Brazil

Mapping the “invisible lifelong learning (LLL) non-system”

This paper presents a synthesis of LLL case study in Brazil, summing up the main results detailed in the project’s final report. Following the Terms of Reference (TORs) proposed for this project, this synthesis presents: a) the profile and extent of VET (vocational education and training) market in Brazil, including formal and non formal activities, either public and privately financed; b) the logic of its development and functioning; c) implications for LLL policies.

According to the TORs, LLL in Brazil should be seen not only as VET delivered by specialized institutions, but also as all types of events (courses, seminars, meetings, publications) likely to contribute to the development or improvement of skills, attitudes, information and other requirements that are indispensable or valuable for working and living in our society.

The expression “invisible non-system” has been adopted for the following reasons: a) due to extent, diversity and “modus operandi”, it would hardly be systematically computed in global statistics or survey; b) although part of it is included in educational statistics, it is not considered LLL, but is viewed as regular education instead; c) computed or not, this “non-system” is hardly taken into account for public policy purposes, in labor, education or social fields; d) it is not subject to any central coordination, despite including “systems” regulated by the Education Law, the Labor Law or other legal instruments. In other words: it exists, works on, and its potential clients – employers, entrepreneurs, the unemployed - know where and how look for it, but it can hardly be assessed in global terms for research, planning, evaluation or other public policy purpose.

Giving these assumptions, the case study was designed with two main components: a) a demand-side view on the LLL market, based on an exploratory research in 14 private firms active in different economic sectors, in 5 cities of Minas Gerais (MG) State – one of the biggest and more diversified in Brazil, including interviews with their executives (14) and employees (37), complemented by interviews with informal workers (12) at MG Employment Service in MG; b) a view from the suppliers side, based on a compilation of secondary sources – statistics, surveys, studies – that gives an idea of size and profile of VET market in Brazil.

This paper is organized in three sections:
- the main results from the exploratory research, bringing out their practices and polices in terms of education and training;
the profile, size and extent of VET market in Brazil, stressing its development and functioning of as a “non-system”;
- questions and recommendations for public policies.

**Colombia**

**The Demand for Training**

This paper analyses the determinants of the demand for training in Colombia. Although training is only one part of Lifelong Learning (LLL), it encompasses the critical aspect of LLL – flexibility. One can enroll in training programs throughout one’s life, regardless of the age or formal educational attainment. We test for statistically significant relationships between certain characteristic of firms and individuals and their decisions regarding training. The data came from two different surveys conducted by Fedesarrollo, the Social Household Survey and the Firms’ Perception Survey.

The results from the firm analysis indicate that the size of the firm, when measured as its annual sales, is the main determinant of the training demand. Larger firms tend to be capitably unconstrained and thus have the financial resources provide training. We also observe a positive relationship between the capital intensity of a firm and the demand for training, possibly indicating a complementary between human capital and physical capital.

The household analysis shows that training is not only a complement to formal education but also serves to improve job conditions. The model for individuals shows that there exists a concave relationship between training and years of formal education and between training and age. Furthermore, men are more likely to receive training; despite the fact that young women are demanding more training than young men. In general, the people attending training programs are secondary school graduates and from the young low-income population. Training seems to be a critical aspect in the acquisition of human capital, not only as a mechanism to enroll the job market but also as an enhancement of job opportunities.
Costa Rica

Learning and Training for Work

Costa Rica is one of the most stable countries in Latin America, with a long-standing commitment to both economic growth and social development. During the 90s, Costa Rica’s economic growth averaged 5 percent annually. High domestic investment, some progress on structural reforms. Large inflows of FDI, declining inflation, and a stable exchange rate supported this economic performance. Costa Rica’s success in attracting high-tech and other knowledge intensive companies is explained, among other factors, by the equally and availability of skilled workers, mostly with university degree. Since 2000, however, economic growth has slowed to around 2 percent and most economic and social indicators (notably poverty reduction and educational attainment) have stagnated. Low dynamism of the economy, limited progress in public sector reform and significant lags in financial sector development account for the current situation. It has been also argued that the benefits derived from high-tech foreign direct investment did not diffuse to other sectors creating asymmetries in the economic picture of the country.

