

Training for rural development in Brazil: SENAR

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with the collaboration of Jacira Câmara



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Foreword to the series

Education for rural people is crucial to achieving both the Education for All (EFA) goals, and the Millennium Development Goals (MDGs) of eradicating extreme poverty and hunger, ensuring universal primary education by 2015, promoting gender equity and ensuring environmental sustainability. In 1996, the World Food Summit in Rome stressed increased access to education for the poor and members of disadvantaged groups, including rural people, as a key to achieving poverty eradication, food security, durable peace and sustainable development. The 2002 World Summit on Sustainable Development, held in Johannesburg, also emphasized the role of education.

As the majority of the world's poor, illiterate and undernourished live in rural areas, it is a major challenge to ensure their access to quality education. The lack of learning opportunities is both a cause and an effect of rural poverty. Hence, education and training strategies need to be integrated within all aspects of sustainable rural development, through plans of action that are multisectoral and interdisciplinary. This means creating new partnerships between people working in agriculture and rural development, and people working in education.

To address this challenge, the Directors-General of FAO and UNESCO jointly launched the flagship programme on *Education for rural people* (ERP) in September 2002 (<http://www.fao.org/sd/erp/>), during the World Summit on Sustainable Development. This initiative involves an inter-agency approach to facilitate targeted and co-ordinated actions for education in rural areas.

It is within this framework, and to provide inspiration for the flagship initiative, that the FAO's Extension, Education and Communication Service and UNESCO's International Institute for Educational Planning (IIEP) have jointly launched a series of publications. This series is co-ordinated and edited by David Atchoarena (IIEP) and Lavinia Gasperini (FAO).

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Chief, Extension, Education and
Communication Service, FAO

List of abbreviations

CONTAG	National Confederation of Agricultural Workers
F-IBGE	Brazilian Institute of Geography and Statistics Foundation
INACAP	National Institute for Vocational Training (Chile)
PLANFOR	National Plan for the Further Training of Workers
PNAD-99	1999 National Household Sample Survey
SEBRAE	Micro and Small Business Support Service
SENAC	National Service for Commercial Apprenticeship
SENAI	National Service for Industrial Apprenticeship
SENAR	National Service for Rural Apprenticeship
SESC	Commerce Social Service
SESI	Industry Social Service

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Introduction

Brazil, a country of continental dimensions with 8,512 million square kilometres (5,313 square miles), entered into Western history as one of the greatest jewels of the Portuguese colonial empire. Although gold and silver were the initial targets of explorers, tropical agriculture became the basis for an economically feasible colonization. The agro-industry of sugar cane, founded on African slave labour and the Flemish capital, was a highly profitable business in the sixteenth and seventeenth centuries. The golden age came later, in the eighteenth century, but, once the mines were depleted, Brazil again became an agrarian society that exported coffee and other primary products.

This exogenous economy, however, was dismantled by the coffee export crisis, triggered by the Great Depression and the Second World War. As in other Latin American countries, the fall in export commodity prices prevented Brazil from being able to pay for the manufactured goods necessary for its survival. The response to this challenge was industrialization based on import substitution. Economic growth was predominantly grounded on internal market development, which was later sophisticated enough to support multinational manufacturers. In such an inward-oriented model, the state played an active role by providing economic and technological support to business and industry. Furthermore, foreign savings were a powerful means of accelerating expansion, not only by means of investment in infrastructure, but also direct productive activities (Gomes, 2000; Gomes, Capanema and Câmara, 2000).

This economically introverted model, i.e. directed toward the internal market was financially extroverted, since it depended on foreign financing. This contradiction became unsustainable after two oil shocks. Although in the 1970s the flow of foreign capital was assured by abundant petrodollars, interest rates rose again in the 1980s, dramatically increasing the foreign debt of developing countries. Brazil then became a net capital exporter, at the same time that it lost its external sources for financing economic growth (net foreign savings in 1985 were -2.27 per cent of the GDP). Fiscal crisis and decreasing

salaries eroded the state's capacity to implement public policies, widening the gap between the 'haves' and the 'have-nots'.

The reaction to this crisis took such a long time that the country almost reached hyperinflation, despite both foreign and domestic debt defaults. In fact, business, political and union leaders feared opening a Pandora's box of reforms. To achieve the goals of fiscal equilibrium, state modernization and an increase in domestic savings would have exposed the economy to international market forces. This would have meant a massive loss of jobs to unionists, a loss of profits to business and a loss of votes to politicians.

After the failure of seven stabilization plans after 1979, the solutions could not be delayed. Finally, in 1994, a plan which in fact opened the Pandora's box of reforms was successful in defeating inflation. A partially neoliberal agenda has been put into practice by means of opening up the economy, redefining the state's role and privatizing most of the state-owned companies. The national economy started to perform very well. The GDP not only increased relatively quickly, as well as the per capita GDP, but also the sudden inflation reduction contributed initially to improve income distribution. Nevertheless, opening up the economy increased dependency upon foreign capital investment for the payments balance equilibrium. Externally vulnerable, Brazil resisted the Mexican crisis (1995) and partially resisted the Asian crisis (1998). The same did not happen when the Russian Federation default came. The national currency, previously tied to the US dollar, was devalued in January 1999. Fiscal austerity and economic growth reduction were the responses on the basis of an agreement with the International Monetary Fund. These orthodox policies opened the way to economic recovery in 2000, although the external vulnerability remained.

