.2.9 Sources of Financing of the Investment**

A very important aspect of this plan is financing. However, the team found no indication of the potential sources of funding; what progress may have been made in talks with these sources and the amounts of contributions to be made; the cost of the capital (if it is financed wholly or partly with loans) and a tentative timetable for the availability of these funds for managing cash flow with the changing tasks.

### **3.2.10 Social Assessment of the Project**

Finally, the relationship between the intended investment and benefits obtained is not yet clearly articulated. All projects should be accompanied by a proper evaluation of their impact, both economic and social. In this particular case, an important measure of socio-economic impact comes from responding to the demand for labor. In fact, it would be advisable to measure the benefits of the expansion in terms of labor demand served rather than the number of students served, which is one of the measures used in these projects. Ultimately, if labor demand is not properly met, the plan as such does not fulfill its purpose. Providing education that the market cannot absorb is neither socially nor economically profitable.

## 4 Strengths and Challenges of ITCA-FEPADE

### 4.1 Strengths of the Institution

ITCA-FEPADE has formulated its Strategic Plan 2008-2024 and in it defines its vision, mission and values as follows:

Vision: "To be a leading educational institution in technology education at the national and regional level, committed to quality, entrepreneurship and the relevance of our educational programming."

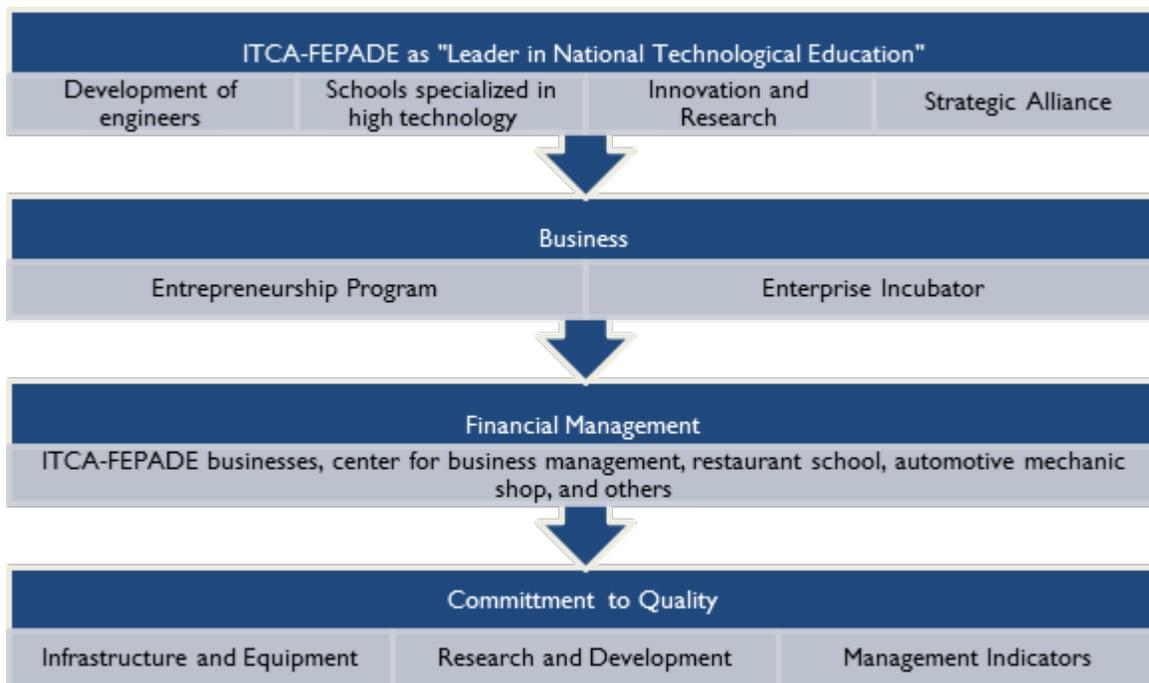
Mission: "To educate integrated and competent professional in areas of technology areas where there is demand and opportunity in the local, regional and global labor market, both as workers and as entrepreneurs."

Values: "Excellence, integrity, spirituality, cooperation and communication."

To achieve the above institutional roles, ITCA-FEPADE has relevant strengths, which are listed below:

- With more than 30 years presence on the educational scene, the institution has demonstrated and synthesized its development through conversion into a Specialized Engineering School, with the consequent ability to provide varied degrees and levels of specialties in science and technology. There is no doubt that the institution has been, and is, a benchmark in technical education in the country.
- Throughout its history, ITCA-FEPADE has managed to maintain and develop links with private sector employers. This linkage has not only enabled learning opportunities in authentic situations for students, but also the gradual building of work spaces for those graduating from its processes. These relationships with businesses, suggest that ITCA-FEPADE is a good scenario for enhancing public-private partnerships.
- The institution has the people, experience and motivation to become a center of technical and technological education of international renown; in addition, it has been able to insert itself in the educational community and civil society as an instrument of social change and development.
- Other strengths of ITCA-FEPADE are its design of competency-based training, the promotion of the so-called Dual Model learning strategy and the virtual education effort that has been undertaken.

In addition to its long history as an educational institution, its student body, the equipment and the branches on the national level, the recognition of companies and its strategic plan 2008-2024, has other strengths that are shown in Figure 2.6:

**Figure 2.6 Strengths of ITCA-FEPADE as an Institution**

## 4.2 Challenges for ITCA-FEPADE

Among the several challenges facing ITCA-FEPADE, the institution acknowledges the following:

In most official documents that ITCA-FEPADE has unveiled, it has a clear interest in improving and expanding the training offer, its teaching. However, as an institution of higher education, it has the responsibility to sponsor research, to organize itself to do it well, and in a joint manner according to its specialties. This has not been sufficiently addressed in the official documents available and apparently is one of the fundamental challenges that the institution faces: moving from the vision of being an entity that trains and promotes entrepreneurship, good technical performance, etc. to one that is recognized and acts as a leader in technological training and scientific research (knowledge production, solutions to problems of current and future development and innovation). And, in this way, it will serve businesses, the community, government agencies and others in solving future problems.

The institution has been able, over time, to develop a strong relationship with the productive sectors of the country. Through its mechanisms of exchange and coordination and its training strategies in and with companies, it has been able to identify many technological needs and demands. However, it is necessary to move from "reacting" to the needs of the productive system towards the use of scientific technological pathways that promote a developed and equitable society for the future. ITCA-FEPADE can contribute much of its leadership to achieve it.

In the strategic proposals for expansion, investment in infrastructure and equipment stands out. The projected investment is high, about \$74 million. Obtaining funds or finding intermediate / alternative forms to achieve the expected impact are part of the challenge that the institution has posed. In this vein, the support that can be obtained from international cooperation is important; nevertheless, it is impossible to find a donor for everything. This requires continuing to make institutional efforts towards

selling services, raising efficiency and deepening austerity, especially in streamlining bureaucratic processes.

While it is true that the institution has a leadership role in technical and technological training and linkages with the business sector, it has been less able to establish itself as a facilitator of technical and technological training in the country. Technical secondary school programs and methodologies are not well integrated and linked with higher-level technical institution programs/methodologies. Universities use teaching approaches, methodologies and resources that are not always suitable for developing skills/competencies in their students. In addition, it may be that the engineering or technical specialties for which they are preparing students may be less relevant in the new social, business and scientific scenarios. Technological studies are often not complementary or planned sequentially, and not even the network of MEGATECs is linked. ITCA-FEPADE can assume leadership in this process.

Another challenge is the expansion of its student coverage. Currently, ITCA-FEPADE has a population of over 6,000 students. Considering the available space, capacity, institutional projections and the articulation effort, it is possible to do it. This will achieve a reduction in costs per student (currently around \$150.00 per month) and the economy will have more possibilities with the human resource. However, it is not a matter of increasing coverage at the expense of quality; on the contrary, the institution is responsible for making case studies to ensure both objectives are achieved.

Instructional costs can be reduced through the use of on-line instruction programs. ITCA-FEPADE has initiated on-line programs that should be evaluated closely.

Strengthening and increasing competency-based training in the development of scientific and technological innovation should be one of the strategic issues to be considered. To that end, it is important to maintain strategic alliances with prestigious international institutions dedicated to scientific technological education and research, development and innovation.

Additionally, considering that students have developed competencies or are in the process of doing so, ITCA-FEPADE should develop mechanisms to assess them and promote applied research to enhance such skills. Students could build on their research experience and gain practical knowledge to get good jobs. The institution should also develop a framework to equate competency-based to traditional credit-worthy system.

Through its linkage to the productive sector, ITCA-FEPADE has been able to place graduates in well established companies. However, given the volatility of the local as well as global marketplace it is wise to provide students with solid training in entrepreneurship.

Although ITCA-FEPADE teaching staff are qualified, it is important to take on the challenge of continuous professional development to update programs' content knowledge and teaching and research skills. If the institution assumes a leadership role in this process –technical training system and involvement in non-traditional areas linked to clean technologies, to research at sea, to biotechnologies, etc. – it will require that its instructors have a high level of skills, commitment, and vision.

ITCA-FEPADE has been able to define its expansion strategy in a reasonable way. However, it faces a challenge in assuring that its visions are closely linked with the future of the country's development. Updating the feasibility studies for the proposed degree programs is a priority. A technical analysis should be performed on the capacity and experience to carry out the expansion with the current faculty (not just due to its size, but also taking into account the faculty's teaching and research skills). Likewise, it is important to focus on the standards of the programs that are being offered, so they all -regardless where they are provided- can ensure quality control. Additionally, for the proposed expansion of ITCA, it is not only important to ensure sources of funding, but also to make sure that programs being offered are aligned with the market demand.

For ITCA-FEPADE, it is vital to coordinate more closely with the Vice Ministry of Science and Technology programs and activities that attend more directly the needs of the country's economic demands.

## 5 Recommendations

Throughout this document, processes and approaches have been introduced and discussed that may permit ITCA-FEPADE both to improve certain aspects of its performance and to expand those elements that are already successful.

In the following section, many of the previous observations and conclusions are assembled in the form of strategic recommendations. These recommendations are not meant to be an exhaustive list of all recommendations for the institution. Moreover, the team believes that the institution must seek the most suitable means to move forward, since it understands its environment and its capabilities better than any outside observer.

### 5.1 Higher Education in El Salvador: ITCA-FEPADE as National Public Reference

ITCA-FEPADE should take on a leading role as leading national voice and model for technical and technological training through the following strategies and actions:

- **Deepen its role as leader of technical and technological training:** ITCA-FEPADE should be the institution which "pulls" the Salvadoran academic sector along in technical fields, setting standards for educational quality, coordination with the productive sector, and social integration. The team highlights especially the crucial recommendation of increasing the dynamism of the leadership of ITCA-FEPADE as a public educational agency, centering its intervention on the quality of service and of its technology education, ensuring employment opportunities through public-private partnerships, and focusing the programs on the needs of companies that facilitate the placement of young people into the workplace, thereby taking advantage of the excellent quality and education of its graduates.
- **Strengthen the organizational capacity and societal prominence of the technical sector:** ITCA-FEPADE, as the leader in its sector, should contribute to the formulation of public policies and country strategy which value the technology sector within overall higher education. The institutionalization of the higher education system needs a fundamental improvement to contribute to the development of the skills necessary for educational and productive supply and demand. There is consensus on the need to modernize the existing legislation and institutions (such as, for example, the Council for Higher Education and the Higher Education Quality Accreditation System) and others that stimulate the sector, particularly technical and technological.
- **Promote partnering among the Government - Academia - Productive Sector:** ITCA-FEPADE has the important task of being a major player in the Government - Academia - Productive Sector partnership in El Salvador. An important part of its role as a benchmark and exemplar of higher education should focus on developing and promoting public-private partnerships and roundtable discussions, and deepening the partnership with the work world, promoting territorial distribution, strengthening and deepening linkages with social and productive life of the localities where ITCA is present, and ultimately expanding the linkages among MINED, ITCA-FEPADE and Companies. It is important that ITCA opens its relationship to new institutions through the creation of an advisory team or consortium with the representation of agencies such as the Ministry of Education, the Ministry of Labor, the Ministry of Economy, INSAFORP, ANEP, the ASI, the Chamber of Commerce, and other universities

linked to technical training such as the University Don Bosco and UNICAES, the MEGATEC Network, etc.

- **Recognize itself as a leader in scientific and technological education:** ITCA-FEPADE must take on the challenges and opportunities posed by the public, private enterprise and the various citizen agencies, directing its efforts at economic and social development based on technical and technological training. ITCA must take responsibility (or co-responsibility together with the higher education system in the country, which it should represent) of linking technical and scientific training that is developed in the country. This includes high schools, non-university higher education institutions, the MEGATECs, the universities themselves, and the INSAFORP. Both ITCA and the MEGATECs should bring this integration to the entire country as part of their role as **national public educator**, taking on the challenges of development in their regions of influence, but guided by strategic agreements arrived at with the sectors.

## 5.2 Labor Market: Deepening the ITCA-FEPADE - Labor Market Link

ITCA-FEPADE should broaden and deepen its relationship with employers:

- **Address more responsively the demands for specific skills:** one of the cornerstones of ITCA-FEPADE policies should be to meet the demands for specific skills of the employer sector. In several parts of this document, this need and responsibility of the institution has been highlighted. The end product of ITCA-FEPADE is its graduates, equipped with the skills necessary to meet the demands of the productive sector. If ITCA does not put this productive goal at the center of its development, it will hinder the appropriate contribution of the institution to the country's economy and society.
- **Continually improve the quality of its graduates:** ITCA-FEPADE must implement a system for measuring the quality of its graduates, which includes the perception of satisfaction and adaptability of the graduates to their jobs, the perception of their employers, and social impacts caused by its graduates. This requires that ITCA-FEPADE tracks its graduates. ITCA can only know how well it is "producing" and the quality of its graduates if it is close to the graduate, his/her employer, and the social environment in which the graduate is placed. It should also offer a continuing education program that develops skills based on the challenges or needs that graduates face in the labor market.
- **Facilitate the employability of its graduates:** ITCA-FEPADE should link with the public and the productive sectors to facilitate job placement for its graduates. The institution should act as "bridge" between graduates and the labor market, starting from the moment that they enter ITCA through their participation in internships and practices or through a dual ("work-study") education model. The institution knows how to do this, and the productive sector recognizes it as a generator of highly qualified and skilled workforce. ITCA-FEPADE should use these two advantages to deepen its job placement ability, complementing it with adequate monitoring of labor demand for skills, so as to always have competent graduates who are suitable for the Salvadoran productive sector.

## 5.3 ITCA-FEPADE: Institutional Strengthening

To ensure its success, ITCA-FEPADE should strengthen its institutional framework, that is, strengthen its internal structure and communication, so that the institution creates a network of support, development, and cohesion that allows it to project itself into the future as a national benchmark and point of reference in the technical and scientific technology arena.

- **Strengthen internal communication:** ITCA-FEPADE should have its members strengthen ties, integrate, share information, and work to develop a greater "organic" unity as a "body" that has multiple members with extraordinary wealth that can be used to achieve the corporate

objectives. In interviews and informal conversations with management, instructors, and students, a significant weakness that came to the fore is the issue of communications. The entity still has not been able to integrate its main components – people—in its communication network. Dialogue, workshops to increase coordination, brainstorming activities, management-instructor-student activities, among other actions, can help build trust, which then leads to dialogue and to maintaining fluid communication within the institution.

- **Integrate degree programs and schools aiming at interdisciplinary work:** another important aspect of institutional strengthening that requires communication and coordination is the development and promotion of an interdisciplinary approach within the institution. Currently, the degree programs within each school, and the schools themselves, rarely dialogue. Trust has still not been created, resources have not been recognized, and the mechanisms that will facilitate interdisciplinary integration have not been encouraged or unleashed. ITCA-FEPADE's management should be concerned with proposing specific actions to develop this type of communication and integration, starting with internal activities (for example, inter-major and inter-school workshops, promotion of interdisciplinary research projects, support for thesis and final interdisciplinary projects, etc.) and continuing with external interdisciplinary integration as a central experience in work training.
- **Develop institutional research activities:** The institution should develop research activities by improving staff research skills, increasing the number of applied research, and developing partnership with the private sector. Research activities should become a top priority. Some of the key benefits of research activities include: a) students can build on their research experience and gain practical knowledge to get good jobs, b) support teachers in developing their own research skills, specifically through projects that result in concrete and marketable results, or feed back into the education system through updated and curricula based on best practices, and c) highlight research that contributes towards advancing El Salvador's economy and national wellbeing.

#### 5.4 Growth: Institutional Growth Strategy Development

ITCA-FEPADE needs to focus on strengthening investment and development of Specialized Schools in high technology through multiple actions, including:

- **Aligning educational programs with current demands of the productive sectors:** El Salvador has the opportunity to expand industry in areas such as food and beverage processing, the pharmaceutical industry, logistics and international services, among others. ITCA-FEPADE should adjust its educational programs to meet the demand for skills in these sectors. A robust partnership with the industries in these sectors will enable it to gather better information for developing its academic and research offer and to strengthen its job placement capacity for graduates.
- **Periodically updating and broadening its knowledge of labor demand:** ITCA-FEPADE should design and implement a permanent plan to collect survey data on labor demand that allows it to be aware of the current situation and prospects for labor demand for the products of technical and scientific technology education in El Salvador. This information should serve as a major input for continually adjusting its various curricula.
- **Strengthening the instructional approach:** ITCA-FEPADE should intensify the application of competency-based methodologies so that employers can readily assess and put into use the skills of those they hire.
- **Developing new degree programs and adjusting existing ones:** The institution should consider the implementation of new technical courses to meet the demand for skills. But it must also adjust the existing degree programs, and seriously and proactively assess the situation

of degree programs that have little social profitability (degree programs with low job placement, with saturated markets, or low wages). In a second phase, it should analyze the feasibility of creating new engineering degree programs based on high-level specialization and linkage with existing technical degree programs, in response to the needs of the productive sector.