Human capital stock is only *moderated*, as suggested by the average years of schooling of the adult population (6 years) and the percentage of the workforce that have finished compulsory education. The pace of accumulation of human capital has been slow. *It would take Costa Rica twenty years to achieve the expected average years of educational attainment for upper-middle income countries.* The achievement of almost universal coverage in primary education has not been followed by a similar trend in secondary education. On the other hand, there has been a significant increase of the coverage in tertiary education (university). This *unbalanced educational transition* perpetuates inequalities as it relegates the largest part of the workforce to low-skill/low-wage jobs while a privileged few earn the higher wages resulting from university education and jobs in knowledge & technology intensive business companies. Human capital is also badly distributed across income levels and regions of the country. There is a clear gap between urban and rural areas as well. Particularly worrying is the situation of the huge group of rural youths who have dropped-out school and is working in very low quality jobs or not working at all. This group is at risk of social exclusion and its labor market prospects are very poor.

Recent reports and Costa Rican policy makers views confirm that more spending in education will not change the current situation. It is necessary to improve the efficiency of the education system. Progress of this endeavor will contribute to defer entrance in the labor market and to provide young people a more solid set of skills for participating in the
knowledge economy. A number of strategies are already in place for improving the efficiency of the education system, some of them supported by the World Bank.

A second priority is targeting the significant proportion of the current labor force lacking both basic and employability skills upon which more complex competencies can be built. This group is diverse in terms of age, job status, income, learning needs and geographic location. As a consequence it is necessary to articulate a responsive, flexible and learner centered Lifelong Learning System providing access to learning opportunities across the life span. Finding ways to help youths at risk by deferring entrance to the labor market and providing support for those who already have dropped-out schools is crucial. Likewise, it is necessary to improve the efficiency and relevance of the adult learning opportunities finding new ways of delivery and funding, as the current supply is not prepared for that challenge.

Third, to strengthen the vocational/technical learning pathway. Nowadays participation in both secondary and post-secondary technical education is limited. Secondary technical education faces severe financial constraints to deliver high quality programs, attuned with labor market trends. An historical lack of budget for minimum investments in equipment and insufficient supply of qualified technical teachers are part of the picture. Non university post-secondary institutions (what is called Para university System) lack enough public funding and have had to operate in a more demand driven scheme which has produced encouraging outcomes, particularly the partnerships built with foreign high-tech companies investing in Costa Rica. Articulating both levels of technical education appears as a promising agenda.

Fourth, it seems relevant to introduce some reforms in the National Training System lead by the National Learning Institute (INA). This institution is making Impressive efforts to attend the population with low educational attainment and to carry them through a technical-vocational learning path. Its structure and operation however limits its impact particularly because it is playing several roles at the same time and has no clear focus nor population targeted . It is suggested that INA should (i) establish priorities in terms of population targeted (ii) concentrate its operation as a training provider where it really adds vale (iii) to make a more clear contribution to the development of a robust training private sector, playing the regulator and quality assurance role.

Fifth, learning and training for work has to be attuned with labor market trends. This means building string partnerships between different institutions offering Learning and Training for Work (technical schools, Para university institutions, INA, private training providers) and employers, mainly Business Companies and employers Chambers.

Finally, the economic burden of building up a lifelong learning system providing good quality learning opportunities exceeds the capacities of public funding, which will continue being concentrated on the school system unfinished agenda. In this sense Costa Rica has to find cost-effective alternatives to sustain a Lifelong Learning Strategy. This makes
necessary to rethink current incentives for human capital investment for the population who have already left the school system.

Dominican Republic

The role of institutions, individuals, and businesses

This article presents patterns in lifelong learning of laborers in the Dominican Republic, in order to: (i) analyze workers’ training and learning patterns in the dynamic sectors of the economy; and (ii) examine the way the education and training system responds to the needs of businesses and workers.