Chapter 1

The primary sector: declining though important

In such a context the primary sector has changed its role, though maintaining its importance and dynamism. As *Table 1.1* shows, the primary sector had the highest average growth in 1996-2000, expanding its product even in a recessive year. Yet, in the last decades this sector had rapid relative decline, whereas the secondary sector grew significantly then later declined as a proportion of the total product. Following that the tertiary sector became dominant. In other words, Brazil underwent a similar, but much more accelerated process, to the developed countries. Its human cost has been high. The expansion of the primary sector has been a consequence of several technological and economic modernization waves, particularly in the export-oriented sub-sector. Despite such change, old and new patterns co-exist even in the same area or business: labour and capital-intensive technologies; traditional, under-exploited large farms side by side with small, often economically unfeasible family farms; traditional as well as more market-oriented units. Productivity has grown at the same time as employment decreased and labour relations changed. The workers' social conditions often worsened, resulting in rural-urban migration and the constitution of landless people's social movements. Whereas today's developed countries had the escape valve of migration to the Americas, Africa and Oceania in the nineteenth and twentieth centuries, Brazil, as in most of Latin America, responded to rural modernization with fast, often chaotic urbanization. Since urban labour markets have been incapable of absorbing so many migrants, many organized groups move throughout the country, occupying productive or even unproductive farms. This unprecedented situation has led to the most serious (though not yet sufficient) attempts of agrarian reform in the country's history.

Table 1.1 Brazil: GDP variation by sector (%), 1996-2000

Year	Total GDP	Sectors		
		Primary	Secondary	Tertiary
1996	2.66	3.11	3.28	2.26
1997	3.27	-0.83	4.65	2.55
1998	0.22	1.94	-1.45	1.11
1999	0.79	7.41	-1.60	1.89
2000*	4.46	3.02	5.01	3.85
Average	2.28	2.9	1.98	2.33

Source: Getúlio Vargas Foundation, 2001.

* Estimated data.

National statistics mirror these changes. The urban population was 45.1 per cent in 1960, jumping to 75.5 per cent in 1991 and reaching 81.2 per cent in 2000, according to census data. The labour force was predominantly employed by the primary sector in 1960 (56.2 per cent), whereas industry had 12.9 per cent and services 30.9. After three decades of industrialization, the primary sector declined to 22.0 in 1990, industry increased to 21.9 per cent, with its labour saving technologies, and services went up to 56.1 per cent. In 1999 the population proportion employed by agriculture was 24.2 per cent (excluding the rural population of the northern region). Industry, despite the huge output increase, dropped its percentage to 19.3, while services remained steady at 56.5 per cent.

In fact, the active rural population increased in 1981-1992 and slightly decreased after then, especially in agriculture, though compensated by non-agricultural activities. The factors that have prevented this population from more serious reduction have been the urban-rural migrations (families looking for a better quality of life), the development of tourism and the consequent expansion of services related to primary activities. However, labour relations have become more and more precarious and informal, and lower-educated

groups have been more vulnerable to unemployment, as in the urban area (Amadeo, 1998; Del Grossi and Silva, 2000; Laurenti and Del Grossi, 2000).

In spite of these similarities, the rural economically-active population is significantly less privileged than the urban one, if one can mention relative privilege. Comparing 1999 data from the National Household Sampling Survey, 16.4 per cent of the total population earned up to one minimum wage, against 25.0 per cent of the rural population. 23.2 of the former earned over one to three times the minimum wage, in contrast to 20.6 of the latter. People who had no earnings (family work, domestic jobs, etc.) corresponded to 40.6 per cent of the total population and to 47.3 per cent of the rural population. As a heritage of slavery, 55.2 per cent of the rural population were non-white, against 45.2 for the total. Of the total population, 47.8 per cent lived in a county (municipality) different from that where they were born as a consequence of migrations from countryside. The same proportion for the rural active population was 34.3 per cent. In general, the active population in Brazil starts working very early (47.8 per cent up to 14 years of age and 76.7 per cent up to 19 years), however the incidence of child and adolescent labour is higher in rural areas (86.9 per cent up to 14 years and 98.3 per cent up to 19 years). The literacy rate for the 10-14 year old group was 3.4 per cent for the urban general population, in contrast to 12 per cent for the rural population. The net schooling rate for the same group was 96.2 and 92.9 per cent respectively. A census in 1996 revealed once again that the rural population had lower schooling levels, a serious handicap for workers (*Table 2*). Nevertheless, union membership, though in average low for the total active population (16.1 per cent), was almost the same for the rural population, i.e. 15.7 per cent.