- **Decreasing the time for establishment of degree programs:** It is also important for ITCA-FEPADE to develop a system to establish degree programs. This should include the development of internal capabilities such as finding employment and educational information, projections for the development of different productive sectors, proactive assessment of opportunities and underserved labor market niches, pedagogical evaluation of the curriculum, and, finally, capacities to react adequately to the demands of the productive sector and even to anticipate them.
- **Develop institutional research activities:** The institution should develop research activities by improving staff research skills, increasing the number of applied research, and developing partnership with the private sector. Research activities should become a top priority. Some of the key benefits of research activities include: a) students can build on their research experience and gain practical knowledge to get good jobs, b) support teachers in developing their own research skills, specifically through projects that result in concrete and marketable results, or feed back into the education system through updated and curricula based on best practices, and c) highlight research that contributes towards advancing El Salvador's economy and national wellbeing.
- **Adequately planning for the expansion of infrastructure and equipment:** ITCA-FEPADE should consider a gradual expansion of infrastructure, addressing the basic regulatory provisions and physical characteristics of the different spaces that should be offered by a center of higher learning, thus covering greater student demand. However, the balance of the investment must be ensured, giving priority to the academic field as a whole. The search for balance also involves investing in program and curriculum upgrading, instructor training, and procurement and installation of equipment with advanced technology to contribute directly to the teaching-learning process, the implementation of strategies and innovative methodologies aimed at "learning by doing."

## 5.5 Instructors: Quality Assurance and Availability of its Main Input

ITCA-FEPADE should undertake a thorough plan for strengthening teaching, with goals that include:

- **Training instructors in leading edge technologies:** continuous training and upgrading of instructor skills must be priority policies of ITCA-FEPADE in its human resources area. It is difficult to obtain a good graduate if the human capital that must educate him is deficient. ITCA-FEPADE should structure a policy of continuous instructor training that is easily understandable and accessible to all instructors, both full-time, and class-hour instructors.
- **Training instructors in instructional methodologies:** The institution must be concerned with training its instructors, or strengthening the education they already have, in teaching methodologies suitable for teaching of skills, which allow for ensuring quality in the educational process. In this regard, the team recommends having a plan in place for continuous instructor training available to all instructors, with special emphasis on class-hour instructors, who have a higher turnover and for whom it is more difficult to track their teaching quality.
- **Promoting the professionalization of instructors:** A significant proportion of the faculty of ITCA-FEPADE do not have university-level degrees/preparation and only about 5% have graduate degrees, which limits the possibilities of the institution to acquire new knowledge, develop advanced research and develop degree programs with deeper cognitive requirements. To address this, the institution should improve wages to attract more qualified instructors, promote and fund continued education to enable their instructional staff to obtain graduate

degrees, recruit instructors with higher education levels, invite professionals from the private sector to train instructors and students, establish agreements with foreign universities to improve and professionalize the faculty, etc.

- **Training instructors in mastery of the English language:** Currently, English fluency among instructors is, on average, below that of the students of the institution. This creates obstacles for teaching, undermines authority and leadership based on knowledge, and generally puts instructors at a disadvantage with respect to the student. ITCA-FEPADE should require its instructors to be trained in English and should provide the facilities to do so. Much of the knowledge imparted in the institution is generated in English-speaking countries and is published in that language, so access to new knowledge is highly influenced by knowing English, and instructors, at this time, fall short in this requirement.
- **Training instructors in research methodologies:** As part of its research incentive scheme, ITCA-FEPADE should include the training of instructors in research methodologies. Ignorance of the techniques and procedures for carrying out good research has been part of the arguments that the instructors themselves, in our interviews, have put forth as an obstacle that is difficult to overcome.
- **Encouraging the participation of instructors and students in research programs:** ITCA-FEPADE should also support and promote the participation of instructors and students in joint research projects, aiming at interdisciplinary integration. In this context, instructors should be trained as guides to the research process, so they can disseminate this knowledge among their students.
- **Reducing the administrative burden of full-time instructors:** instructors have expressed in interviews their concerns over the enormous time and effort devoted to administrative tasks. According to them, many of these tasks could be carried out by secretaries, career counselors, and clerical staff. Using the time of instructors on these tasks may well become a waste of capacity, and the team recommends that ITCA-FEPADE consider developing alternative means to relieve its instructors, perhaps by reconsidering the strategy for allocation of administrative tasks. If instructors are less involved in these, it would free up time for study, bringing themselves up to date in their fields, research, and work with students.

## 5.6 ITCA-FEPADE Expansion Plan: Need to Take Prior Steps

ITCA-FEPADE's Expansion Plan merits a more thorough study of both the current situation and future outlook in terms of the demand for labor, together with the curricular programs currently offered and those proposed.

The team considers that it is important to take a range of preliminary steps to ensure the quality, viability, sustainability, adjustment and financing of the project. Obtaining only some of these features will turn the project in an incomplete effort that will ultimately harm higher education in El Salvador.

Therefore, the team recommends that ITCA-FEPADE perform at least the following specific activities to analyze its Expansion Plan in greater depth, in order to ensure its relevance, feasibility, funding and sustainability:

- **Update the feasibility studies:** many of the studies used to justify the project are not consistent with current reality. In particular, the team notes a serious lack of prospective data to serve as input for planning ITCA-FEPADE's activities in the short and medium term.
- **Include a specific strategy for harmonizing the current educational program:** this strategy should be accompanied by concrete actions to assess and decide on the fate of the current degree programs.
- **Analyze deeply the technical feasibility of the proposed new degree programs:** the current analysis reveals some weaknesses in the relevance of the curriculum versus the expected

development of productive sectors that should be resolved. There is an absence of strategies and actions for moving the new degree programs forward and placing future graduates in the labor market.

- **Ensure the provision of instructors and specialists for each proposed area of expertise:** this aspect still has many weaknesses given the current training of the faculty, and the lack of highly specialized technical education that exists in El Salvador. Alternative strategies for attracting quality instructors should be developed and associated with concrete actions.
- **Ensure academic and research quality:** it is not clear how quality will be ensured. While the balanced scorecard developed for the institution touches on some of these issues, its scope is more administrative. Also, it does not provide appropriate mechanisms for measuring educational quality (it only considers traditional measures that educational experts have long since recognized as insufficient and one-dimensional), nor mechanisms for adjustments to deviations in quality. All these elements must be included in a plan that effectively waves quality as the institutional flag.
- **Secure funding sources:** the project viewed does not contain any information about sources of funding, fundraising strategies, and specific commitments from potential funders. This is an undeniable deficiency of the project and should be resolved properly, not just with a short-medium term vision for the execution of the concrete project, but rather it should also be accompanied by a longer-term vision that deals with how ITCA-FEPADE will continue with the activity started.
- **Tighten ties with the productive sector to ensure demand for its graduates:** ITCA-FEPADE should include specific actions in its plan to link its expansion plan with the productive sector, both in terms of serving demand for skills and knowledge, and in terms of the job placement of its future graduates, whether concerning degree programs current taught, or new programs created in the framework of the expansion.
- **Align the Expansion Plan with the strategy of the country:** the plan should include linkage with other national plans such as the Five-Year Plan, Partnership for Growth, sectorial policies of the Ministry of Economy, among others.

## **References**

- CIDE (2008). "Diagnosis of the Current Situation of Education and Vocational Training in the Northern Zone." El Salvador: FOMILENIO.
- ITCA-FEPADE (2010). "Strategic Direction 2010 - 2014"
- ITCA-FEPADE (2010). "Analysis of Curricular Relevance 2010"
- ITCA-FEPADE (2010). "Reference Terms for Technical Support Services"
- ITCA-FEPADE (2011). "Modernization Projects of the Five ITCA-FEPADE Sites"
- MINEC (2005). "VII Economic Census 2005". San Salvador: Ministry of Economy, Department of Statistics and Censuses.
- MINEC and DIGESTYC (2010). "Multi-Purpose Household Survey - EHPM 2009,"
- MINED (2006). "Results of Statistical Information of Higher Education Institutions 2005," National Bureau of Higher Education, Ministry of Education: San Salvador, El Salvador.
- MINED (2007a). "National Education Census," San Salvador: Ministry of Education.
- MINED (2007b). "Higher Education in figures El Salvador 1997-2006," Special Edition, Evaluation and Management of Statistical Information, National Directorate of Higher Education, Ministry of Education: San Salvador, El Salvador.
- MINED (2008). "Results of Statistical Information of Higher Education Institutions 2007," National Bureau of Higher Education, Ministry of Education: San Salvador, El Salvador.
- MINED (2009a). "National Education Accounts: 2009 Overview." San Salvador: Ministry of Education.
- MINED (2009b). "Investing More in Education: How Much Does it Cost to Meet Outstanding Commitments?" San Salvador: Ministry of Education.
- MINED (2009c). "National Education Accounts: General Overview 2009." San Salvador: Ministry of Education.
- MINED (2009d). "Results of Statistical Information of Higher Education Institutions 2008," National Bureau of Higher Education, Ministry of Education: San Salvador, El Salvador.
- MINED (2010). "Results of Statistical Information of Higher Education Institutions 2009," National Bureau of Higher Education, Ministry of Education: San Salvador, El Salvador.
- UNDP (2008). "Report on Human Development El Salvador 2007-2008. Employment in one of most hardworking towns in the world," UNDP, El Salvador Office.
- UNDP (2010). "Report on Human Development El Salvador 2010. From poverty and consumerism to the welfare of the people. Proposals for a new model of development," UNDP, El Salvador office.
- USAID – El Salvador (2011). Partnerships for Growth Constraints Analyses, Internal Report, USAID, El Salvador Office.

## **Annexes**

## Annex I Schedule of Interviews and Site Visits

Updated version September 2, 2011					
DATE	START TIME	END TIME	PERSON/INSTITUTION	TEAM MEMBER(S)	PLACE
8-Aug	02:00 p.m.		Team arrives	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini, Felipe Rivas and Mercy Castillo	Hotel Crown Plaza
8-Aug	04:00 p.m.	06:00 p.m.	First team meeting	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini, Felipe Rivas and Mercy Castillo	Hotel Crown Plaza
9-Aug	09:00 p.m.	10:30 a.m.	Entrance meeting with USAID (Dorita de Gutierrez)	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini, Felipe Rivas and Mercy Castillo	USAID
9-Aug	11:00 a.m.	12:30 p.m.	Meeting with ITCA/FEPADE: Elsy Escobar SantoDomingo, José Armando Oliva, Alejandro Aguilar, Carlos Orozco, Mario W. Montes and Frineé de Zaldaña	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini and Felipe Rivas, and Dorita de Gutierrez, USAID	ITCA/FEPADE
9-Aug	02:30 p.m.	04:30 p.m.	Meeting with Ministry of Education (MINED): Ing. José Francisco Marroquin	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini and Felipe Rivas, and Dorita de Gutierrez, USAID	MINED

10-Aug	08:00 a.m.	05:00 p.m.	ORGANIZATION MEETING (ENTIRE TEAM)		
11-Aug	10:30 a.m.	12:00 n	Meeting with AGAPE Sonsonate & Chalatenango: Lic. Dinora Arias, Carlos Ernesto Contreras and Joaquin Ernesto Guillen	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini and Felipe Rivas, and Dorita de Gutierrez, USAID	Hotel Crown Plaza
11-Aug	01:30 p.m.	02:30 p.m.	Meeting with Mission Management: Mr. Carl Derrick and Mr. William Elderbaum, and Dorita de Gutierrez	Ronald Saunders, John Helwig, Marcelo Rabossi, Diego Avanzini, Felipe Rivas, and Mercy Castillo	USAID
11-Aug	03:00 p.m.	04:30 p.m.	Meeting with USAID's Human Investment Office and Economic Growth Office	Ronald Saunders and John Helwig	USAID
12-Aug	07:30 a.m.	12:30 p.m.	Visit to MEGATEC Zacatecoluca - Mr. Pedro Avila	John Helwig	Zacatecoluca
12-Aug	02:30 p.m.	03:45 p.m.	Meeting with ANEP: Mr. Waldo Jimenez	Felipe Rivas and Marcelo Rabossi	ANEP
12-Aug	04:30 p.m.	07:00 p.m.	Meeting with Peace Corps Program and Training Officer, David Hansen, PhD	Ronald Saunders and John Helwig	Hotel Crowne Plaza
15-Aug	09:00 a.m.	10:30 a.m.	Meeting with Vice Minister of Education Dr. Eduardo Badía	Ronald Saunders, Felipe Rivas and Dorita de Gutierrez	MINED
15-Aug	09:00 a.m.	11:30 a.m.	Meeting with Universidad Don Bosco: Mr. Fabian Bruno	John Helwig, Marcelo Rabossi and Irene Flores	Don Bosco
15-Aug	02:00 p.m.	04:30 p.m.	Meeting with Mr. Betto Brunn, COP CARANA	Ronald Saunders, John Helwig, Diego Avanzini and Felipe Rivas. Dorita de Gutierrez, Rafael Cuellar and Michelle Jennings - USAID	CARANA

15-Aug	04:00 p.m.	05:30 p.m.	Meeting with Ms. Michelle Davenport-Nuila (liason with US universities)	Ronald Saunders, John Helwig, Diego Avanzini, Marcelo Rabossi and Felipe Rivas.	Hotel Crown Plaza
16-Aug	07:00 a.m.	12:30 p.m.	Visit to MEGATEC Chalatenango: Mr. Joaquin Guillen	John Helwig	Chalatenango
16-Aug	09:00 a.m.	10:30 a.m.	Meeting with Mr. Cesar Barahona - Banco Multisectorial de Inversiones (BMI)	Marcelo Rabossi and Diego Avanzini	BMI (World Trade Center)
16-Aug	10:00 a.m.	11:30 a.m.	Meeting with Minister of Education: Prof. Salvador Sanchez Ceren	Ronald Saunders, Felipe Rivas and Dorita de Gutierrez (USAID)	MINED
16-Aug	11:00 a.m.	12:30 p.m.	Meeting with Mr. Knut Walter Frankln - President of Comision de Acreditacion	Diego Avanzini and Marcelo Rabossi	Hotel Crown Plaza
16-Aug	04:00 p.m.	05:30 p.m.	Meeting with Consejo de Educacion Superior	Ronald Saunders, John Helwig, Diego Avanzini, Marcelo Rabossi and Felipe Rivas.	MINED
17-Aug	07:00 a.m.	12:30 p.m.	Visit to Sonsonate to meet with MEGATEC directors and students	Ronald Saunders and Diego Avanzini	AGAPE/Sonsonate
17-Aug	10:00 a.m.	12:30 p.m.	Meeting with rector of Universidad de El Salvador: Ing. Rufino Quezada	Felipe Rivas, Marcelo Rabossi and John Helwig	Universidad de El Salvador
17-Aug	02:00 p.m.	04:00 p.m.	Meeting with Mr. Vince Ruddy - Resident Country Director Millennium Challenge Corporation, and Ms. Sabinela Alfaro (FOMILENIO)	Ronald Saunders/Marcelo Rabossi and John Helwig	FOMILENIO
17-Aug	02:00 p.m.	03:30 p.m.	Meeting with SWISSCONTACT: Mr. Ricardo Fernandez	Felipe Rivas and Diego Avanzini	SWISSCONTACT

18-Aug	08:00 a.m.	10:00 a.m.	Meeting with rector of Universidad Tecnologica: Lic. Rafael Loucel	Marcelo Rabossi and Felipe Rivas	U.Tecnologica
18-Aug	09:30 a.m.	12:30 p.m.	Meeting with ITCA/FEPADE technical staff	John Helwig and Diego Avanzini	ITCA/FEPADE
18-Aug	02:00 p.m.	04:00 p.m.	Meeting with Vice Minister of Science and Technology: Dra. Erlinda Handal	John Helwig, Marcelo Rabossi and Felipe Rivas, and Dorita de Gutierrez, USAID	MINED
19-Aug	09:00 a.m.	11:00 a.m.	Feria de Trabajo y Juventud	John Helwig, Marcelo Rabossi and Diego Avanzini	Centro de Ferias y Convenciones
19-Aug	4:00 p.m.	5:30 p.m.	Vice rector: Oscar Picardo / ISEADE-FEPADE	Diego Avanzini, John Helwig, Marcelo Rabossi, Felipe Rivas and Dorita de Gutierrez	ISEADE-FEPADE
22-Aug	09:00 a.m.	10:00 a.m.	Meeting with Jose Alfredo Bonilla, Country Director Becas SEED	John Helwig and Diego Avanzini	Pje Carbonel No. 30, Col. Roma
22-Aug	11:00 a.m.	12:00:00 m.	Meeting with Ms. Lorena de Rodriguez, Directora Nacional de Educación	John Helwig, Felipe Rivas and Dorita de Gutierrez (USAID)	MINED
22-Aug	12:00 m.	02:00 p.m.	Lunch meeting with ESEN: Lic. Ana Lidia de Flores (Directora Estudiantil)	Marcelo Rabossi and Diego Avanzini	ESEN
22-Aug	02:30 p.m.	04:00 p.m.	Meeting with Dra. Patricia de Quinteros and Dra. Xinea Castro - URC (USAID health program)	John Helwig	URC (Calle Circunvalacion No. 298, Sn Benito)
22-Aug	03:00 p.m.	04:30 p.m.	Meeting with Universidad Centroamericana (UCA): Mr. Agustin Fernandez	Felipe Rivas, Diego Avanzini and Marcelo Rabossi	UCA