The study analyzes the vision of those offering training services, statistically estimates the influence of various factors on the decision to participate in training activities, and quantifies the rate of return of the training received. The results indicate that lifelong learning activities occur more often in workers with higher levels of education, which suggests a vicious circle where the difference in levels of formal education is progressively widened between individuals.

In cognitive terms, individuals who have recently received training show greater levels of self-esteem and confidence in facing eventual changes. Evidence shows that such results are not attributable to the idiosyncratic characteristics of the recently trained worker. Lastly, the estimates show that while participation in training activities noticeably impacts workers’ wages, the same individuals do not attribute their higher salaries to the training received. The study concludes with several policy suggestions.

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Jamaica

Building a Lifelong Learning Strategy

The Jamaica case study focuses on post secondary training as an element of lifelong learning. At the same time, the Jamaica study highlights the challenges that countries – especially developing countries – face in building a holistic lifelong learning strategy.

Lifelong learning is the sum of many parts: basic education, tertiary education, adult education, skills training, on-the-job training, etc. Difficulties arise because the elements of lifelong learning developed in relative isolation with only recent attention to the fundamental requirements for lifelong learning: articulation between programs and fluid entry and exit of learners. In Jamaica, as is many other countries, these requirements have to be superimposed upon a set of fragmented sub-sectors.

The Jamaica case study also points to the need to look at training in the context of lifelong learning. To do otherwise makes it impossible to move beyond a narrow view of “vocational education.”

The Human Employment and Resource Training Trust/National Training Agency (HEART Trust/NTA), the primary provider of skills training in Jamaica, has made inroads in reorienting training and placing it within a lifelong learning framework, modernizing systems and approaches and developing a quality assurance framework. The experiences of HEART Trust/NTA and other education and training providers in Jamaica highlight common challenges that countries face in building a lifelong learning strategy and in reorienting training systems to the needs of lifelong learning for the global economy: the requirement to improve basic competencies, access and equity constraints; a focus on youth with limited opportunities for ongoing learning among older adults; determination of appropriate role of the different providers; the struggle to develop cost effective, flexible and demand driven interventions; difficulties in changing the way people learn; resource allocation and fiscal sustainability; and identification of appropriate governance structures. The Business Survey conducted as part of the case study also points to the need for expanded human resource development planning services to employers to promote productivity and lifelong learning.

The case study used the World Bank report *Lifelong Learning in the Global Knowledge Economy: Challenges for Developing Countries* (2003) as the template against which to view lifelong learning in Jamaica. With adjustments only to the order of topics, that document provided a useful framework for examining lifelong learning within a country.
MEXICO

Status of Education for Out of School Adults

The focus of the Mexican case is the education of out-of-school adults in the whole nation. By out-of-school adults we mean persons 15 years and older that have not finished primary school, lower or upper secondary school or are illiterates. According to the Mexican 2000 Census there were more than 45 million persons. This huge number of undereducated adults is the most serious obstacle to Mexico’s development.

To develop the case we establish the numbers in need of education and discuss the models that have been used to educate them. We will briefly mention extensive research on their learning aspirations.

The main point of the paper is that the problem is solvable in a few years with relative modest expenditures in relation to Mexico’s educational budget. For this we will show the appropriate figures. We will discuss the need for vocational training considered as an integral part of adult education.

The main purpose of a program of adult education in Mexico is to decrease systematically the numbers of out of school adults with incomplete lower secondary education, and thus set the basis for a lifelong learning system.
Peru

Skill Acquisition in “High tech” Export Agriculture

The growth of new industries using new technologies is essential to the economic development of today’s low and middle-income countries, just as it has been the engine of growth in the developed world. Since these new industries depend on developing new knowledge in and applying available knowledge to local environments, we would expect that they involve considerable development of new skills and adaptation of existing skills in the work force. We would also expect that this development and adaptation is aimed largely at adults already working in related activities. In this sense, such new activities are intimately related to a process of learning called lifelong learning.