Table 1.2 Brazil: population over three years of age – years of schooling (%), 1996

Years of schooling	Total population	Rural population
No schooling	13.3	25.8
Up to 4 years	45.5	57.1
5-8 years	23.3	13.1
9 years and over	17.9	4.0
Total	100.0	100.0

Source: Census, 1996.

Despite problems and disadvantages, the primary sector in Brazil has high economic relevance. The total surface of used land, according to the last available economic census (1996), was 324 billion¹ hectares. Almost a half of it was allocated to cattle raising (a total of over one billion animals) and over one tenth to agriculture. The estimated value of the agricultural production in 1999 was around US\$21 billion. The same for silviculture was US\$1.5 billion, whereas production based on native vegetable resources reached around US\$1.2 billion. Agricultural productivity has had an impressive increase since the mid-nineties, largely resulting from new technologies. Of course, it would be much better if the labour force had higher level of schooling and occupational training. The sector's relevance, as well as its serious problems, demands a decisive effort in favour of education.

1. One billion = 10⁹.

Chapter 2

The gap between the economy and education

Education was left behind in the economic development of Brazil, even in times of accelerated growth. Undereducation in general and serious social and regional differences have been significant in the history of the country. Nevertheless, access to education has progressed significantly. The net schooling rate for the 8-year first level of education rose from 83.8 per cent in 1991 to 99.0 per cent in 2000. The same indicator for the second level of education went up from 17.6 to 33.3 per cent in the same period. The repetition ratio in the first level of education, one of the highest in the world, plunged from 33 per cent in 1992 to 9.7 per cent in 1998. Yet the percentage of pupils with age/grade distortion is still high (23.5 per cent in 2000).

Quality and equity are the main challenges, particularly in times of increased competitiveness and the opening up of the economy. Numerous innovations have been directed toward the improvement of education in the last decades. The constitutional earmarking of a percentage of tax revenues for education (established by the Calmon Amendment), the allocation of financial resources directly to schools to cover ordinary current expenditure (except personnel) and some investment, the establishment of an equalization fund, the creation of a national evaluation system and the increased participation of faculty and parents in school management are some of the key changes of the late 1980s and the 1990s. Curricula have been up dated and the teachers' level of education has increased rapidly. Yet the country's educational transition is still unfinished, so more audacious reforms are necessary for the near and distant future.

Chapter 3

Competency islands in occupational training

In contrast to the gap between economic development and general education, which led to an undereducated labour force even for old patterns, the modern economic sectors took the reins of occupational training very early in the import substitution industrialization process. While mass public education was subject to underfinancing and to the variability of political interests, the urban business classes negotiated the control of a kind of priority area with the federal government. As a result, the first vocational education and training institution (SENAI – National Service for Industrial Apprenticeship) was founded in 1942 during the Second World War. This organization is public in the sense that its main source of funding is a compulsory payroll tax. These resources, collected by the social security system, are controlled officially, although industry businessmen manage them, establishing strong ties between the labour market and vocational training. Services were free of charge for firms and employed personnel in the early stages of institutional life. Moreover, similar organizations for social assistance, which had also been established, had another payroll tax as their main source of funding. They are known by their acronyms, SESI and SESC, translated as Industry Social Service and Commerce Social Service. The participation of workers and government was minimal in the first decades, however, the successful experience led the commerce and services sector to establish on the same basis *Servicio Nacional de Aprendizagem Comercial* (SENAC – National Service for Commercial Apprenticeship) in 1946. Several similar institutions followed their trail in Latin America, in Argentina, Chile, Colombia and Peru.

As a response to the complexity in economic development, both these Brazilian institutions expanded, with a network of well-equipped and well-staffed technical and vocational schools and centres. General education often had to be provided to adolescents and adults whether there was an agreement with local governments or not. These big structures often implied increasing

fixed costs. Furthermore, some of them moved towards underprivileged sectors, receiving budgetary assistance from their governments in order to do so. At the same time, as previously mentioned, the industrial output has grown faster than its labour force. The external debt crisis of the 1980s eventually caused turmoil in a number of ways. Unemployment substantially reduced the income from payroll tax, while governments faced a huge fiscal deficit. As a consequence, vocational training institutions had to diversify their sources of funding, to improve their efficiency and effectiveness and to create participation mechanisms for the recipients of their programmes. Many of them started to act as private companies, competing with other suppliers of services and products. Practically all of them diversified their financial sources in order to reduce their dependence upon levies on payroll. Lastly, the compulsory contribution became an additional burden in hiring personnel during an era of high unemployment. Tax rebates, adopted in Brazil for some years, as well as in some other Latin American countries, produced discouraging results. They not only gave rise to insurmountable problems in financial control, but also showed little indication of effective additional resource mobilization.

In general, institutional reactions since then consisted of maintaining closer links between institutions and the market, decentralizing decision-making processes and cutting back on overheads and fixed investments. The new policies often had a negative impact on equity (see Ducci, 1991; Gomes, 1991; Hersbach, 1993; Bas and Castro, n.d.).