23-Aug	08:30 a.m.	09:30 a.m.	Weekly meeting with Dorita de Gutierrez, USAID	John Helwig	USAID
23-Aug	09:30 a.m.	11:00 a.m.	Interagency meeting (PAO, Peace Corps, USAID)	John Helwig	USAID
23-Aug	09:00 a.m.	10:00 a.m.	Meeting with RTI: Guillermo Garcia (USAID crime prevention program)	Marcelo Rabossi	Calle El Almendro No. 20A, Col. Maquilishuat
23-Aug	11:00 a.m.	12:30 p.m.	Meeting with Lic. Karla Segovia, Grupo Aristos	Marcelo Rabossi	Hotel Crown Plaza
23-Aug	02:30 p.m.	04:30 p.m.	Meeting with vicerector of Universidad Catolica de El Salvador: Lic. Moises Antonio Martinez. (Short meetings will be held with students and teachers)	John Helwig, Diego Avanzini and Ana Mercedes Ruiz	Sta Ana (will depart to Sta Ana at 1:30 pm)
24-Aug	09:00 a.m.	12:30 p.m.	Visit to MEGATEC Ilobasco: Ing. Alfonso Trigueros. (Short meetings will be held with students and teachers.)	John Helwig, Marcelo Rabossi, Ana Mercedes Ruiz and Dorita de Gutierrez (USAID)	Ilobasco (Will depart to Ilobasco at 7:30 am)
25-Aug	07:00 a.m.	08:00 a.m.	Meeting with National Director of Education, Lorena Duque de Rodríguez	John Helwig, Felipe Rivas, Marcelo Rabossi, Diego Avanzini, and Dorita de Gutierrez	Crowne Plaza
	4:00 p.m.	5:30 p.m.	Meeting with Vice Rector of ISEADE/FEPADE, Oscar Picardo	John Helwig, Diego Avanzini, Felipe Rivas and Dorita de Gutierrez	ISEADE/FEPADE
25-Aug	08:00 a.m.	09:00 a.m.	Meeting with Ms. Acennete de Barrientos, acting President of the <i>Comité de Empresarias</i> - Salvadoran Chamber of	Ana M. Ruiz	Torre 105 Campestre, 105 Ave. Sur sobre Calle Campestre, Col. Escalon (arriba Club

			Commerce		Campestre)
25-Aug	08:30 a.m.	11:00 a.m.	Meeting with ITCA/FEPADE's students, teachers and parents	Diego Avanzini, Marcelo Rabossi and Ana Mercedes Ruiz	ITCA/FEPADE
25-Aug	10:30 a.m.	12:00:00 n	Meeting with Lic. karla de Venegas, Grupo SEARCH (on line job search)	John Helwig and Felipe Rivas	Avenida La Capilla No. 411, Sn Benito
25-Aug	02:30 p.m.	04:30 p.m.	Meeting with ITCA's and FEPADE's Board of Directors	Ron Saunders and John Helwig	Meson de Goya - ITCA
25-Aug	03:00 p.m.	04:30 p.m.	Meeting with Rector of Universidad José Matías Delgado: Dr. David Escobar Galindo	Diego Avanzini, Marcelo Rabossi and Felipe Rivas	U.Matías Delgado (Carretera a Sta. Tecla)
26-Aug	07:30 a.m.	08:30 a.m.	Meeting with ITCA/FEPADE's Board of Directors	John Helwig	Meson de Goya - ITCA
26-Aug	09:00 a.m.	11:30 a.m.	Meeting with Universidad Nacional de El Salvador: Lic. Rodolfo Santos (Secretario de Planificación)	John Helwig, Marcelo Rabossi and Felipe Rivas	Universidad de El Salvador. Note: After the meeting, the team will have informal meetings with teachers and students.
26-Aug	09:30 a.m.	11:15 a.m.	Visit to MEGATEC La Union (Lic. Julia Aparicio). Informal meetings will be held with students and teachers.	Ron Saunders, Diego Avanzini and Ana Mercedes Ruiz de Castro	La Union
26-Aug	11:30 a.m.	01:30 p.m.	Meeting with Mr. Miguel Perez (Chief of Operations), Abelino Cruz (Chief of Maintenance) Milton Lacayo, Manager Puerto		

			de La Unión		
26-Aug	02:30 a.m.	03:30 p.m.	Meeting with Corporación de Inversiones (CORSAIN): Roxana Castillo		
26-Aug	03:00 p.m.	04:00 p.m.	Meeting with Grupo Calvo: Sonia Gonzalez, public relations		
26-Aug	2:30 p.m.	04:00 p.m.	Meeting with Vice-director: Ing. Alirio Edmundo Mendoza / Escuela Nacional de Agricultura (ENA)	John Helwig, Felipe Rivas, and Marcelo Rabossi	ENA
29-Aug	09:00 a.m.	10:00 a.m.	Meeting with Vice Minister of Economy, Dr. Mario Rogel Hernandez	Ron Saunders and Felipe Rivas	Ministry of Economy
29-Aug	02:30 p.m.	03:30 p.m.	Meeting with Caroll Vazquez, Director Human Investment Office	Ron Saunders and John Helwig	USAID
29-Aug	04:00 p.m.	05:00 p.m.	Meeting with Dean of Social Science from Universidad Francisco Gavidia- Lic.Zoila Romero	Ana Mercedes Ruiz	UFG
30-Aug	08:00 a.m.	09:00 a.m.	Meeting with Dra. Helga Cuellar, FUSADES	Ron Saunders, Marcelo Rabossi and Felipe Rivas	FUSADES
30-Aug	11:30 p.m.	12:30 p.m.	Meeting with William Pleitez, UNDP	Marcelo Rabossi and Felipe Rivas	Edificio Naciones Unidas 2 B, Blvd. Orden de Malta, Sta. Elena
30-Aug	12:30 p.m.	02:00 p.m.	Lunch meeting with Lic. Sandra de Barraza	Ron Saunders, John Helwig, Marcelo Rabossi and Dorita de Gutierrez (USAID)	Hotel Crown Plaza

30-Aug	02:30 p.m.	03:30 p.m.	Meeting with Miguel Angel Pereira, Director Ejecutivo Consejo Nacional de Juventud	John Helwig, Marcelo Rabossi and Ana Mercedes Ruiz	Sobre Alameda Juan Pablo II, Edificio B1, 2a. Planta, Centro de Gobierno
31-Aug	01:00 p.m.	02:30 p.m.	Meeting with Mr. Betto Brunn, CARANA	John Helwig, Ron Saunders and Marcelo Rabossi	Hotel Crown Plaza
2-Sep	11:00 a.m.	12:30 p.m.	Debriefing meeting with USAID	Ronald Saunders, John Helwig, Marcelo Rabossi and Felipe Rivas.	USAID
2-Sep	02:30 p.m.	04:00 p.m.	Debriefing meeting to ITCA/FEPADE. The Vice Minister of Education, Eduardo Badía, will be at the meeting	Ronald Saunders, John Helwig, Marcelo Rabossi, Ana M. Ruiz, Felipe Rivas and Dorita de Gutierrez.	MINED



Acceso a recursos tecnológicos y conectividad					
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14. La principal razón que pone en riesgo su permanencia en este centro de estudios es:

Rendimiento académico (Notas) \_\_\_\_ Situación económica familiar \_\_\_\_

Otra (especifique) \_\_\_\_\_

15. Señale con una X las acciones que se realizan en su centro de estudios para que usted pueda culminar la carrera y graduarse:

Planes de pago flexible: \_\_\_\_ Recuperación de notas: \_\_\_\_ Tutorías personalizadas: \_\_\_\_

Otra (especifique): \_\_\_\_\_

16. ¿Qué posibilidades tiene de conseguir un empleo en el área de la carrera que estudia al obtener su título?

Muy alta \_\_\_\_ Alta \_\_\_\_ Baja \_\_\_\_ Muy baja \_\_\_\_ Nula \_\_\_\_

## CUESTIONARIO A GRADUADAS Y GRADUADOS DE CARRERAS DE EDUCACIÓN SUPERIOR

Estimada graduada y graduado: este cuestionario tiene como propósito recolectar información sobre la pertinencia de la educación superior. Forma parte del análisis de la situación de la educación superior en El Salvador que USAID realiza a través de un equipo de consultores y consultoras.

Sus respuestas son confidenciales y serán utilizadas únicamente para el propósito mencionado. Agradecemos desde ya su colaboración al responder este cuestionario.

### ESTUDIOS REALIZADOS

2. Título de grado obtenido: \_\_\_\_\_

3. Año de graduación: \_\_\_\_\_

3. Año de egreso: \_\_\_\_\_ 4. Si no se graduó, ¿por qué? \_\_\_\_\_

5. Centro de estudios que le otorgó el título: \_\_\_\_\_

6. Con respecto al programa de estudios del que se graduó, ¿cómo valora los siguientes aspectos?

	<b>Malo</b>					<b>Excelente</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
a. Desempeño de las y los docentes (dedicación, competencias, conocimientos de la materia, asistencia al estudiante).						
b. Asignaturas del plan de estudios (pertinencia, relación con la práctica laboral).						
c. Horarios de clase (flexibilidad, adecuación a la carga de estudio).						
d. Información y procesos administrativos (facilidad de comunicación con la institución, acogida de reclamos y sugerencias, facilidad para la realización de trámites).						
e. Disponibilidad y acceso a recursos tecnológicos.						
f. Servicio de biblioteca (disponibilidad, actualidad).						
g. Bibliografía curricular (relevancia, actualidad, diversidad).						
h. Disponibilidad de laboratorios (física, química, mecánica, electrónica, medicina, biología, etc.).						
i. Estado de la infraestructura y mobiliario (aulas, auditorios, cafetería, estacionamientos).						

j. Acceso a los servicios de orientación y bienestar estudiantil.					
k. Difusión y acceso a becas propias de la institución.					
l. Acompañamiento de la institución en la búsqueda de trabajo (ferias de trabajo, bolsa de trabajo, contactos).					
m. Grado de satisfacción integral con los estudios de pregrado realizados en la institución.					

7. ¿Cuál es el principal motivo por el que tiene usted algún grado de insatisfacción? Marque solamente uno.

- El contenido era muy teórico
- El programa no le permitió el desarrollo de capacidades para el trabajo en su área
- El contenido de los cursos no estaba de acuerdo con el programa
- Los y las docentes no estaban bien preparados
- El tipo de evaluaciones aplicadas
- Falta de actividades de investigación
- Falta de actividades o programas de extensión universitaria

Otro (especifique): \_\_\_\_\_

## EDUCACIÓN CONTINUA

8. Indique de qué manera ha complementado su formación profesional después de terminar su carrera de pregrado (puede elegir varias alternativas).

- Mediante cursos de actualización en la universidad donde estudió
- Mediante cursos de actualización en otras instituciones
- Por medio de investigaciones propias
- Por medio de prácticas autodidácticas
- Por medio de la lectura especializada
- A través de estudios superiores de especialización
- Continuación de estudios de maestría y/o doctorado

9. En qué área cree usted que la universidad o instituto del que se graduó puede contribuir con su educación continua (puede elegir varias alternativas).

Técnica \_\_\_\_\_ Administrativa o gerencial \_\_\_\_\_ Investigación \_\_\_\_\_

Otra (especifique): \_\_\_\_\_

**SITUACIÓN LABORAL AL MOMENTO DE INGRESAR Y DURANTE SUS ESTUDIOS DE PREGRADO**

10. ¿Se encontraba trabajando al momento de iniciar sus estudios de pregrado? Sí \_\_\_\_ No \_\_\_\_

11. Su dedicación a esa actividad laboral era: Tiempo completo \_\_\_\_ Tiempo parcial \_\_\_\_

12. La empresa o institución para la cual laboraba era:

Gobierno (central o local) \_\_\_\_ Privada \_\_\_\_ Propia o familiar \_\_\_\_ ONG \_\_\_\_

Organismo internacional \_\_\_\_ Otra (especifique): \_\_\_\_\_

13. ¿Qué grado de relación tenía la actividad laboral que realizaba con la carrera que estudió?

Ninguna relación \_\_\_\_ Un poco \_\_\_\_ Totalmente relacionada \_\_\_\_

14. Durante todo el período de estudios de su carrera, ¿combinó el estudio con el trabajo?

Si \_\_\_\_ No \_\_\_\_ Parcialmente \_\_\_\_

**SITUACIÓN LABORAL AL GRADUARSE O EGRESAR DE LOS ESTUDIOS DE PREGRADO**

15. Al momento de graduarse, ¿contaba con un empleo?

No \_\_\_\_

Si \_\_\_\_ El mismo que tenía antes de ingresar a la carrera \_\_\_\_

En el mismo lugar de antes de estudiar, pero con un mejor cargo \_\_\_\_

Un nuevo empleo \_\_\_\_

16. ¿Buscó trabajo desde que se graduó de la carrera de pregrado? Sí \_\_\_\_ No \_\_\_\_

17. ¿Cuánto tiempo transcurrió, en meses, desde el momento en que se graduó y logró conseguir un empleo?

Cantidad de meses \_\_\_\_ Aún no he conseguido un empleo \_\_\_\_

18. ¿Cuál es su situación laboral actual?

Tiene trabajo \_\_\_\_ No tiene trabajo \_\_\_\_ (pase a pregunta 23)

19. ¿En qué tipo de empresa o institución trabaja?

Gobierno (central o local) \_\_\_\_\_ Privada \_\_\_\_\_ Propia o familiar \_\_\_\_\_  
ONG \_\_\_\_ Organismo internacional \_\_\_\_\_ Otra (especifique): \_\_\_\_\_

20. ¿Cuál es la actividad principal a la que se dedica la empresa o institución donde trabaja?

Producción \_\_\_\_\_ Comercialización \_\_\_\_\_ Servicios \_\_\_\_\_ Consultorías \_\_\_\_\_ Educación \_\_\_\_\_  
Otra (especifique): \_\_\_\_\_

21. ¿Qué grado de relación tiene la actividad laboral que realiza actualmente con la carrera que estudió?

Ninguna relación \_\_\_\_\_ Un poco \_\_\_\_\_ Totalmente relacionada \_\_\_\_\_

22. ¿Cuál es su ingreso mensual aproximadamente, en dólares?

\_\_\_\_ Menos de \$ 500.00  
\_\_\_\_ De \$ 500.00 a \$ 1,000.00  
\_\_\_\_ De \$ 1,000.00 a \$ 1,500  
\_\_\_\_ De \$ 1,500.00 a \$ 2,000.00  
\_\_\_\_ De \$ 2,000.00 a \$ 2,500.00  
\_\_\_\_ Más de \$ 2,500.00 \_\_\_\_\_

23. ¿Cuáles son las razones por las que no tiene trabajo remunerado actualmente?

\_\_\_\_ Poca demanda de profesionales graduados de su carrera  
\_\_\_\_ Porque sigue estudiando  
\_\_\_\_ Ofertas poco atractivas profesionalmente  
\_\_\_\_ Salario poco atractivo  
\_\_\_\_ Falta de dominio de un segundo idioma  
\_\_\_\_ Falta de conocimientos de computación  
\_\_\_\_ Razones familiares  
\_\_\_\_ Por razones de género  
\_\_\_\_ Horarios inconvenientes  
\_\_\_\_ Edad

Otra (especifique): \_\_\_\_\_

### VINCULACIÓN CON SU CENTRO DE ESTUDIOS

24. Señale las actividades que le ofrece el centro de estudios a sus graduados y graduadas. Puede elegir varias alternativas.