The question we try to answer in this study is whether these forms of lifelong learning are mainly situated in public (state) activities or in the private sector, and on who is likely to get access to lifelong learning and how they get access to it.

From a methodological perspective, we studied a new, rapidly growing industry related to agriculture. We sensed that studying this type of new industry would provide us insights into how entrepreneurs and governments react to new opportunities, and employ education and training to ramp up production in response to such opportunities. Our intuition was correct. We were able to develop a good sense of how formal and lifelong learning interrelate to produce economic development. We learned that lifelong learning in a rapidly growing industry is largely driven by highly trained engineers engaged in entrepreneurial activities and by organizational activities of producer associations. LLL also takes place in the form of formal transfers of technology from one country to another, of on-the-job training, of formalized entrepreneurship training by an non-governmental organization, and, to a much smaller extent, vocational education in government institutions.

The growth of asparagus exports in Peru has been built on a well-developed formal educational base that, at the highest skill levels, is the source of the technology-based entrepreneurship driving production growth and is also the source of much of the lifelong learning that occurs as part of production growth. At the core of the formal educational system is a public agricultural university, the Universidad Nacional de la Molina, in Lima. Most of the entrepreneurs in the asparagus industry were trained at La Molina. These entrepreneurs, in turn, learned new techniques in asparagus growing and processing in part from U.S. (green) and Spanish (white) asparagus growers. Peruvian entrepreneurs were brought to the U.S. by USAID to learn these new techniques. Spanish investors, on the other hand, came to Peru to take advantage of lower wages. In both cases, nevertheless,
technology transfer took place and was adapted to Peruvian conditions—clearly, a type of lifelong learning. Further, Peruvian entrepreneurs learned (and continue to learn) advanced techniques of irrigated desert agriculture by taking courses in Israel, a country that has advanced desert agriculture technology more than any other. The newest irrigation equipment and irrigation equipment in Peru also comes from Israel. The producers are organized into a producer association that disseminates information and aids in marketing. In addition, La Molina produces research on new export crops and pest and disease control that is available to asparagus producers and is being constantly adapted to local conditions and taught to technicians and small farmers by larger growers. Again, this represents an important type of lifelong learning with high payoffs for economic development.

In addition to the high level skills represented by the agro-engineering graduates and researchers of La Molina, Peru’s formal education base includes a relatively high percentage of secondary school and university (non-agronomy) trained young people, many of them sons and daughters of farmers, who have the childhood background and agricultural experience to cultivate new agricultural products and to work more generally in agro-industry at the technical level. These secondary and university trained individuals are trainable into new forms of agricultural production. The existence of “lifelong learning” training opportunities, especially on-the-job training in the private sector, combines well with these relatively high levels of formal education, to raise yields on capital investment in products such as asparagus, and to enhance the value of the human capital investment represented by formal education.

One question is whether secondary and even higher education in Peru is partly a substitution of more years of schooling for low-quality primary and secondary education. In other words, a secondary education graduate in today’s Peru has similar skills to primary graduates in, say, Chile. The evidence on test scores suggests that this argument has some validity. But it is highly likely that secondary educated workers in Peru have higher levels of cognitive skills than primary educated workers anywhere in Latin America (with the possible exception of Cuba). The availability of secondary educated workers for factory and technician jobs in asparagus production has almost certainly made training less costly.

Most of the lifelong learning activity we found in the asparagus sector takes place in the private sector, and most of that, in the form of on-the-job training, usually organized by managers who select workers on the basis of trustworthiness and general work habits to train into responsible technical jobs. This training takes place at the job site mostly informally. In factories, some workers are designated to train others. Those who learn in the two-week probation period are kept on and the others, let go.