Since this is an overview of vocational education and training in public, non-governmental institutions of the urban sector, it is interesting to ask about the rural sector. Unfortunately, this has been the neglected baby. When industrialists emerged, the farmers' class had declining political power and labour force education and training and new technologies were not their highest priorities. The federal government was almost the only provider of basic and technical agricultural education for many decades. In fact, the federal government started to offer vocational and apprenticeship programmes primarily directed toward socially underprivileged children and youths. This stigmatized educational tracking contrasted with academic education, reserved for the elites and later the emerging urban middle classes.

However, the ugly duckling became a swan when industrialization pushed the Ministry of Education to expand and substantially improve the national network of technical schools. They became increasingly sophisticated after the 1960s, adding undergraduate and even graduate programmes in some technological areas. Of course, a small number of them were related to agriculture. Their unit costs were and still are high, that being the price for excellence.

The quality of these institutions became so remarkable that it attracted in particular some of the best urban middle and upper class students. This does not mean that they actually became interested in technical-level occupations or that vocational education improved its prestige. On the contrary, a high number of them were interested in the solid and free academic education provided, leading to the most competitive, public and also free higher education institutions. In this way, technical schools were used for the wrong purposes, resulting in a substantial loss of taxpayers' money (Castro, 1997).

The reaction to these challenges came with educational reforms in the mid-1990s. On the one hand, vocational education became more diversified with its provision not generally associated with academic education, although the same student could be enrolled at the same time at the second level of general education and in a vocational programme. On the other hand, the federal government gave up the old centralized management and delivery model. With the support of an international loan, it launched a large programme to support projects from other levels of government and the community. The Ministry of Education offers technical and financial support for building and equipping units, while their operation is left to partners, on the condition that they respect the regulations, including the provision of a proportion of free enrolment. Therefore, vocational and technical education in general has been given a promising impulsion.

In spite of this remarkable effort, as indicated by *Table 3.1*, the primary economic sector, though employing 24.2 per cent of the population, has much lower levels of participation in enrolment, especially at basic and technological levels. It is interesting to clarify that the most recent reform stratified this kind of education into three levels: basic, technical and technological, the first two requiring the first and second levels of general education, respectively, while

the last corresponds to higher education short careers. Manufacturing and services attract most of the educational investment.

Table 3.1 Brazil: vocational and technical education enrolment by economic sector according to level, 1999

Economic sectors	Levels			Active population
	Basic	Technical	Technological	
Agriculture, cattle raising, fishery, etc.	2.9	7.8	0.6	24.2
Manufacture	23.7	24.9	27.5	19.3
Commerce	4.1	0.5	-	6.6
Services	69.3	66.9	71.9	41.2
Total	100.0	100.0	100.0	100.0

Source: Vocational and Technical Education Census, 1999; MEC/INEP, unpublished documents; F-IBGE, 2001.

The data stratified by administrative level (*Table 3.2*) reveal that the private sector is responsible for most of the technical and vocational education in Brazil, followed by the federal government. In contrast, primary education is still mostly covered by the public sector, in particular the federal government. These numbers reflect the transition mentioned above, that is, public administrations make partnerships and fund private institutions. Although there are no detailed data, a significant percentage of private enrolment is financed by the government. In fact in 1995 the federal government established the National Plan for the Further Training of Workers (PLANFOR). It is based on an old payroll tax, established in 1970, among other sources. Resources are allocated to a large array of partners, such as unions, non-governmental organizations, private organizations and state and municipal governments. From 1995 to 1998 this plan offered training courses to 5.7 million workers (about 8 per cent of the economically-active population), spending almost US\$1 billion (PLANFOR, 1999). The last data available, related to 2000

(PLANFOR, 2001), show that the enrolment reached 3.1 million and total expenditure (public funds and partners' resources) was equivalent to about US\$272 million. The total average expenditure² per student/hour was then US\$1.08 and the average number of hours per course was 61.9. This means that this plan offers a wide variety of relatively short and cheap courses to a high number of students. Its effectiveness, however, is still an open question.

PLANFOR actions have been also directed to the rural area, by means of numerous partners, one of them being SENAR. In fact, 12.3 per cent of the trainees worked in the primary economic sector in 2000 and the corresponding expenditure was 8.2 per cent of the total, since the main priority was the tertiary sector (57.9 per cent of total spending).

Table 3.2 Vocational and technical education enrolment by administrative level, 1999

Administrative level	Total	Primary sector
Federal government	6.7	36.7
State governments	14.5	17.6
Municipal governments	4.1	3.9
Private sector	74.7	41.8
Total	100.0	6.3

Source: Vocational and Technical Education Census, 1999.