- Participación en investigaciones
- Publicación de artículos
- Participación en eventos científicos
- Participación en exposiciones tecnológicas
- Conformación de asociación de graduados

Otra (especifique): \_\_\_\_\_

### DATOS DE VIDA

25. Sexo: hombre  mujer

26. Edad: \_\_\_\_\_ años

27. Estado civil: Soltero (a)  Casado (a)  Acompañado (a)

28. Institución donde estudió el bachillerato: \_\_\_\_\_

29. Año de graduación: \_\_\_\_\_

30. Su familia vive en: zona urbana  zona rural

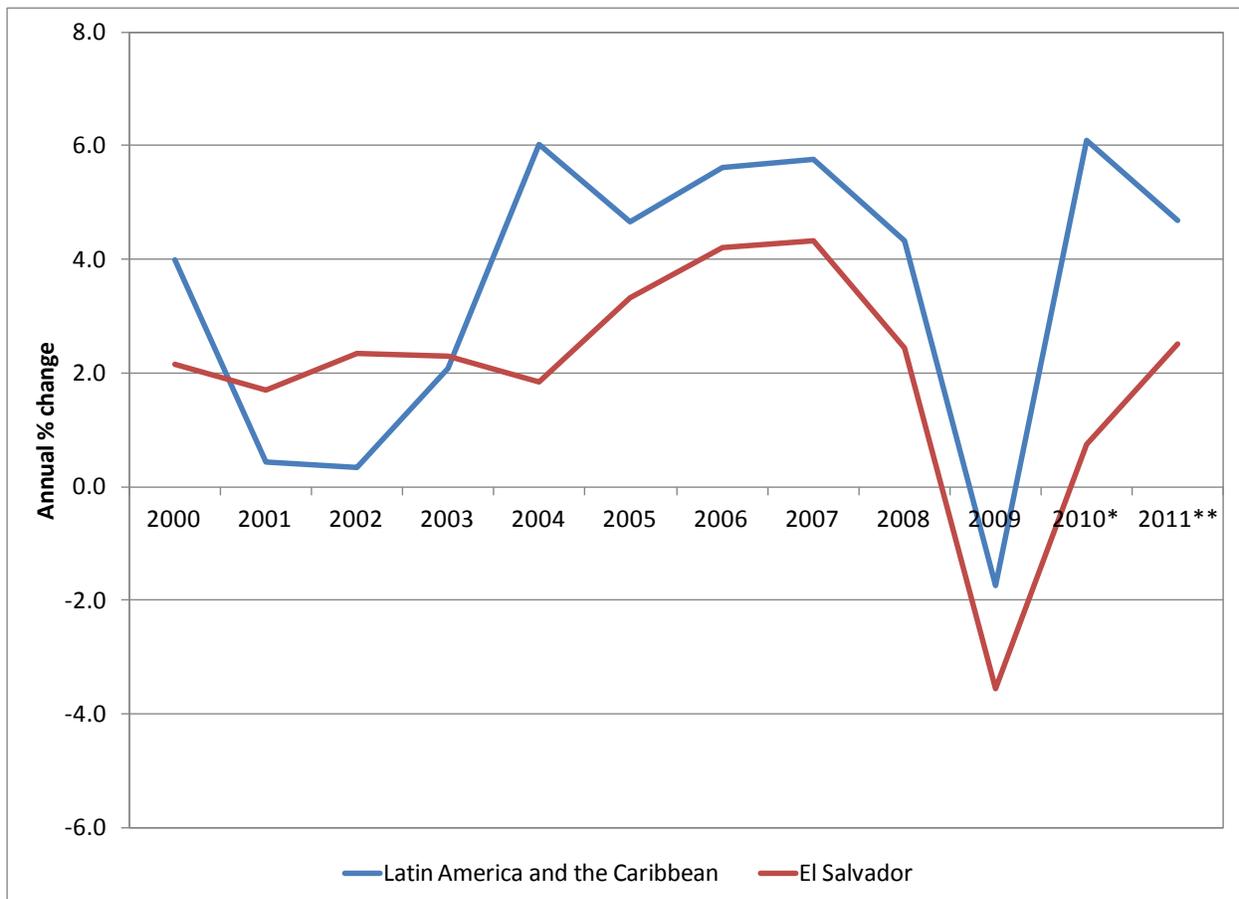
## Annex III Current and Expected Behavior of the Economy of El Salvador

### A Detailed Review of the Economy of El Salvador as the Context for Higher Education

#### I. Context Salvadoran economy at a glance

The Salvadoran economy is a small, open economy. In recent years it has shown macroeconomic stability, though low growth rates threatens the economic performance. In fact, economic growth rates have been below Latin America and the Caribbean's average growth rates (see Figure AI).

**FIGURE AI. ECONOMIC GROWTH IN LAC AND EL SALVADOR, 2000-2011.**



Note: \* Preliminary Values. \*\* Projected Values.

Source: Elaboration based on IMF (2011a) and IMF's WEO 2011 (IMF, 2011b).

The economic performance during the more-than-a-decade period 2000-2011 can be split in three parts with particular differences:

1. *From 2001 to 2004:*  
Low, though stable, economic growth, marked by increasing oil prices and natural disasters (two earthquakes, flooding and drought).
2. *From 2005 to 2007:*  
Higher economic growth rates, accompanied by accelerated inflation (but below 5% annually). The improved economic climate and increased confidence also deepened the current account deficit, mostly due to growth recovery incentivized imports.
3. *From 2008 to 2011:*  
Economic growth slowed down, affected by the global crisis, with an important GDP contraction in 2008 and 2009. Investment (measured as fixed capital formation) decreased markedly during the period. Most of the contagion effect was transmitted due to the close links between the Salvadoran economy and the United States. A slow, incipient recovery has been observed during 2010 and 2011.

During the 2008 economic crisis, El Salvador became markedly exposed to the financial crisis as well as to the abrupt changes in the oil market. The global crisis not only affected Salvadoran exports, but remittances flows and employment. Notice also that given that the Salvadoran economy is dollarized since 2001, monetary instruments are no longer available to counteract the cycles. As a matter of fact, the decreased spending power also came through a depreciated currency against other currencies of the world.

Also the uncertainty caused by the electoral process in 2009 helped to deepen the negative economic effects. Particularly, potential changes in the public policy relating profits appropriation/expatriation and tax structure affected investment: domestic and foreign investors decreased their investment, and in 2010 El Salvador showed up one of the worst performance in Latin America in terms of investment (see Table I: Foreign direct investment).

The most affected sectors during the global financial crisis were the mining sector (-15.4%), and finance and insurance intermediation (-5.4%). Real exports of goods and services, however, increased by 6.9% in 2008-2009, while real imports increased by 3.3%, alleviating the current account imbalance of previous years (see Table I: External sector).

The agricultural sector also has been affected in various forms. A long history of disincentives to the sector, increased dependence from abroad production, raising commodities prices, and weather problems summed up to exacerbate the economic situation of the agricultural sector.

The slow recovery observed in 2010-2011 has been accompanied with moderate inflation, mostly caused by a raise in agricultural prices and reductions in electricity subsidy rates (see Table I: Income and prices).

Another relevant issue of the Salvadoran economy are remittances. Remittances represent about 17% of the GDP and are mostly intended for consumption. In this sense, remittances are a two-folded problem: while, on the one hand, they contribute to improve wellbeing through consumption and relief for poverty, on the other hand they are recognized as important obstacles to develop a culture of work and savings. Moreover, most of the remittances are usually spent in consumption goods such as apparel and fast food at major chain stores that tend to expatriate profits and only provide low quality (i.e. low skilled or unskilled) employment in the country. The global crisis and its effects in the United States also impacted the remittances (almost a quarter of the Salvadoran nationals reside in the United States), and in 2009, for the first time, remittances decreased, with a slow recovery in 2010.

Particularly important is the spread of the market interest rate relative to that of the United States. Part of the effects of dollarization would be reflected in low interest rates but domestic uncertainty is still an expensive charge in the spot interest rate (see, for example, Fuentes et al., 2010; Swiston, 2011). Notice

that the interest rate in 2009 (when in the United States was near 0%) was about a half of the interest rate in 2000 when the economy had its own currency (see Table A.1: Money and Credit).

Table A.1 reports some macroeconomic indicators that may help to understand the evolution of the Salvadoran economy.

**TABLE A. I. EL SALVADOR: MACROECONOMIC INDICATORS, 2000-2011.**

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 *	2011 **
<b>Income and Prices</b>												
Real GDP Annual Growth Rate (%)	2.2	1.7	2.3	2.3	1.9	3.1	4.2	4.3	2.4	-3.5	0.7	2.5
Nominal GDP (bill. USD)	13.1	13.8	14.3	15.0	15.8	17.1	18.7	20.4	22.1	21.1	21.7	23.2
GDP per capita (current USD)	2,399	2,506	2,578	2,693	2,808	3,038	3,287	3,547	3,822	3,623	3,701	3,924
Consumer prices (end of period)	4.3	1.4	2.8	2.5	5.4	4.3	4.9	4.9	5.5	0.0	2.1	4.8
GDP deflator	3.2	3.4	1.2	2.7	3.0	5.2	4.3	4.2	5.9	-1.0	2.1	4.2
Unemployment rate	6.9	7.0	6.2	6.9	6.8	7.2	6.6	6.3	5.9	8.9	6.7	5.9
<b>External sector</b>												
Export f.o.b. volume (including maquila sector)	16.5	-2.9	3.3	-1.4	1.0	-2.0	6.0	6.9	5.5	-16.4	13.2	9.5
Import f.o.b. volume (including maquila sector)	15.9	1.5	-0.6	4.3	2.6	-0.8	8.6	8.4	4.7	-23.3	12.1	11.3
Terms of trade	-3.7	-0.1	-0.7	-0.8	-2.4	-1.9	-2.3	-5.7	-10.2	11.8	0.0	0.8
Real effective exchange rate (e.o.p., + appreciation)	5.1	1.2	-1.4	-3.0	-0.7	2.4	-0.2	-0.5	0.5	3.1	-0.7	--
<b>Money and Credit</b>												
Credit to the private sector	42.8	39.9	42.3	43.5	43.1	43.1	42.9	42.8	41.3	41.3	40.1	39.0
Broad money	48.4	47.2	44.5	43.1	42.2	41.0	42.2	47.1	43.9	47.0	46.1	45.3
Interest rate (time deposits, percent)	9.3	5.5	3.4	3.4	3.3	3.4	4.9	4.7	4.2	4.5	2.8	--
<b>External Sector</b>												
Current account balance	-3.3	-1.1	-2.8	-4.7	-4.0	-3.3	-3.6	-6.0	-7.6	-1.8	-2.1	-3.8
Trade balance	-13.2	-14.0	-13.0	-15.2	-16.8	-17.2	-19.0	-20.1	-19.9	-13.5	-15.3	-16.5
Exports - XGS (f.o.b. including maquila)	22.1	20.7	21.1	21.0	21.1	20.2	20.2	19.8	20.9	18.3	21.0	22.4
Net maquila exports	--	--	3.3	3.3	2.9	3.6	3.3	2.8	2.9	3.1	3.1	3.1
Imports - MGS (f.o.b. including maquila)	35.3	34.7	34.1	36.1	38.0	37.4	39.1	-40.0	-40.7	-31.8	-36.3	-38.9
Services and income (net)	-3.7	-3.7	-3.9	-3.5	-3.3	-3.9	-3.3	-4.3	-5.1	-5.2	-4.1	-4.4
Transfers (net)	13.7	16.6	14.0	14.0	16.1	17.7	18.5	18.4	17.3	16.9	17.3	17.1
<b>Foreign direct investment</b>												
Foreign direct investment			3.3	0.9	2.3	2.3	1.3	6.9	3.3	2.7	0.4	1.2
Net Foreign Assets of the Financial System												
In mill. USD			1,294	1,044	1,050	1,104	1,459	2,134	2,035	2,857	3,220	3,028
As % of deposits			21.6	14.8	14.0	14.7	17.8	22.5	21.7	28.7	31.7	29.1
<b>Nonfinancial Public Sector</b>												
Overall balance	-3.0	-4.3	-4.4	-3.6	-3.0	-3.0	-2.9	-1.9	-3.1	-5.6	-4.2	-3.5
Primary balance	-1.4	-2.9	-2.7	-1.6	-0.8	-0.8	-0.5	0.5	-0.7	-3.0	-1.9	-0.9
Tax Revenue	10.2	10.5	11.2	11.5	11.5	12.5	13.3	13.4	13.1	12.4	13.3	14.0
Gross Public Debt	36.2	39.4	39.3	42.1	43.5	42.0	41.9	39.0	41.1	50.0	51.5	51.3
External Public Debt	21.6	22.8	27.9	31.4	30.2	29.2	30.6	24.3	23.8	29.1	29.6	29.1
External public debt service (% of XGS)	10.3	15.1	16.8	11.3	20.7	15.9	14.7	12.3	9.6	11.7	10.7	18.3
<b>National Savings and Investment</b>												
Gross domestic investment	16.9	16.7	16.4	17.0	16.2	15.7	16.1	15.9	14.9	13.1	13.1	13.8
Public sector	2.9	4.4	3.6	3.3	1.9	2.3	2.2	2.1	2.4	2.5	2.4	2.6
Private sector	14.0	12.3	12.8	13.7	14.3	13.4	14.0	13.8	12.5	10.6	10.6	11.2
Gross domestic saving	13.6	15.6	13.6	12.3	12.2	12.4	12.6	9.9	7.3	11.3	10.9	9.9
Public sector	-0.5	-0.2	0.8	-0.4	-1.0	-0.6	0.0	0.5	-0.3	-3.0	-1.9	-1.1
Private sector	14.2	15.8	12.7	12.8	13.2	13.1	12.6	9.4	7.6	14.4	12.8	11.0

Notes: \* Preliminary values. \*\* Projected values.

Sources: IMF (2005a, 2005b, 2006, 2008, 2009, 2010a, 2010b, 2011a, 2011b).

*1.1.b. Performance of the Fiscal Sector*

A contracting public sector has been a characteristic since 2010: improvements in efficiency, first effects of the 2009 tax reform, and changes to the subsidies/transfers strategy helped to improve general performance of the public sector.

However, the fiscal reform suggested by the international financial institutions has generated many controversies, especially among the firms and business owners. Attempts to improve tax collection efficiency and strengthen tax-avoidance controls have been resisted by the economic stakeholders. According to several Salvadoran firms, increased tax burden would result in lower competitiveness, higher inflation rates, and reductions in production levels.

It is important to notice that the government has implemented several reforms, some of them more successful than others, in order to support a healthier fiscal sector. Among them:

- Tax reforms in 2004 and 2009 aimed to strengthen the tax system and custom administration, widen the tax base, increase punishment for tax code violations, introduce penalties for customs violations.
- Dollarization of the economy since 2001 to permanently stabilize the value of the domestic currency against the US dollar,<sup>53</sup> reduce interest rates, increase local savings rate, control inflation, encourage foreign investment, and simplify the management of the economy.
- Replacement of the public 'pay-as-you-go' pension system with an individual-contributions-based private system that also helped to increase domestic savings.
- Reduction of the size of the central government through reduction of the public workforce, and merger of ministries and public agencies.

Even when well-intentioned reforms and policies may be discussed, El Salvador seems to be a country with very important problems of communication among different sectors, posing important barriers to consensus. Various reports point out this situation, and attributes the relative success of reforms to this problem.

*1.1.c. Reforms and policies to foster economic activity*

As part of a national strategy to promote economic activity, various Salvadoran governments have engaged in reforms and implemented policies to foster export sector, tourism, and strengthen the financial sector.

To maximize the export sector, El Salvador entered an association agreement with European Union in 2010 that established exports quotas favoring El Salvador (quotas include apparel and aluminum products). The agreement also includes strict policy about exports of coffee and its subproducts, shoes, sugar, syrup, ethanol, among others. The country also entered the CAFTA-DR (United States – Dominican Republic – Central America Free Trade Agreement), and implemented free trade agreements with several countries: Mexico, Chile, Colombia, the Dominican Republic, Panama, Taiwan, the United States. The export strategy also includes encouraging the establishment of free trade zones. Free trade zones benefit from the elimination of tariffs, unrestricted repatriation of earnings by foreign companies, rebates for duties on certain exports, among others.

Modernization of the banking sector was also part of the strategy, which included the privatization of commercial banks and savings and loan associations in order to promote competition and the

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<sup>53</sup> The Salvadoran economy adopted a fixed exchange rate regime on January 1, 2001 that allowed nationals to freely operate with 'colones' (the local currency unit) and US dollars. The domestic currency was completely dismissed one year later, adopting the US dollar as the domestic currency.

development of a stronger financial system. The Salvadoran financial system currently has ten foreign-owned banks, two state-owned banks, and no private domestic bank.

To promote the tourism sector, the government enacted laws and regulations to foster its development, funded tourism sector with specific taxes (e.g. tax on lodging, tax on airport departures), and created the Ministry of Tourism in 2004 to promote tourism.

Infrastructure development translated into the construction of a major port facility at La Unión completed in 2008, and financed with a loan from JBIC. The port is expected to be fully operating by mid-September 2011. To expand energy generation capacity, two projects have been implemented: the construction and expansion of the thermal power plant in Atéos to generate an additional 50 MW; and the construction of the hydroelectric plant of El Chaparral to generate 66 MW that is expected to be completed by 2014. To favor transport and communications, the construction of the Northern Region highway to connect that region of the country, has been implemented. The region has been economically isolated for years due to communication problems among other factors. This highway comes to solve part of the connectivity problem.

The government also implemented some policies to boost the small and medium enterprise sector and develop a national financial system for development. This financial system is intended to favor and increase access to credit with guarantees to be used to improve the productivity of agricultural and small and medium enterprises.

#### *1.1.d. Constraints to growth*

A recent study by USAID-ES has established that there are at least two important constraints or obstacles that may prevent growth in El Salvador: first, security and crime, and second, low productivity in the tradable sector.

Regarding security and crime, the conclusions are that this phenomenon costs the economy 4.8% of the GDP (to be exact, foregone GDP), and including health costs, it costs 10.8% of the GDP. In fact, according to the WHO classification, the crime rate classifies as an “epidemic”.

This problem also imposes a heavy cost to the development of businesses (higher security costs, violence, property destruction, blackmail, kidnappings, etc.). According to private surveys, businesses are spending about 8% of their budget in security services. When this expenditure is combined with family expenditure for security, it amounts to near 5% of GDP. Security costs affect primarily to small and medium businesses due to their limited capability to absorb them. This gives advantage to larger businesses, affecting competition.

According to the report, understanding causes and effects of particular types of crime in El Salvador as well as implementing a comprehensive and integral strategy are important steps in a long road to solve this problem. “Initiatives including (but not limited to) improving school attendance and quality to facilitate viable economic opportunities for vulnerable youth should be combined with prevention strategies” (USAID-ES, 2011).

The problem of low productivity in the tradable sector and accompanying relative lack of competitiveness in international markets dampens the possibility for a structural transformation and accompanying growth acceleration in El Salvador. Notice that the growth potential of the non-tradable sector is limited by the small size of domestic demand in the country.

In this context, the opportunity to accelerate economic growth depends on how the country can develop its tradable sector for which the prices are set on international markets, and competition is global. And according to the evolution of the tradable sector in the country during recent years, El

Salvador is losing position in the international context as the share of output in tradable is falling, even while it is rising in neighboring countries such as Panama and Nicaragua.