Besides informal and semi-formal on-the-job training, we found other important private sector initiatives. A private university, the Universidad Privada Atenor Orrego, founded in 1988, and committed in part to producing agronomists for Trujillo’s emerging export agriculture, develops locally trained engineers and agro-scientists to work in agro-industry. Agro-industry, in turn, does its part by providing summer internships for these young
agronomists as practical training and rapid incorporation into employment. We did not
interview in the Universidad Nacional de Trujillo, but that university has also begun an
agronomy faculty and is also placing its students into local internships in agro-industry.
The Ica region only has a public university that produces a relatively large number of
interns for local asparagus production, but these interns get mixed reviews from local
growers. Nearby Cañete has a private technical school that produces high quality
technicians for agro-industry in that region. Apparently, the public technical school in the
same region does a relatively poor job of preparing technicians for agro-industry.

This poses a policy dilemma for the public sector: should the public sector let private
initiative take care of specialized educational needs at the local level, or should the public
sector subsidize such private initiatives to assure sufficient graduates in, say, agro-
engineering, or should the public sector be entirely responsible for producing high-cost
specialties? Our study suggests that the private sector does a better job of producing such
specialized education, but may not produce sufficient graduates to meet local needs. A
mixed approach may be optimal.

The most impressive (and expensive) formal lifelong learning effort in the asparagus sector
we found is the CTTU, a non-governmental organization effort to form successful
agricultural entrepreneurs. This is a complex model of lifelong learning because it not only
includes training but also the financing, technical assistance, and mentoring of university
and secondary school educated young people with the potential to become successful
independent small farmers engaged in producing high tech crops. The success of CTTU
stems in part from the profitability of asparagus production, but it is also successful because
of the holistic and long-term nature of the model employed.

Finally, we found some short-course training programs run by the Labor Ministry that fit
the more typical models of vocational training for employing young people into first jobs.
This public sector effort is, again, not generalized to the new export agriculture, but is only
found in Trujillo. In turn, the traditional vocational education in Trujillo is not at all aimed
at forming young people to enter technical jobs in export agriculture, whereas the main
public vocational institution in the southern coast asparagus area is producing graduates
who enter the agro-industrial sector. This mixed response to the new agriculture on the part
of the public sector suggests an almost serendipitous (and also very slow) public reaction
with formal training to new job opportunities.

In terms of who gets access to lifelong learning opportunities in the new export agriculture
in the Peruvian case, we conclude that it is largely, if not almost entirely, those with
relatively high levels of education. Whether this is because a very high proportion of
younger people on the Peruvian coast have high levels of education, or whether there is a
real selection of younger people with higher levels of education to get access to these
further education and training opportunities is impossible to tell from our survey and
interviews. We suspect that there is a relatively high level of education in the asparagus
regions, but that there is also considerable selectivity into this high yield sector.
We conclude that the following factors combine to provide lifelong learning opportunities in the asparagus industry:

- The existence of a core of research trained scientists and engineers (agronomists) trained at national and, subsequently, local universities, mainly public but also private. These agronomists and other scientists form the entrepreneurial core of the industry, and, at the same time, are the major providers of lifelong learning to young engineers and technicians on the job. Further, this core of research-trained scientists and engineers generate much of the new technology that comes out of the practice of production and creates higher productivity in the industry, new products, and solutions that increase quality and exportability of these new products.

- This learning environment extends to other private initiatives, such as CTTU, that build on the lifetime education culture in the industry and create new formalized and holistic forms of lifetime education, but again focused on those with relatively high levels of traditional formal education.

- Finally, the public sector has not been particularly responsive in creating new forms of training opportunities. La Molina faculty and graduates provide consulting and are responsive in doing new forms of research. But beyond that, public education has not been very responsive in institutionalized training. Pro-Joven is a flexible public response that seems to be working well, but is mainly a school-to-work transition form of training. SENESA is another example of a successful government training program, bringing the latest knowledge on pest control to workers and managers in agro-industry through extension services. Neither of these programs is particularly expensive, but we do not have estimates of their benefits, so cannot evaluate them properly.