It is clear that technical and vocational education and training continue to be largely financed by payroll taxes or quasi-taxes, which means an actual burden for employment. The sudden increase in financial resources directed to the PLANFOR did not find public and private bureaucracies well prepared for allocation. Decentralized management often improves flexibility, however, this combined with other factors cause frequent financial control problems,

2. Cost is considered here in the economic sense, i.e. the notion of sacrifice, while expenditure is an accounting concept, related to the values spent and effectively registered by an organization's accountancy (Eicher, 1999).

as is mentioned from time to time in the national press. Of course, a small part of it has gone to the rural sector, following general allocation patterns.

Chapter 4

The second generation of training systems: the foundation and structure of SENAR

The gap between the rural and urban sectors has been clear, since industrialization took off. Although vocational education/training systems were founded for the secondary and tertiary sectors in the 1940s, no equivalent organization appeared for rural activities until 1991. The federal government had established an agency for vocational education and training in the rural sector, completely different from the previous urban systems (SENAI and SENAC), since it was a branch of the public bureaucracy. Poor results determined its extinction in 1986. Brazil then had its first civil president after over two decades and elected its representatives to the National Constituent Assembly. This forum debated virtually every national issue, including the existence of the so-called S System (SENAI, SENAC, SESI, and SESC), i.e. the public non-governmental organizations based on payroll taxes. Opposed groups were interested either in their privatization, arguing that it would increase employment, or in their integration into the governmental bureaucracy, since these organizations were publicly funded, though predominantly controlled by companies. The discussion finally strengthened the model established during and after the Second World War, so that the 1988 federal constitution not only confirmed the existing organizations, but also determined the foundation of a special system for the rural sector (SENAR).

Nevertheless, the lessons from the ‘lost decade’ were vivid. Difficulties in the public, non-governmental systems were largely a result of a complex managerial structure and large facilities, although results were in general good. Therefore, the reduction of fixed costs on the total was imperative. Three years after the constitution, the federal government founded SENAR as an institution directed towards vocational education and training at the same time, as well as to social promotion (Act no. 8,315, dated December 23, 1991). The *Confederação Nacional da Agricultura* (National Agricultural Confederation), an employers’ association, was charged with organizing and

managing it. The National Board, the most important administrative branch, is composed of one representative from the Ministry of Labour, one from the Ministry of Education, one from the Ministry of Agriculture, one from the *Organização das Cooperativas Brasileiras* (Organization of Brazilian Cooperatives), one from the agro-industrial sub-sector, five from the *Confederação Nacional da Agricultura* and five from the *Confederação Nacional dos Trabalhadores na Agricultura* (National Confederation of Agricultural Workers). Its funding still followed the traditional model, having as its main source a 2.5 per cent payroll tax.

The Act no. 8315 was regulated in 1992 so that SENAR started its activities in 1993, being careful to avoid historical errors. It stated its mission as the development of rural occupational training and social promotion activities for men and women who work in rural areas, as a contribution to upgrade their occupational performance, social integration, improvement of life quality and full awareness of citizenship. Its goals were defined as:

- 1) to organize, manage and perform rural occupational training and social promotion of rural workers in the national territory;
- 2) to support employers' entities in organizing and developing training programmes at their own workplace;
- 3) to establish and to diffuse rural vocational training and social promotion methodologies
- 4) to co-ordinate, to supervise and to control rural occupational training and social promotion programmes and projects; and
- 5) to support the federal government in issues regarding rural occupational training and social promotion.

Policy lessons:

- The state inflexibility, at least in its traditional style, had serious difficulties in effectively meeting the complex demands of occupational training and social promotion in the rural area.
- This field of activities has required the joint, effective action of three actors: government, employers and workers.

Chapter 5

A generation gap

The new system became distinct in relation to its predecessors in at least six different features:

- 1) ‘light’ managerial structure, requiring fewer personnel and facilities;
- 2) partnership with a wide variety of governmental and non-governmental organizations, such as employer associations, rural labour unions, co-operatives and other associations in general;
- 3) relative decentralization of decision-making, maintaining a central administration in Brasília, the capital, and 27 regional administrations, one for each state and one for the Federal District;
- 4) one organization only for vocational training and social promotion;
- 5) diversification of funding sources, counting heavily not only on its own legal resources but also on agreements with partners, including the Ministry of Labour, by means of the aforementioned PLANFOR; and
- 6) a high degree of organizational flexibility – being able to expand and to contract quickly, like an accordion, depending on resource availability and labour market demands.

Minimizing the fixed costs and maximizing the variable ones, SENAR often rents space for its administration, uses workplaces or other facilities to develop activities, maintains a very small number of permanent personnel and hires temporary personnel or organizations to offer its services. As a matter of fact, the first generation of the S System organizations has adopted similar changes since the critical 1980s. Another interesting point, a sort of refrain in interviews, is that SENAR is a private institution. Officials are more emphatic about independence and flexibility than on the fact that this institution was founded by an act. Moreover, it has public resources as ground for its actions, and government supervises its financial life. According to a key official, “SENAR is a private, flexible, decentralized organization, independent of the state. It is proud of being as such”. This self-definition reflects an aspiration to be like a private company, probably reflecting the high degree of

competitiveness required by its changing milieu. In contrast, the first generation of the S System started when Brazil had high economic growth rates and abundant resources. Furthermore, they had almost a monopoly on apprenticeships and certain kinds of technical and vocational education and training. SENAR arrived late and had to both work harder for an economic sector less open to change and compete with several institutions, programmes and projects.