Low productivity is associated with production capacity, labor force cost, low investment, indirect costs (such as security), and other factors. One strategy to address the problem has been the development of *maquilas* (assembly of product to re-export). The maquila industry is usually located in free trade zones, where they receive tax and tariff exemptions to reduce their costs. Most popular maquilas are textile and apparel. The job positions they offer are usually for low or unskilled workers, and general work conditions sometimes are not even decent.

An important issue regarding low productivity relates human capital. Even when the report does not determine that human capital is an operative constraint, it is widely recognized that the quality of the education in the country is far below the expected education level for a competitive country. The required skills range from vocational education, to technical, to the development of particular skills such as a English language.

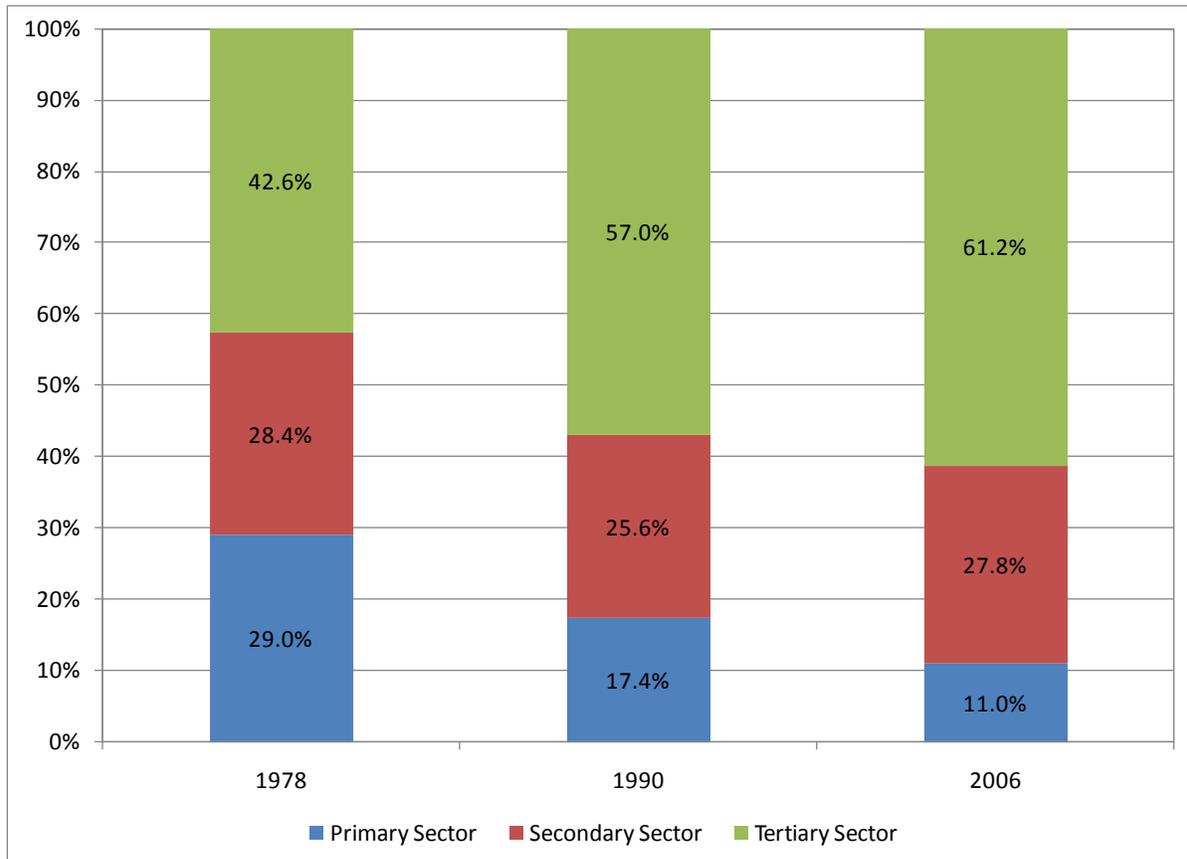
Salvadoran productivity may be affected by other factors such as physical capital use, transportation and logistics efficiency, institutional environment (including political uncertainty, institutions, informality), crime and security costs, appropriability (including macroeconomic stability), social returns (including human capital in education and health), water supply, electricity infrastructure, and geography.

In a lower proportion, productivity may be affected by transportation issues, finance to large firms, or innovation issues; however, evidence on this regard is particularly weak and these issues seems less likely to be binding constraints to growth.

#### *1.1.e. Sectorial participation and economy diversification*

Other important issue of the Salvadoran economy is the low diversification of the economic activity. A quick overview of the productive structure arises from the national input-output matrices, as shown in Figure A2.

**FIGURE A2. EL SALVADOR: INPUT-OUTPUT MATRICES**



Source: Central Reserve Bank of El Salvador.

Even when the Central Reserve Bank of El Salvador is implementing a modernization plan for the system of national accounts<sup>54</sup>, adjustments are made with the 1990 version. Table A.2 illustrates how the economy is distributed according to the value-added criterion.

<sup>54</sup> The Central Reserve Bank of El Salvador is implementing the National Accounts System Modernization Plan intended to adopt the SNA1993 (United Nations' System of National Accounts, 1993) and change the base year from 1990 to 2005.

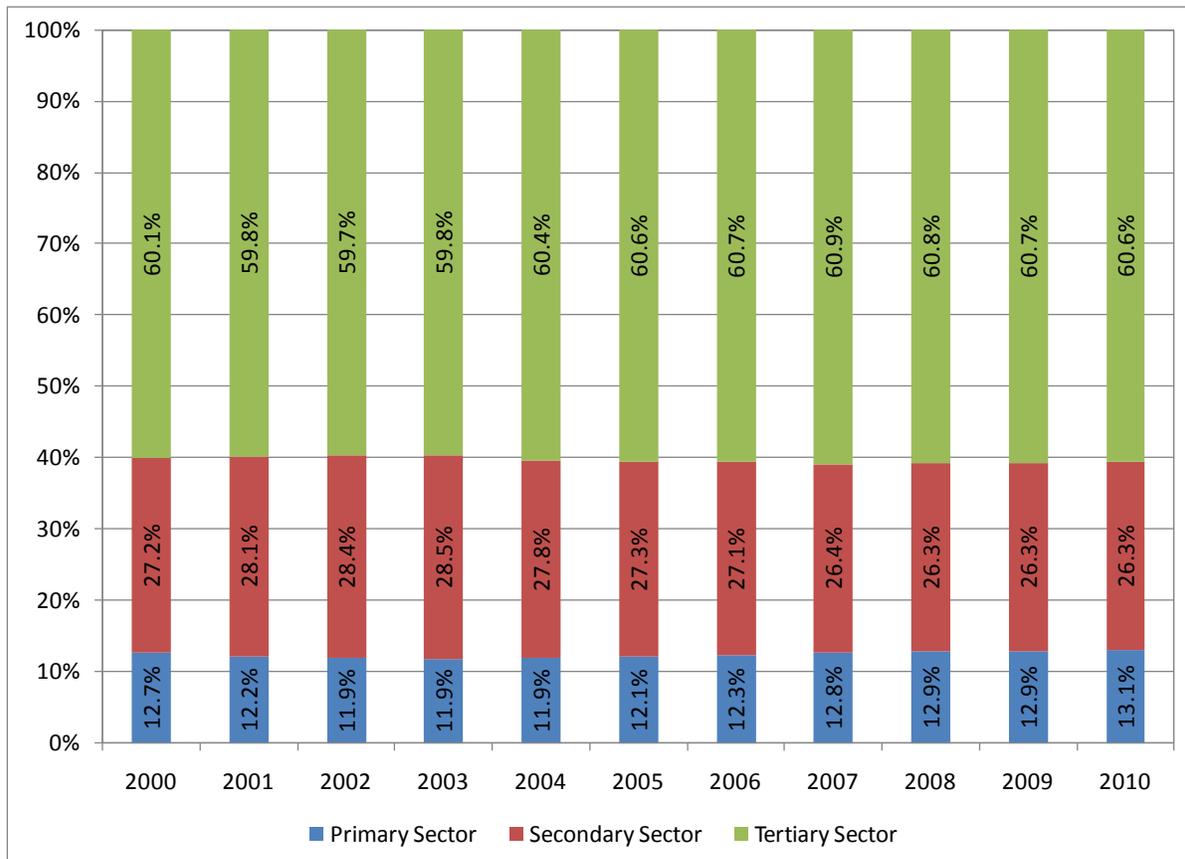
**TABLE A.2 EL SALVADOR: SECTORAL SHARES IN VALUE-ADDED, PRODUCTIVE AND ECONOMIC SECTORS (ACCORDING TO THE 1990 INPUT-OUTPUT MATRIX)**

Sector	Sectoral Participation in terms of Value-added (base 1990)	Sectoral Share by Economic Sector		Sectoral Share by Productive Sector	
Agriculture, Hunting, Forestry and Fishing	17.1%	97.8%	<b>Primary Sector (17.5% of GDP)</b>	40.1%	<b>Goods Sector (43.9% of GDP)</b>
Mining and Quarrying	0.4%	2.2%		0.9%	
Manufacturing Industry	21.7%	86.2%	<b>Secondary Sector (26.4% of GDP)</b>	50.9%	
Construction	3.5%	13.8%		8.1%	
Electricity, Gas and Water Supply	1.2%	2.0%		2.0%	
Commerce, Restaurants and Hotels	18.1%	31.7%	<b>Tertiary Sector (55.9% of GDP)</b>	31.7%	<b>Services Sector (55.9% of GDP)</b>
Transportation, Warehousing and Communications	7.3%	12.8%		12.8%	
Financial Institutions and Insurance	17.0%	29.7%		29.7%	
Real Estate and Business Services					
House Renting					
Communal, Social and Personal Services	6.1%	10.7%		10.7%	
Government Services	7.4%	12.9%	12.9%		
<b>Total</b>	<b>100.0%</b>				

Source: Alvarado (2010).

Decades ago the Salvadoran economy was characterized by its dependence on agricultural products. But, as inferred from Figure A3, the Salvadoran economy has come to rely on the service sector and manufacturing activity, which accounted for 60.6% and 26.3% of constant GDP in 2010, respectively.

**FIGURE A3. EL SALVADOR: SECTORS PARTICIPATION IN GDP (IN % OF GDP)**



Source: Central Reserve Bank of El Salvador

Even when agriculture has recovered some participation during last five years, its participation is far below the 1970s level of 29% of GDP. A large set of policies and reforms aimed at discouraging agricultural activity during the 1980s were very effective in practically destroying the primary sector. On the other hand, mining and quarrying is still too small to have major impact on the economy. See Table A.3

The secondary sector, which is comprised of manufacturing, construction and energy supply, has had a slow reduction during the decade. This is the sector where differences in productivity with international competitors show the largest impact, as previously discussed. The energy and utilities sector has shown a small, steady share of the GDP. The most variable activity of the secondary sector is the construction, an investment-intensive activity that is was directly impacted by the global crisis, and that important difficulties to get back to its previous pace. Notice that the construction sector is an important part of the demand for low-skilled and unskilled jobs. It is also an important employer of new job seekers, especially for young ones (including school dropouts of all levels).

**TABLE A.3 GROSS DOMESTIC PRODUCT BY SECTOR, 2000-2010 (IN % OF REAL GDP)**

Productive Sector	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Agriculture, Livestock, Forestry, and Fishing	12.3	11.8	11.5	11.4	11.5	11.7	11.9	12.4	12.6	12.6	12.9
Mining	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.2
Manufacturing	23.0	23.6	23.7	23.7	23.5	23.0	22.7	22.4	22.6	22.6	22.8
Electricity, Gas, and Water	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Construction	3.6	3.9	4.0	4.1	3.6	3.6	3.7	3.3	3.0	3.0	2.8
Services	60.1	59.8	59.7	59.8	60.4	60.6	60.7	60.9	60.8	60.7	60.6

Source: Central Reserve Bank of El Salvador.

The manufacturing sector is the second largest sector of the economy (see Table A.3). However, it is contracting and in a decade it has reduced its participation by around 0.5% of GDP. To understand the behavior of this sector, Table A.4 shows the evolution of the industries that conformed it. As can be seen, a major change in the sectoral distribution is the contraction of the maquila industry which reduces its participation in 3% during the decade. This is the result of various factors previously discussed and that relates to the constraints to productivity.

Sectors like chemicals, baked goods, beverages, sugar and other processed foods have gained importance in the manufacturing sector and now compete with the *maquila* industry for the dominance of the manufacturing sector. These sectors tend to demand low-skilled workers, as well as technicians. Professionals usually occupy managerial and direction positions. It is important to recognize that these types of industries may be demanding better-quality human capital that the Salvadoran higher education system may not be prepared to provide.

**TABLE A.4 SALVADORAN MANUFACTURING SECTOR, 2000-2010 (IN % OF THE MANUFACTURING SECTOR PARTICIPATION)**

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Maquila (assembly for reexport)	13.0	13.2	13.3	13.4	13.0	11.9	11.1	9.9	9.9	9.4	9.9
Chemicals	8.4	8.4	8.4	8.5	8.5	8.6	8.6	8.8	9.0	9.6	9.7
Baked goods	8.4	8.6	8.4	8.6	8.7	9.0	9.3	9.6	9.7	9.5	9.6
Beverages	8.7	8.8	8.6	8.2	8.3	8.2	8.2	8.3	8.4	8.6	8.5
Sugar	7.1	7.0	6.7	7.0	7.3	7.5	7.3	7.4	7.3	7.6	7.6
Other processed foods	6.4	6.5	6.8	6.8	6.8	6.9	7.1	7.1	7.0	7.4	7.6
Printing and related industries	4.7	4.9	5.2	5.3	5.5	5.6	5.5	5.8	5.9	5.9	5.6
Metallic mineral products	4.5	4.5	4.5	4.5	4.7	4.7	4.7	4.7	4.8	4.8	4.9
Refined oil products	5.0	5.1	5.0	4.9	4.6	4.7	4.8	5.0	4.9	3.9	3.4
Textiles	5.8	5.2	5.0	4.8	4.8	5.1	5.1	5.2	5.2	5.4	5.4
Non-metallic mineral products	4.3	4.5	4.8	4.7	4.2	4.2	4.4	4.3	4.4	4.2	4.0
Leather and related products	3.9	3.8	3.6	3.6	3.7	3.7	3.7	3.9	3.9	3.9	3.8
Transport supplies and diverse manufacturing products	3.6	3.5	3.6	3.6	3.6	3.5	3.6	3.5	3.5	3.6	3.6
Paper and cardboard	2.5	2.6	2.8	2.9	2.9	2.9	3.0	3.1	3.0	3.2	3.4
Milk products	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.1	3.1	3.1
Machinery and equipment	3.2	3.1	3.1	3.1	3.1	3.1	3.2	2.8	2.8	2.7	2.7
Plastic products	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.5	2.5	2.5
Meat packaging and related products	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7
Apparel	2.0	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8
Lumber and related products	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>100.0</b>										

Source: Central Reserve Bank of El Salvador.

Finally, the tertiary sector, mostly dedicated to personal services, commerce, and transportation and logistics, has gained major importance in the economic context. Table A.5 shows the shares of each activity in the sector.

**TABLE A.5 SALVADORAN SERVICES SECTOR, 2000-2010.(IN % OF THE SERVICES SECTOR PARTICIPATION)**

Services	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Commerce, restaurants and hotels	36.6	36.9	36.7	36.8	36.7	37.1	37.3	37.5	37.5	36.7	36.6
Transportation, storage and communications	15.6	16.1	16.6	16.8	17.2	17.7	18.1	18.3	18.0	17.5	17.3
Finance and Insurance	7.1	7.1	7.0	7.0	7.2	7.0	7.0	6.9	6.8	6.6	6.8
Real estate and business service activities	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9	6.0	6.2	6.3
Residential leasing	15.4	14.8	15.0	15.2	15.0	14.8	14.4	14.2	14.3	14.8	14.7
Community, social, personal and domestic services	9.4	9.2	9.1	9.0	9.0	8.6	8.5	8.6	8.7	9.1	9.1
Government services	10.0	10.0	9.5	9.3	9.1	8.9	8.7	8.6	8.7	9.1	9.2
<b>Total</b>	<b>100.0</b>										

Source: Central Reserve Bank of El Salvador.

Commercial activity is by large the most important service, representing a third of the tertiary sector. Even when the 2008 economic crisis contracted the activity, it is still an important part of the economic activity overall, and absorbs an important part of the Salvadoran workforce. Transportation is also an important activity and current infrastructure plans policies are intended to favor this sector. The construction of the Port La Unión should generate a break in the trend of this sector as more demand for transportation services, logistics, and communications.

The real estate sector, as well as residential leasing and finance and insurance have had a steady participation in the sector. This is worrying situation in various aspects: first, steady real estate and residential leasing sectors are associated with a steady or contracting construction sector, which is the current situation in El Salvador. Second, the overall situation impacts employment negatively. Moreover, given the kind of workers these sectors employ, poverty is also deepened because most of the potential workers come from poor homes.

The financial sector, on the other hand, even when it is recovering from the global financial crisis, has no major impact on the aggregate, and almost completely foreign-owned. Curiously enough, in El Salvador there is no domestic private banking institutions, with only two state-owned banks that are primarily intended to promote development. A small, weak, foreign-owned banking system may be not very attractive for locals to save and involve in the financial system.

#### *1.1f. National governance and management strategies*

In 1992, a Peace Agreement ended a cruel civil war, and democracy arrived to scene. Twenty years of the local right-handed party ARENA, and almost three years of the revolutionary left-handed party FMLN, which is currently in charge of the national government account for this democratic period. It is important to notice that even when the Peace Agreement ended the war, it did not solve the fundamental problems that might trigger the war in first place. Thus, two decades after the Agreement, most of the problems remain unsolved and it is a matter of time for them to arise again generating political and economic instability.

Two aspects of the new democracy are important: first, most of the differences between the two leading parties are solved using the institutions created for that purpose, and second, there exists a marked independence of the different sectors of the government, i.e. executive, legislative, and judiciary (see Dada, 2011). The Supreme Court has resolved in several issues involving the Executive, the Legislative, political parties, national media, and big firms. The national Assembly has no majority party, and members of the FMLN (currently in charge of the Executive) sometimes have voted against official proposals.

The political arena is polarized between ARENA and FMLN, as previously stated. After losing the national elections in 2009, ARENA lost its power and started to split up. Some of their ex-members conformed GANA which is acting as the third political force. On the other hand, the FMLN, once a revolutionary party that used to be part of the “guerrilla” during the civil war, is the governing party since 2009. Even when there are some relationships with other governments characterized by populism, the FMLN stands pragmatic and not totally in line with other populist Latin-American regimes.

An important ally of the El Salvador is the United States. Recent visits of US president Barack Obama as well as a strong bilateral agenda come to ratify this situation. Also the relationship with Brazil became stronger during last years. In Central America, El Salvador has advocated for the return of Honduras to the Organization of the American States. Also stronger commercial and economic partnership through the DR-CAFTA has helped to strengthen its regional position.

However, according to the news and anecdotal evidence, El Salvador characterizes for being a country with a very striking problem: it is difficult to get consensus. Problems with communications among

parties, intra-party divisions, and the continuous fight for power, prevent the development of more fluid dialogue among the national stakeholders. And this problem extends to the private sector as well. This situation is particularly important if interventions and policies may require to pass a law or to enact a regulation. In this sense, it is important to consider that any change should be done within the current legal framework: changing laws and regulation may take too much time, and effects may dilute.

## **1.2. Educational Sector Generalities**

This section briefly reviews some of the generalities of the educational sector in El Salvador. It is worth noticing that an important effort has been done by international donors to financially and technically support basic education. During last few years much of the focus of the country policy in terms of education has been to ensure access to basic education.

### *1.2.a. Literacy and non-higher education attainment*

In 2004, the UN-ECLAC published a document where they show that the education is the main mechanism to overcome poverty. Education affects the basis of the fundamentals that determine it: it improves work productivity, gives access to up-to-date tools and services; contributes to cultural and social inclusion, improves health, and helps to enter a virtuous circle in which future generations tend to achieve higher levels of wellbeing (intergenerational returns). This is the reason of the important multiplier effect that the investment in education may have in a society (see ECLAC, 2004). Another important effect of the education is to improve access and success to employment. Better education attainment will also result in improved welfare and better labor conditions.

El Salvador has made important efforts to improve education enrollment both at basic and secondary education, trying to narrow the gaps between rural and urban education, female and male attainment, and publicly provided and privately purchased. Table A.6 provides a quick overview of the school enrollment at all levels except for higher education, during the period 2003-2008, as reported by UNDP (2010).

**TABLE A.6 EL SALVADOR: SCHOOL ENROLLMENT, 2003-2008.**

School Enrolment (000's students)	2003	2004	2005	2006	2007	2008
<b>Preschool</b>						
<b>Total</b>	<b>236.3</b>	<b>245.9</b>	<b>242.5</b>	<b>239.6</b>	<b>229.5</b>	<b>224.0</b>
Female	118.8	122.9	121.1	119.4	114.1	111.3
Male	117.5	123.0	121.4	120.2	115.5	112.7
Public	194.8	204.3	200.0	196.7	185.9	184.3
Private	41.5	41.6	42.5	42.9	43.7	39.8
Urban	119.4	123.9	128.5	127.4	122.1	--
Rural	116.9	122.0	114.0	112.2	107.4	--
<b>Basic Education</b>						
<b>Total</b>	<b>1,336.9</b>	<b>1,377.5</b>	<b>1,383.0</b>	<b>1,374.5</b>	<b>1,348.0</b>	<b>1,343.8</b>
Female	647.1	667.5	671.1	667.6	654.9	651.7
Male	689.8	710.0	711.9	706.9	693.0	692.1
Public	1,198.1	1,237.3	1,228.9	1,217.2	1,192.9	1,192.0
Private	138.8	140.2	142.7	146.4	155.1	151.8
<b>Secondary Education</b>						
<b>Total</b>	<b>167.7</b>	<b>177.8</b>	<b>186.7</b>	<b>189.5</b>	<b>203.3</b>	<b>224.1</b>
Female	85.6	91.2	96.1	98.5	106.2	115.9
Male	82.1	86.7	90.6	91.1	97.0	108.2
Public	117.0	126.0	134.4	136.5	148.5	169.2
Private	50.7	51.8	52.3	53.0	54.8	54.9
Urban	152.4	158.7	173.3	175.2	170.4	--
Rural	15.3	19.1	13.4	14.3	20.9	--

Source: Elaboration based on UNDP (2010).

The first thing to notice is that preschool is not perceived as an important issue by the Salvadoran families, and while in other countries preschool is an important stage of general education (particularly to develop intellectual abilities when the familiar environment is weak, as suggested by the Nobel Laureates James Heckman), in El Salvador, about 50% of the kids suitable for that education level entered it (see Table A8 below).

The second observation is that the emphasis is on basic education, with important rates of enrollment. Also an important effort has been done to reduce the enrollment gap between socioeconomic groups favoring access of the more vulnerable groups of the society. This effort reflects in increased basic education enrollment rates, basic education attainment rates, and average schooling measured in years. Of course, repetition and dropout rates have also decreased particularly among low income groups (UNDP, 2008).

This has been accompanied with an important process intended to close the gap of enrollment between genders, not only at the basic, but also at the secondary level.

However, a remaining problem is the important gap associated with geographical factors. As shown in Table A.7, urban areas almost double average schooling of rural areas. Moreover, rural households are also in general poorer and social and income mobility is constrained by the access and permanence at school.

**TABLE A.7 EL SALVADOR: LITERACY INDICATORS, 2005-2010.**

	2005	2006	2007	2008	2009	2010
<b>Average Schooling (in years)</b>						
<b>National</b>	<b>5.7</b>	<b>5.8</b>	<b>5.9</b>	<b>5.9</b>	<b>6.0</b>	<b>6.1</b>
Urban	6.9	7.0	7.0	6.9	7.2	7.2
Rural	3.8	3.9	4.0	4.0	4.1	4.2
<b>Illiteracy Rate (people per 100 persons aged 10 or more)</b>						
<b>National</b>	<b>14.9</b>	<b>14.6</b>	<b>13.9</b>	<b>14.1</b>	<b>14.0</b>	<b>13.7</b>
Female	17.5	16.9	16.1	16.4	16.0	15.7
Male	11.8	11.9	11.3	11.5	11.6	11.3
Urban	9.7	9.3	9.1	9.9	9.2	8.8
Rural	23.1	23.0	22.4	22.4	22.7	22.2
<b>Gross Schooling Rates (in % of total population)</b>						
Preschool Level	46.0	52.3	53.2	54.1	--	--
Basic Level	97.5	97.0	96.3	96.8	--	--
Secondary Level	48.0	49.6	52.9	53.2	--	--

Source: Elaboration based on EHPM (2005, 2006, 2007, 2008, 2009, 2010) and UNDP (2010).

In the overall, the efforts to improve access to education at all levels giving good results: higher (and increasing) literacy rates especially among young people suggest that the various plans implemented by the current and former governments are paying back.

However, secondary education is still a weak area of the education policy. According to anecdotal evidence, much of the universities and technical institutes have to deal with low skilled (both intellectually and socially) students that have attained their secondary level degree. And more important, only about a half of the population (mostly young people) have attained the secondary education which implies that the labor market is receiving an important group of young workers (much of them new job seekers) with scarce abilities, low skill qualifications. These people only have basic education or are secondary school dropouts.

As it is well documented in the literature, much of the labor demand has been specializing during last decades, requiring highly trained workers. Every day, more people without intellectual formation and with scarce tools for self-learning are prevented on a systematic basis to apply to better paid jobs. This boosts the vicious circle of lower income-lower education-social exclusion.

Although the advances in El Salvador have been important, access to secondary education is still scarce, particularly when we compare the 20% enrollment rate of low income Salvadoran students with 36% corresponding to middle and upper income students (World Bank 2005).

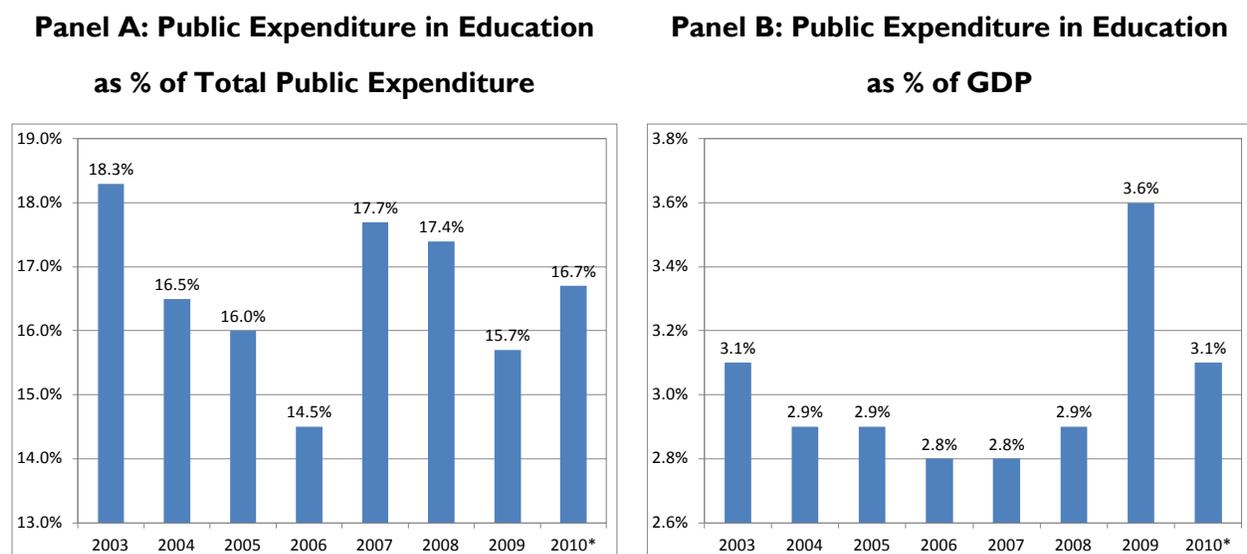
As pointed out by ECLAC (2004), education is an important tool to destroy barriers that marginalize and exclude important sectors of the society. It is important to recall that when the access to education is strongly linked to socioeconomic situation, the opportunities for social progress are determined by the equity situation of the former generation. In this sense, those countries exhibiting lower income disparities and more generalized well-being levels, have achieved such welfare levels equiting the social structure, and particularly extending secondary education (UNDP, 2008).

*1.2.b. Resources available for education*

In 2004, Emanuela Di Gropello studied the incidence of basic education public expenditure and found that it mainly benefits low income groups (Di Gropello, 2004). She particularly found that rural households corresponding to the poorer quintile are the beneficiaries of more than 40% of the public expenditure on basic education. On the other hand, when looking at the incidence on urban households budget, she found that the second, third and fourth quintiles were the most benefited by the public expenditure.

Even when the public expenditure on basic education may marginally contribute to improve income distribution, this is not the case for the secondary education. Public expenditure on secondary education mostly impacts the middle classes, particularly the less vulnerable segment of the middle class (third and fourth quintiles, as defined in Avanzini, 2011). Regarding tertiary and higher education, public expenditure seems to benefit higher income groups, but this issue will be discussed below.

Although public expenditure on education may help to improve income distribution, this distributional effect depends highly on volume of the expenditure. In plain words, it depends on how much the government expends in education.

**FIGURE A4. EL SALVADOR: PUBLIC EXPENDITURE ON EDUCATION, 2003-2010.**

Note: \* Projected values.

Source: Elaboration based on UNDP (2010) and Ministry of Finance, El Salvador.

The first observation is that the public expenditure on education declined during the decade, both in terms of GDP and in terms of total public expenditure. Though it is slowly recovering by the end of the decade, the general contraction of the public budget is not contributing to give space to increase the expenditure on education unless other social expenditure is also cut off.

The second observation is a question: if public expenditure contracts, how do the Salvadorans finance their education? Figure A5 plots how each financing source contributes in each level of education. The funding sources have been separated in three groups including public and private (family) funding, and international donors given that some international institutions, universities, and countries contribute with grants, scholarships, and other instruments to finance education in El Salvador.

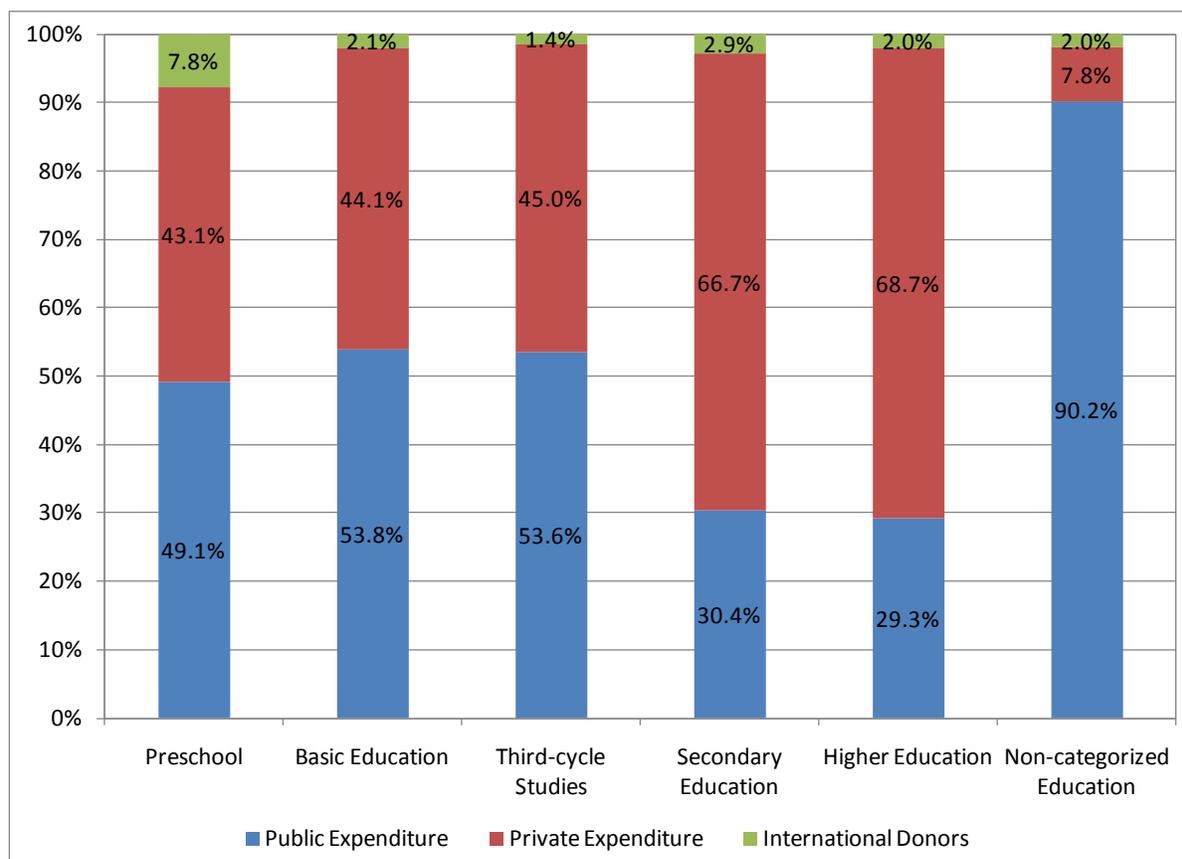
While the three first levels (preschool, basic education and third-cycle studies) are financed by public expenditure, covering more than a half of the cost of this basic/elementary education level, both secondary and higher/tertiary education mostly self-financed. The chart shows that the families contribute two-thirds of the total cost of secondary and higher education imposing a very high burden on family budgets. Moreover, a direct effect of this situation is a self-selection effect: only those very (potentially) successful low income students and those higher income students will be able to achieve a secondary or tertiary degree.

The first group of students has some alternatives:

- rely on grants and scholarships benefits (that according to the chart, summing up public expenditure and international donors, only account for a third of the costs, a third of the potential students),
- engage in working,
- or getting a loan which adds financial pressure to the student, the family, and future worker, given that the student will come to the labor market with an important debt burden that will narrow the work choices.

The higher income students, on the other hand, will rely on their own (family) financial capacity, and will contribute to strengthen the circle of high income groups: better education, better jobs, and higher salaries.

**FIGURE A5. EL SALVADOR: EDUCATIONAL EXPENDITURE, BY FUNDING SOURCE AND EDUCATIONAL LEVEL, 2007.**



Source: Elaboration based on MINED (2009).