In summary, as showed below, different historical circumstances resulted in two generations of vocational education/training systems in Brazil with distinct features. It is important to point out that the first generation had to adapt to the new context, thus developing most of the characteristics inherent to the second generation.

First generation	Second generation
Import substitution industrialization	Debt crisis and globalizing economy
High economic growth	Structural economic adjustment
Payroll tax as initially exclusive source of income	Quasi-tax on gross revenue from product sources* Diversification of funding sources
Heavy structures	Light and flexible structures
Centred on systems own services A few partnerships	Numerous partnerships
Large facilities	Small/borrowed/mobile facilities
Emphasis on permanent personnel	Emphasis on temporary, ad hoc personnel
Education/training for employment	Education/training for work responsive to demands
High proportion of fixed costs	High proportion of variable costs

* For SENAR only.

According to an important regional officer, SENAR's advantages in relation to the first generation training systems are a means of partially filling the time gap facing the secondary and tertiary economic sectors: "This is why SENAR works hard so that the rural population can be proud of their production and improve its life conditions, avoiding rural-urban migration."

Policy lessons:

- Cost reduction and effectiveness in rural occupational training and social promotion has depended upon:
 - minimum fixed costs;
 - maximum variable costs;
 - flexible and light structures;
 - quick responses to demands;
 - increased competition among agents;
 - capacity to expand and contract structures and services offered according to needs;
 - numerous and diversified partnerships.

- The negative side of the new situation is:
 - revenue from product sales, instead of payroll tax, increases organizational instability with sudden ups and downs;
 - financial sources officially collected are subject to delays, also contributing to instability. However, the cost of a private collecting system would be much higher than the governmental one.

Chapter 6

Vocational training: walking a tightrope

Vocational training in rural areas has specific features. Contrary to the urban sector, workers have lower levels of general education, they can seldom leave their workplace, the population is highly scattered and employers are not conscious enough of the educational contribution to increased productivity. In response to these difficulties, SENAR tries to go where the student is, using a great variety of facilities in the rural properties. This approach reduces students' transport and facilities costs, though it means that each course may have a particular problem with partnership and logistics.

In fact, since each municipality in general has a rural employer association, the SENAR Regional Administration both receives demands for training, and promotes certain programmes (e.g. environmental). Demands often exceed available resources. The proposals are analyzed and, once converted into a project or programme, are submitted to the regional board. Although the National Administration prepared materials for studying the labour market, data may be hard to find. Empirical knowledge may be a frequent solution. Once established the plan of action, employers' associations and unions diffuse it and mobilize people to enrol in the different training alternatives. This is actually a crucial stage of the process. As a manager described, SENAR work is based on a tripartite model: mobilization, teaching and supervision. If the quality of one fails, the programme will also be prone to fail. In fact, the educational programmes' identification and acceptance depends very often on face-to-face contacts, persuasion by personal leadership and the transmission of previous successful experiences among producers. Thus, reaching the most vulnerable groups is like 'work for ants', according to a rural expression that means the sum of small tasks.

All the courses and projects in rural areas are to be offered to workers, not employers. The only exceptions are the owners of family properties, as defined by regulations. However, a key official criticized the focus on family agriculture. He said that this is a sort of ideological distinction and stigmatization,

since the market no longer has room for production on a very small scale. Nevertheless, conditions are favourable for small farms if they receive training, new technology and credit to reach higher productivity levels.

Candidates for occupational training often have schooling levels below the requirements, although they may know what to do in practice. The administration often enrolls them as special students. According to an agent, lack of general education is an obstacle for the system. Peasants are often illiterate and cannot read even basic safety instructions for machines and chemical products. This leads to a vicious circle of poverty and low standards of quality of life. Of course, some unschooled or underschooled workers have empirical wisdom so that they become the best in their class. The same source said, as others have, that SENAR effectively depends on general economic and social conditions. The rural sector was often described as economically depressed, chronically indebted and socially backward. Nevertheless, it is impossible to wait for their improvement. In a proactive rather than reactive role, SENAR is to offer its contribution to change. A vivid illustration of this two-way interaction, according to them, is that literacy programmes are in general simultaneous to occupational training programmes, since the latter are the best support to the former, in terms of motivation, knowledge and skills. Generating words are related to the rural work and life conditions, as proposed by Paulo Freire. Arithmetic is also based on context, never on abstractions *per se*, for instance, formulating all the notions about the metric system on productive activities, like measuring land, production of grains, milk, etc. Yet, despite these advanced approaches, pedagogy still needs to progress significantly. As a high official recognized, at SENAR one learns by doing. The institution has not reached yet the stage of learning how to learn. A large array of specific courses and the pressure for immediate results, in terms of productivity and employability, makes it difficult to implement plans enabling lifelong learning, one of the goals of the Dakar and Jomtien Declarations.