### I.3. Labor Market Generalities

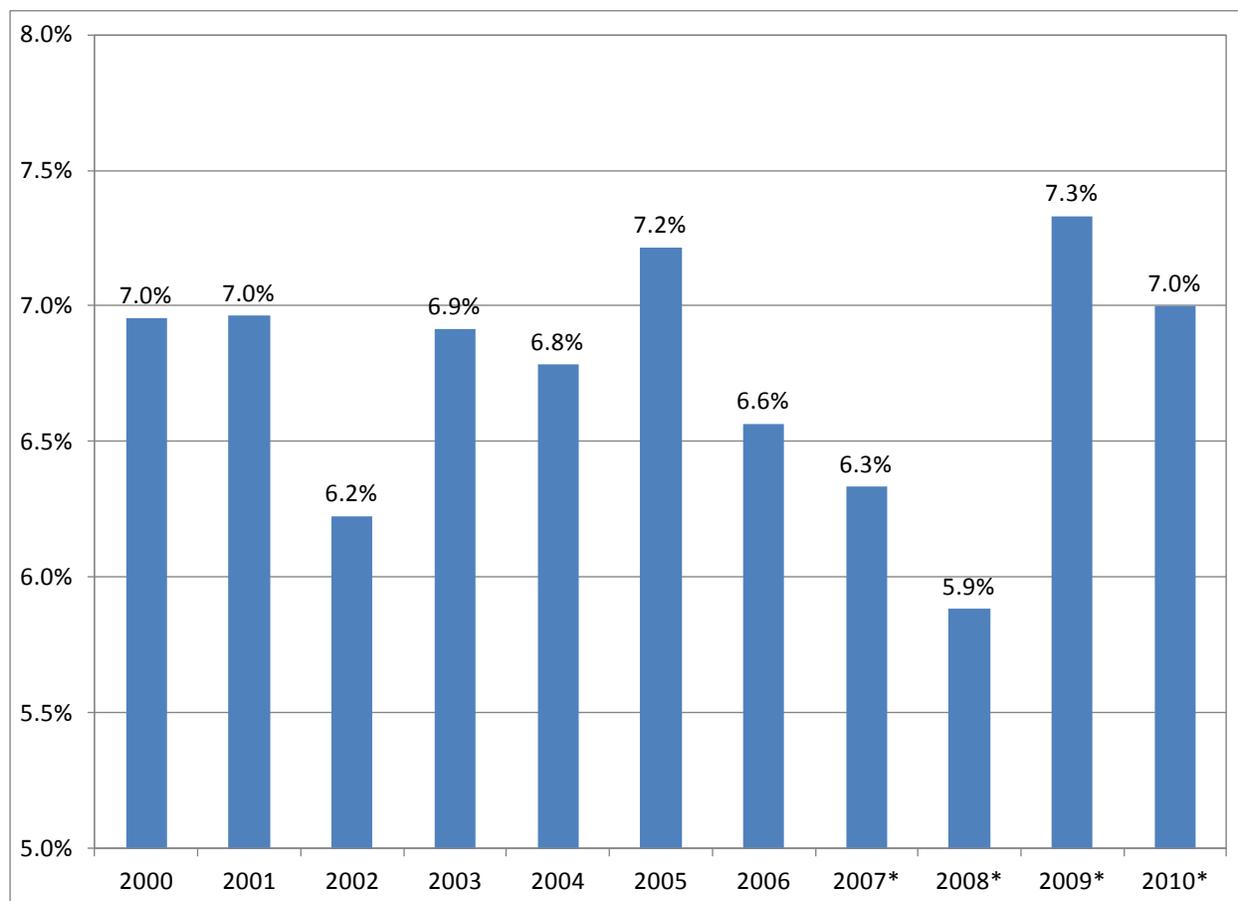
#### I.3.a. Labor market conditions

Inequalities not only impact income, health, or education, but they also impact access to work. With all of these factors combined, inequalities are continually reproduced. This section briefly describes general characteristics of the Salvadoran labor market, and also includes some of the findings reported by UNDP (2008). These findings have been updated using reference to several experts and interviews done during the team's visit to El Salvador.

The first issue relates the perception that Salvadorans have about the employment. Much of them consider that having a decent job is something reserved only for a few. Underemployment is the usual practice and has deep implications for the society. In fact, while policies may be oriented to alleviate unemployment, they are not intended to improve the quality of underemployment. While the unemployment rate remained steady during the decade (see Figure A6), it does not properly reflect the

situation. Many workers cannot afford being out of work for a long time, and given the limited choices, they have to accept non-decent jobs, or emigrate.

**FIGURE A6. EL SALVADOR: UNEMPLOYMENT RATE, 2000-2010.**



Note: Data from 2000-2006 includes those ages 10 and older; since 2007, the unemployment rate only includes people aged 16 or more.

Source: Elaboration based on EHPM (2000-2010).

Those who stay in the country, thus, sometimes have no other option than becoming underemployed. Underemployment is a generalized practice in the country, and it translates into people performing different kind of jobs. These jobs have a lot of drawbacks, such as that they usually last for a short time; workers spend a lot of time searching for these job opportunities; job seekers sometimes have to accept low pays, even below the minimum wage; workers try to avoid taxes; most of them keep themselves out of the formal system with important losses in terms of social, health, and pension benefits; and more importantly, in many instances workers engage in jobs for which they are not completely qualified for, or even worst, for which they are overqualified.

Necessity forces workers to accept this situation, and this contributes to weaken the tax system, put additional pressure over the social benefits public budget, and the mismatch between skills and jobs also deteriorates productivity.

In 2010, 29% of the Salvadoran urban workforce was underemployed<sup>55</sup>, and 7% was unemployed. This means that more than a third of the urban population was “underusing” their labor capacities, and “under contributing” to the country’s growth. However, when looking at the aggregate numbers, as showed in Table A.8, unemployment rates does not differ too much from developed economies.

**TABLE A.8 EL SALVADOR: EMPLOYMENT RELATED MEASURES, 2000-2010.**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Overall Participation Rate (%)</b>											
<b>National</b>	<b>52.3</b>	<b>53.3</b>	<b>51.2</b>	<b>53.4</b>	<b>51.7</b>	<b>52.4</b>	<b>52.6</b>	<b>62.1</b>	<b>62.7</b>	<b>62.8</b>	<b>62.5</b>
Female	38.7	39.5	38.6	40.4	38.6	67.4	40.4	46.8	47.3	47.6	47.3
Male	67.7	69.2	65.8	68.3	66.5	39.5	67.0	81.0	81.4	81.0	80.9
<b>Urban Underemployment Rate (%)</b>											
<b>National</b>	<b>27.0</b>	<b>28.1</b>	<b>29.8</b>	<b>36.4</b>	<b>34.6</b>	<b>32.1</b>	<b>36.9</b>	<b>28.4</b>	<b>32.1</b>	<b>30.6</b>	<b>28.9</b>
Visible	3.4	3.5	4.1	4.4	4.3	5.6	4.6	5.0	6.0	6.8	6.3
Female	3.5	3.5	4.0	4.4	4.5	5.7	4.9	5.6	7.3	8.0	6.8
Male	3.1	3.4	3.9	4.3	4.1	5.4	4.0	4.5	4.9	5.8	5.8
Invisible	23.6	24.6	25.7	32.0	30.3	26.5	32.3	23.4	26.1	23.8	22.6
Female	20.8	21.8	24.2	29.3	27.7	23.7	30.2	27.6	30.1	23.5	22.5
Male	20.0	21.1	21.9	29.0	27.3	24.1	28.4	19.8	22.8	24.0	22.7
<b>Unemployment Rate (%)</b>											
<b>National</b>	<b>7.0</b>	<b>7.0</b>	<b>6.2</b>	<b>6.9</b>	<b>6.8</b>	<b>7.2</b>	<b>6.6</b>	<b>6.3</b>	<b>5.9</b>	<b>7.3</b>	<b>7.1</b>
Urban	6.6	7.0	6.2	6.2	6.5	7.3	5.7	5.8	5.5	7.1	6.8
Female	3.7	4.9	3.4	3.2	3.8	4.8	3.6	3.4	3.5	4.9	5.1
Male	9.1	8.7	8.6	8.7	8.8	9.4	7.6	7.9	7.2	9.0	8.3
Rural	7.5	7.0	6.3	8.2	7.2	7.1	8.0	7.4	6.7	7.8	7.6
Female	4.0	6.0	3.6	4.4	3.9	4.9	4.6	4.8	4.2	5.1	5.2
Male	9.0	7.4	7.4	9.9	8.6	8.1	9.6	8.6	7.9	9.0	8.7

Source: Elaboration based on EHPM (2000-2010).

One explanation for the current labor market situation is the mismatch between supply and demand. While workers are becoming more selective in terms of job and salary, employers are seeking highly-qualified and less expensive workforce. Also, the enactment of new labor regulation, including minimum wages and new types of flexible contracts, has impacted the labor dynamics. Whereas regulation has increased the cost of hiring and firing, the characteristics of the contract (e.g. part time job contracts) have decreased the returns to labor<sup>56</sup>.

<sup>55</sup> DIGESTYC defines underemployment as the situation in which a person has difficulties to work a certain amount of hours per week, or to earn at least the minimum wage. According to this criterion, there are two types of underemployment: (i) visible, which implies that an employed person works less than 40 hours a week involuntarily; (ii) invisible, which implies that an employed person working 40 hours a week or more, earns below the minimum wage.

<sup>56</sup> The longer and more permanent the contract, the greater the incentive of the firm (worker) to invest in their education, as the returns to their education are higher. With more flexible contracts, those that part time, or temporary in nature, neither the worker nor the firm do not

The productive sector that has been attracting more workers during the last decade has been the tertiary or services sector. In 10 years, it increases its participation in total working-age population by about 4%-4.5%, as can be seen in Table A.9 and Figure A7.

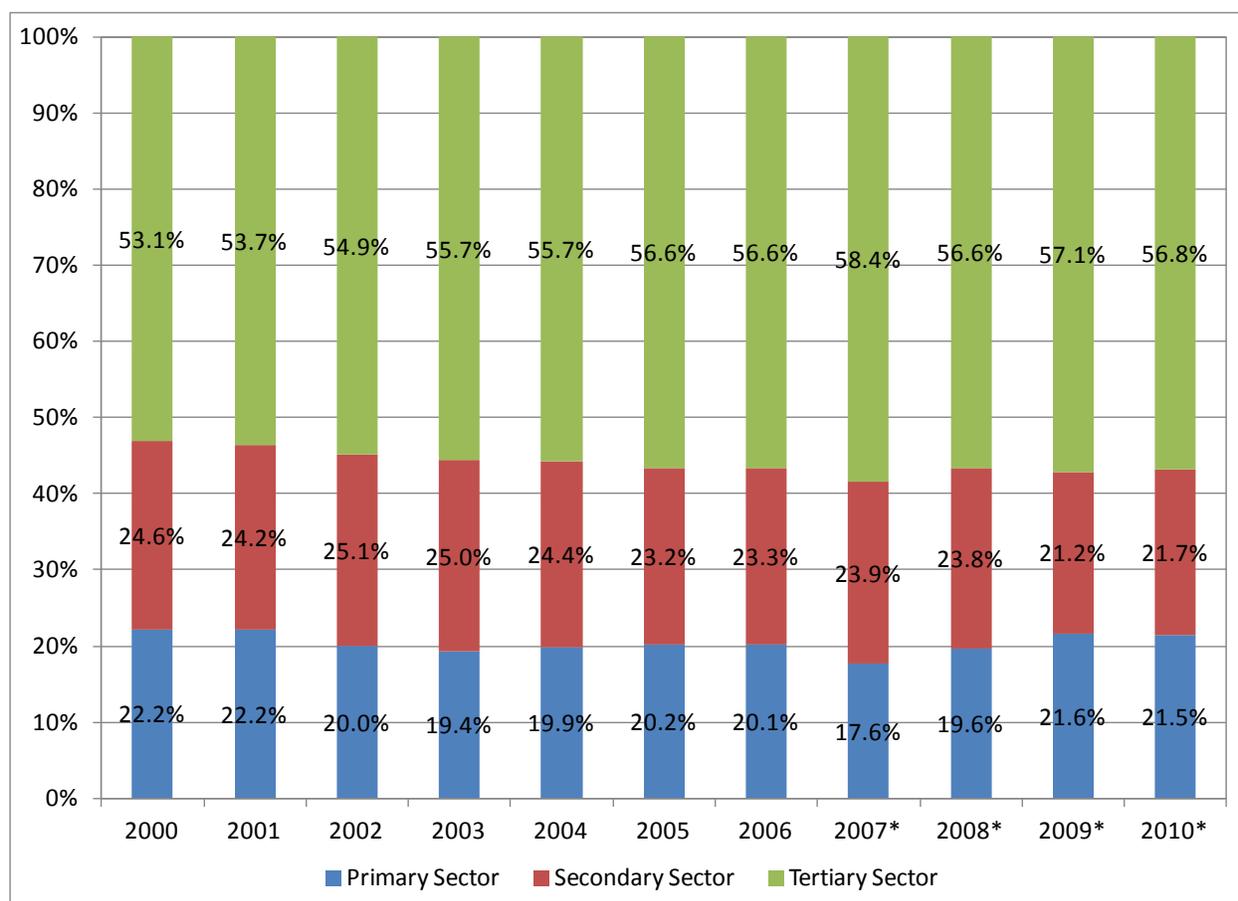
**TABLE A.9 EL SALVADOR: WORKING-AGE POPULATION BY EMPLOYMENT STATUS, 2000-2010.**

	2000	2001	2002	2003	2004	2005	2006	2007*	2008*	2009*	2010*
<b>Total Population (in 000's)</b>	<b>5,938.1</b>	<b>5,966.7</b>	<b>5,989.1</b>	<b>6,008.3</b>	<b>6,027.4</b>	<b>6,049.4</b>	<b>6,073.9</b>	<b>6,099.6</b>	<b>6,122.4</b>	<b>6,151.0</b>	<b>6,181.4</b>
<i>(in thousands)</i>											
Total Labor Force	2,363.4	2,445.5	2,367.0	2,450.1	2,417.7	2,461.2	2,501.3	2,464.4	2,495.9	2,551.7	2,580.3
Employed	2,198.9	2,275.2	2,219.6	2,280.7	2,253.6	2,283.6	2,337.1	2,308.3	2,349.1	2,364.6	2,398.5
Unemployed	164.4	170.3	147.4	169.4	164.0	177.6	164.2	156.1	146.9	187.1	181.8
Non-Labor Force	2,160.1	2,146.3	2,259.0	2,135.5	2,257.4	2,236.6	2,251.5	1,505.5	1,484.3	1,513.8	1,547.3
<b>Working-age population</b>	<b>4,523.4</b>	<b>4,591.7</b>	<b>4,626.0</b>	<b>4,585.6</b>	<b>4,675.1</b>	<b>4,697.8</b>	<b>4,752.8</b>	<b>3,969.9</b>	<b>3,980.2</b>	<b>4,065.4</b>	<b>4,127.6</b>
<i>(in percentage)</i>											
Total Labor Force	52.2	53.3	51.2	53.4	51.7	52.4	52.6	62.1	62.7	62.8	62.5
Employed	93.0	93.0	93.8	93.1	93.2	92.8	93.4	93.7	94.1	92.7	93.0
Unemployed	7.0	7.0	6.2	6.9	6.8	7.2	6.6	6.3	5.9	7.3	7.0
Non-Labor Force	47.8	46.7	48.8	46.6	48.3	47.6	47.4	37.9	37.3	37.2	37.5
<b>Working-age population</b>	<b>100.0</b>										
<b>Total Households (in 000's)</b>	<b>1,361.6</b>	<b>1,367.5</b>	<b>1,400.5</b>	<b>1,438.9</b>	<b>1,450.5</b>	<b>1,472.6</b>	<b>1,497.5</b>	<b>1,519.0</b>	<b>1,529.5</b>	<b>1,548.1</b>	<b>1,580.2</b>
Persons per household	4.4	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0	3.9

Note: Until 2006, statistics account for people aged 10 or more; in 2007 it shifts to including those age 16 or older.

Source: Elaboration based on information from EHPM (2000-2010)

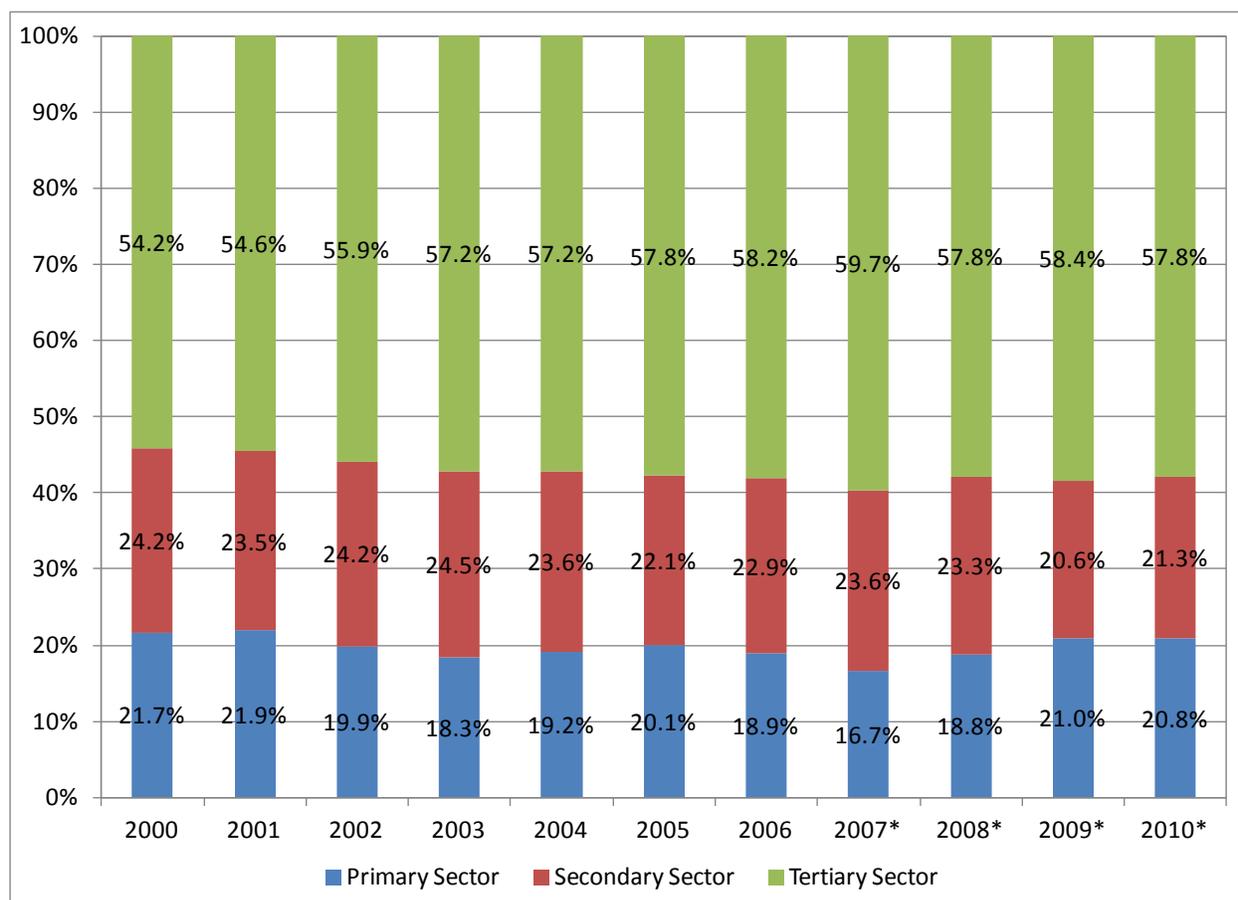
have any certainty regarding their employment, nor their future income or benefit. As such, the returns to education are lower under these short term contracts.

**FIGURE A7. EL SALVADOR: WORKING-AGE POPULATION BY PRODUCTIVE SECTOR, 2000-2010.**

Source: Elaboration based on information from EHPM (2000-2010).

Increases in demand for workers in the tertiary sector has been mostly motivated by growing trade and lodging related services, as well as an increasing financial and insurance intermediation sector. The big loser is the primary sector, mostly driven by a reduction of the agricultural sector. Mining and quarrying has been very variable though its impact is very low, as well as fishing. Secondary sectors, on the other hand, have had good and bad moments. Manufacturing is slowly contracting, while the energy sector follows a very variable pattern. Construction, an important sector absorbing low skilled workforce, follows the business cycles, and recently has been wildly affected by the global financial crisis, showing an important contraction over the period 2007-2008.

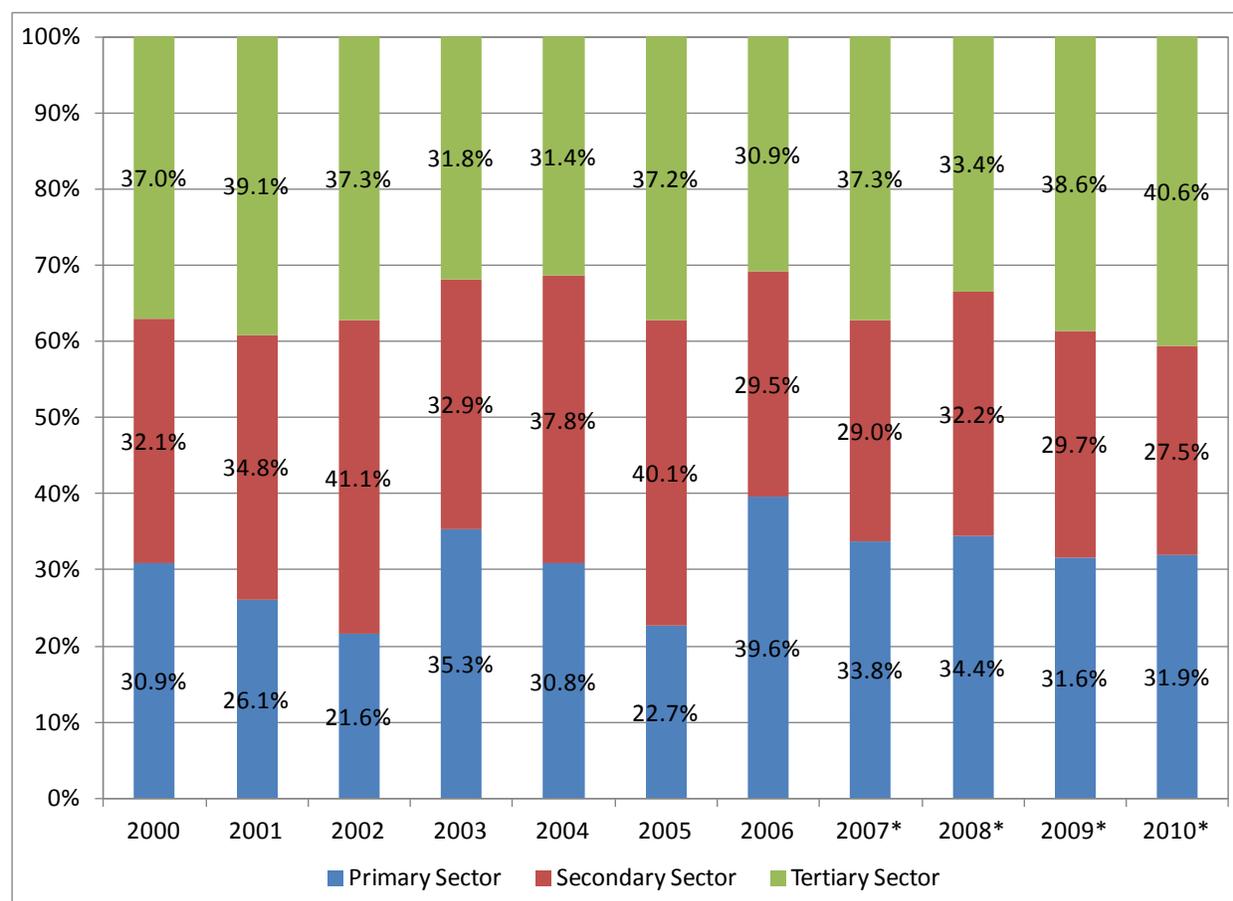
To clarify the situation, turn to Figure A8, which depicts the evolution of employment by productive sector for the same period. There, it is more evident how the tertiary sector is absorbing workforce, while the primary sector is contracting.

**FIGURE A8. EL SALVADOR: EMPLOYMENT EVOLUTION BY PRODUCTIVE SECTOR, 2000-2010.**

Source: Elaboration based on information from EHPM (2000-2010).

Trade and lodging, financial and insurance services, and communal and personal services drive the expansion of the services sector. The global crisis largely impacted the manufacturing sector in 2009, resulting in important contraction in employment taking the sector to the lowest workforce absorption of the analyzed period.

The other side of this dynamic is unemployment. During the decade, the three sectors behave similarly, with high variability, and generating on average a third of the unemployment each one (see Figure A9).

**FIGURE A9. EL SALVADOR: UNEMPLOYMENT EVOLUTION BY PRODUCTIVE SECTOR, 2000-2010.**

Source: Elaboration based on information from EHPM (2000-2010).

Most of the action in the primary sector came from the agricultural sector faced some climate problems (flooding and drought) and also increasing commodities prices that altered the production mix. In the secondary sector, construction was the most unstable one, generating more unemployment than manufacturing. This situation impacts particularly low income sectors of the population that are usually employed in this sector. It is important to notice that even when the tertiary sector absorbs about 60% of the Salvadoran workforce, its contribution to unemployment is really low compared with the other two sectors.

According to occupation, the employment in El Salvador is mostly concentrated in two groups: the largest one corresponds to unskilled workers, accounting for a third of the total employment; the second group formed by sales-related workers and artisans and handicraft workers accounts for other third of total employment. Three minor groups contribute around 8% of the employment each one: technicians, machinery operators, and agricultural and fishery workers. Jobs that require higher intellectual qualities and strong training account for about 4.5% of total employment.

On the other hand, unemployment is mostly driven by unskilled workers, artisans and handicraft workers, which represent around 50% of total unemployment. New job seekers averaged 15% during the period.

Finally, according to the distribution of employment by occupational category, employees are the most important part of the workforce, representing more than a half of it. However, self-employed and employers (owners of their own business) constitute an important group, accounting on average for about a quarter of the employment.

The distribution of the employment and unemployment in El Salvador helps to complete the picture about growth constraints previously discussed as well as the particular characteristics of the Salvadoran labor market.

#### **I.4. Social Environment**

Three important issues are discussed here: (i) how the Salvadorans deal with violence and insecurity; (ii) beyond violence and security, which are general perceptions of the Salvadorans about welfare and well-being; and (iii) how does education enter cultural and social perceptions.

##### *I.4.a. Violence and security issues*

As discussed before, violence and insecurity are an important constraint to Salvadoran development. The country presents one of the highest homicide rates in the world (about 65-70 per 100,000 inhabitants). Most of the violence is attributed to gangs, organized crime and mafia, and lately, drug-trafficking cartels. The late arrival of the drug cartels is the result of stricter controls in the Caribbean, Colombia, and Mexico. Thus, Central America became a new delivery center.

The problem with this violence is that, after a long time living in that situation, Salvadorans accepted it as something natural, normal.<sup>57</sup> Moreover, the problem of violence and insecurity has penetrated and corrupted national institutions, and nowadays, congressman and police chiefs are investigated for having links with the mafia or the cartels, or for allowing different gangs take the control of certain areas of the country and San Salvador city.

The gangs, the mafia and the cartels are not only a menace in terms of their power and violence, but also as recruiters of young, poor people which find a quick, easier way of making money in a society which lately has given much importance to consumption. In this context, the value of life is totally depreciated, and weak reasons are enough to commit a crime, or take revenge for some offense.

The social cost of violence comes from various sources: lost generations of citizens acting out of the law, a generalized feeling of insecurity, a low value for life, an increased cost in terms of health, young people dropping out from school to join gangs, out-of-the-law businesses that profit without contributing to the tax systems, and whole parallel system of rules and punishments that is so powerful that on daily basis undermines the formal, legal, democratic system.

##### *I.4.b. Perception of the social environment*

Beyond the problem of violence and insecurity, Salvadorans value several aspects of their life in different ways, and sometimes that valuation is highly correlated with education attainment and labor quality. A study by Latinobarómetro Corporation in 2007 asked about several aspects of the life in El Salvador, determining a group of particular characteristics that are highly appreciated by nationals. Some of the conclusions follow.

*Education and skills to improve the quality of life:* This is linked to the perception that having a particular skill eases the access to work and income that turns out to be an important determinant of social

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<sup>57</sup> It is interesting to observe how the crime rates keep growing while people report an increased perception of security. This paradox is in part explained by the natural mechanisms that mitigate perception of particular phenomena as their frequency of occurrence increases. See, for example, Cruz and Santacruz Giralte (2005), Huhn (2008), García Dueñas (2009), UNDP (2010).

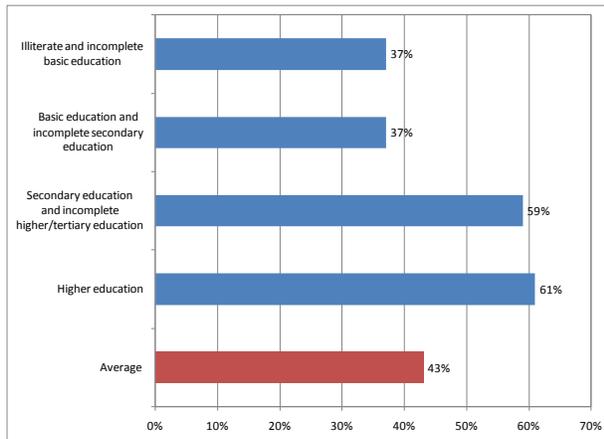
inclusion in this society. Also having higher education, i.e. having a degree is considered an important bridge to better opportunities and access to improved services and well-being.

*Insecurity reducing welfare:* One of the most important sources of insecurity of the people is delinquency. 6 out of 10 Salvadorans recognize that El Salvador is more insecure than before, being this perception stronger in urban areas than in rural ones. Insecurity is an important issue when riding a bus, going on shopping, or assisting to public places such as squares or parks.

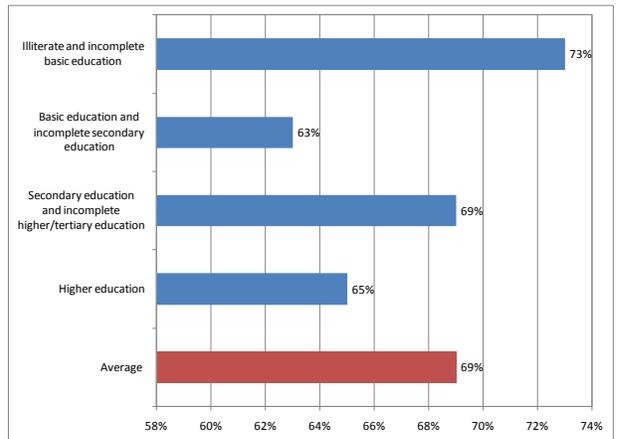
*Dissatisfaction with current jobs:* In 2007, 37% of all employment was considered vulnerable, i.e. unpaid family work or other types of informal work (World Bank). This means that over a third of employed Salvadorans are potentially unable to secure stable livelihoods for themselves and their families. Furthermore, on average, 56% of the people are not satisfied with their current job position, which leads to lower productivity. Underemployment is a generalized practice that contributes to a high rate of job dissatisfaction, which is highly correlated with education attainment, as depicted in Figure A10, Panel A. For those with higher levels of education, matching their capacities and expectations with an adequate position fails in 40% of the cases. Instability of jobs is also an important source of dissatisfaction. Low skilled and unskilled workers are more afraid of losing their jobs, as shown in Figure A.10, Panel B, followed by tertiary school dropouts. Part of the aversion to losing the job may be attributed to the inexistence of an unemployment insurance that helps to cover the financial impasse between jobs. Another aspect of job dissatisfaction is the delicate balance between work time and leisure time. Six out of 10 Salvadorans complain about having difficulties attending family activities due to extend working times.

**FIGURE A10. EL SALVADOR: JOB PERCEPTIONS, 2009.**

**Panel A: Current job satisfaction, by educational attainment**



**Panel B: Perception of the probability of losing the job, by educational attainment**



Source: Latinobarómetro (2009).

*Unequal educational opportunities:* 77% of Salvadorans are satisfied with public education irrespective of gender and attained education level. Even when Salvadorans are satisfied with public education, they also complain about scarce opportunities to access higher levels of education mostly due to financing

limitations. Also there are important differences in quality and access depending on the geographic factor, as perceived by Salvadorans.

*Unequal access to health services:* 64% of the population feels that healthcare services are satisfactory. However, women are more critical than men about this issue. Facing a certain health problem with greater or less difficulty is highly correlated with educational level and, indirectly, with income: 78% of technicians and higher education graduates consider they are able to receive medical care without much difficulty, while only the 48% of unskilled workers share the same opinion.

*Inadequate housing:* On average, 56% of the population is satisfied with their current housing. 78% of higher education graduates are satisfied with their housing facilities, while only 50% of illiterates and basic school dropouts have the same feeling. Poor, inadequate housing is an issue that is generally accepted that needs public intervention. Access to sewage services are an important point of disagreement: while half of the urban population agrees with the conditions and quality of the service, only a third of the rural population has a similar opinion.

*Pension system:* As was discussed, in El Salvador, less a fifth of the working-age population has a decent job, and access to the pension system. Underemployment and unemployment leave out of the pension system half of the working-age population. An effective measure of the situation is that only 16% of the households with people aged 60 or more receive a pension or retirement fund. The distribution of this 16% is very unequal: in urban areas it represents about 21%, while in rural areas, it only benefits 4% of the households. However, 45% of the total population benefiting from the pension system says that they are satisfied with the current arrangement.

#### *1.4.c. Public expectations about education*

Education is one of main tools to improve people well-being. Most of the people consider it as the unique opportunity to develop their abilities, skills, and capacities, achieving personal realization, and contributing to improve the chances of successfully entering the labor market and being socially included. Education also helps people to make a contribution to their family, community and society. Education also impacts the quality, length, and comfort of life. But more importantly, education a bridge that allows people overcome intergenerational inequalities and contributes to income and social mobility generating a more equal society. Education also contributes to reduce poverty and social exclusion while strengthening democratic societies.

The team spoke with parents who had children in various grades, and they all agreed education is the best asset that they can pass on to their kids. Although these parents attributed a high value to education, they also pointed to some critical shortcomings, such as: the lack of an environment conducive to learning, inadequate infrastructure and equipment, no innovative pedagogical instruction, scarce attention to students with special needs, the lack of family financial resources to support students, students' low motivation, and school budget cuts. These constraints have contributed to an overall deterioration

Even when the parents have great expectations about the role of education in improving their children welfare through a professional career, better job, they recognized that secondary graduates are not totally prepared to face higher education. This opinion coincides with the perception of various deans and rectors the team interviewed.

Another problem, especially with higher education, is that alternatives are expensive enough to prevent broader access. This implies that universities are just for a select group of students that can pay for them. As discussed before, access for lower income students are subject to grants and scholarships availability, while upper income students have all the chances to go into higher education, better jobs, and higher income.

Even with all these pitfalls, education (especially higher education) is perceived as an important, if not the unique, opportunity to succeed in life, break the poverty circle, and help society.