These are some reasons why instructors participate in SENAR training projects: to be prepared to play their roles. However, they are selected and hired ad hoc, as persons or as employees/members of organizations, co-operatives and firms. As stated by a regional officer and checked in the field, instructors are chosen (whenever possible, of course) among experienced

workers in the relevant areas, sharing their time with SENAR. As a result, the institution has people involved in the market, which reduces the need for updating.

Contrary to SENAI and SENAC, SENAR has no permanent personnel for teaching, avoiding relatively high social security costs for employers in Brazil. Such a strategy saves money, however it is much harder to build an organizational culture and to accumulate instructors' contributions in skills and knowledge for the institution. Some of the instructional materials are elaborated centrally and very well printed with numerous colourful illustrations and short texts directed toward students at the lower level of schooling. Nevertheless, regional diversities in language and culture, as well as the relatively small enrolment may make the use of these materials technically and economically unfeasible. Regional administrations then substitute these booklets with locally produced summaries, often photocopied. Students, once they have finished the course or programme, are certified on the basis of national SENAR regulations. Special students do not receive a certificate, but a proof of attendance. It would be embarrassing for them to finish the course without receiving a written document, as do their colleagues.

Gender relations among students are sensitive. Occupations are differentiated in terms of gender, so that men and women will not often attend the same courses or programmes. For instance, it is not often recommended that a man and his wife be enrolled in the same literacy-training class, since it would suggest equality of conditions in the local culture. Traditional patterns determine that men are to be superior to women. Therefore, if a couple is enrolled in the same class, it would be embarrassing for men and therefore both tend to miss out on the opportunity. It is better to organize two classes, one for men and the other for women.

In spite of a history of patriarchy, the status of women in Brazil is clearly rising. Their influence is increasing both at school and at work, particularly in urban societies. The impact of their level of schooling on improvements in health, home management, birth and mortality rates and other aspects of social life is very important. It is not by coincidence that national financial aid for lower income populations, a large intergovernmental programme encouraging children's enrolment at school, transfers money directly to women,

who spend it in favour of their families much better than men. At SENAR, rural women have also been a preferential target population for social promotion programmes, including protection against toxic products used in agriculture. Several interviewees pointed out favourable repercussions due to the participation of rural wives.

Table 6.1 shows the evolution of occupational training groups, enrolment and class hours. Cattle raising, support for extractive exploitation of animal and vegetal resources, agro-industry and agriculture have been the sub-sectors to benefit the most. The average number of students per group varied from 15.6 to 16.8, meaning that their size is relatively small. The average number of hours per course varied from 28.2 to 31.0, that is, most or almost all of the investment goes to short courses. The reasons given related to the high opportunity cost for workers, their lower level of schooling and external factors like visual limitations, easily overcome if glasses were obtained. As a response, SENAR, with several partners, has conducted occupational training integrating literacy training into primary education.

The drop-out rate is around 20 per cent, which makes it more convenient to offer two short courses or programmes instead of one. Attrition rates seem very high when compared to PLANFOR, i.e. 3 per cent declared in 2000 (PLANFOR, 2001), or to the annual drop-out rate in first level education in the last years, i.e. over 10 per cent. In the specific case of SENAR, this modest level of performance is a result of several exogenous and endogenous factors. The former are in particular low incentives for education and training in rural areas, unrealistic expectations of immediate results and transport difficulties. The latter includes instructors' pedagogical difficulties, their turnover, poor instructional materials, which are also sometimes too general, and poor facilities. In any case, reduction of the drop-out rate increase would require a significant source of resources.

It is still remarkable, however, that, like an accordion, the structure is reduced or enlarged depending on the resources available. The last years were affected by revenue reductions, apparently related to the economic performance and to the decline of quasi-tax income. This degree of flexibility, with both advantages and disadvantages would be unthinkable for the first generation training system.

Estimating the impact of SENAR quantitatively: enrolment in 1999 represented about 7.6 per cent of the economically active population in the primary sector. In the following year, a sudden reduction in resources made this proportion drop to 0.06 per cent, illustrating institutional financial instability. These percentages are much lower than those of PLANFOR, an official programme with a myriad of partners, for which resources are immensely higher than those of SENAR. According to the 2000 report, PLANFOR reached 15 per cent of the total economically-active population (PLANFOR, 2001).

Table 6.1 SENAR: occupational training by field of action, 1997-2000

Fields	Groups	Enrolment*	Class hours
Agriculture			
1997	4,312	76,197	99,900
1998	4,039	64,314	93,153
1999	4,106	72,712	102,999
2000	3,369	60,769	85,766
Cattle raising			
1997	8,199	115,952	235,489
1998	6,635	93,381	205,133
1999	6,546	99,897	197,123
2000	4,644	73,232	144,121
Silviculture			
1997	167	2,768	4,067
1998	39	543	1,819
1999	54	1,327	2,273
2000	31	862	1,230
Aquaculture			
1997	627	9230	16,329
1998	477	7,375	13,998
1999	420	6,284	12,375
2000	331	7,057	11,510

Agro-industry			
1997	2,732	38,194	76,895
1998	3,180	48,301	100,243
1999	3,368	52,811	103,177
2000	2,550	39,421	90,696
Extractive logging			
1997	65	934	1,998
1998	104	1,764	3,606
1999	46	759	1,642
2000	23	533	1,112
Agriculture-forestry-livestock activities			
1997	5,149	89,127	151,513
1998	-	-	-
1999	-	-	-
2000	-	-	-
Support for extractive exploitation of animal and vegetal resources			
1997	35	647	1,400
1998	5,427	95,484	150,502
1999	5,747	109,697	161,819
2000	4,157	74,991	116,604
Services			
1997	614	7,702	29,059
1998	567	7,228	22,718
1999	890	11,580	36,832
2000	747	10,237	40,974
Total			
1997	21,900	340,751	616,650
1998	20,468	318,390	591,172
1999	21,177	355,157	618,240
2000	15,852	267,102	492,013

Source: SENAR reports.

* Data for 2000 take into account students that finish courses only.

Policy lessons:

- Actions in a scattered population milieu need an extensive network of mobilization agents and even animators.
- A tripartite combination of good quality mobilization, supervision and teaching is a formula for success.
- Interaction between general education and occupational training reduces costs and maximizes results.
- The role of women is strategic in rural social promotion and occupational training.
- The best instructors come directly from the labour market. Some negative effects:
 - Ad hoc instructors may regard their role as secondary and less demanding.
 - The turnover of instructors is an obstacle in building an organizational culture and accumulating experience.
 - Drop-out rates are very sensitive to training factors and to the educational levels of both employers and workers.

Chapter 7

Social promotion and training: a two-way street

Social promotion is defined as a non-formal, participative educational process, aiming to develop the social and personal abilities of rural workers and their families, as well as to improve life quality. Starvation and illiteracy, of course, are serious problems in poor rural areas. These conditions have a negative impact on human development and are obstacles to occupational training. Emphasizing the important role of women, social promotion philosophy, as stated by several officials and agents, is to reach the family, an important primary social group and often a work unit in rural areas.

Most of the effort to build a two-way street between social promotion and training has gone into education, arts and crafts, and domestic food production and nutrition (*Table 7.1*). Culture, leisure and sport have been declining fields of activities. The average number of participants per group, from 22.0 to 25.7, was higher than in occupational training. In contrast, the smallest average number of hours per group was 41.7 and the highest was 65.0. It is possible that motivation has been stronger for non-formal education, particularly in projects that help people to find new sources of nutrients and to sell the excess in the market. The same happens to cleaning products made at home with local means. The study of herbs that apply to health care is also one of the most attractive courses, especially relevant where doctors and conventional medicines are distant and expensive. Another interesting experience to note is literacy training associated with a course on how to use cheap materials, including disposable ones, to make water reservoirs.

Table 7.1 SENAR: social promotion, 1997-2000

Fields	Groups	Participants*	Class hours
Health			
1997	16,662	368,973	574,676
1998	16,365	425,032	574,528
1999	207	5,320	3,921
2000	401	21,638	5,257
Food and nutrition			
1997	-	-	-
1998	799	12,124	25,233
1999	959	13,366	28,220
2000	1,108	16,549	31,759
Culture, sport and leisure			
1997	187	3,617	8,815
1998	164	9,437	2,066
1999	239	12,971	3,187
2000	104	4,651	1,904
Community organization			
1997	150	32,675	2,694
1998	338	8,417	8,961
1999	234	6,352	5,602
2000	97	5,896	2,869
Community support			
1997	-	-	-
1998	25	31,913	298
1999	120	21,133	1,129
2000	160	4,876	2,538
Arts and crafts			
1997	1,858	25,601	89,109
1998	1,895	26,931	85,365
1999	1,242	17,583	49,553
2000	1,566	18,421	58,480

Education			
1997	1,026	24,554	154,839
1998	12,844	320,385	655,396
1999	51,959	1,334,827	2,542,168
2000	1,638	39,551	227,150
<hr/>			
Total			
1997	19,883	455,420	830,133
1998	32,430	834,239	1,351,847
1999	54,960	1,411,552	2,633,780
2000	5,074	111,582	329,957

Source: SENAR reports.

* Data for 2000 take into account students that finish courses/programmes only.

A special project aimed at children is *Agrinho*, conducted in Paraná, one of the most important agricultural states in Brazil. Its initial challenge was health problems caused to workers and their families by toxic chemical products used in agriculture. Rural elementary schools were the primary means to shape new behaviours and attitudes. SENAR offered technical support and materials to develop a cross-curricular theme on the problems related to those products. The success led to the expansion of the project in just a few years to develop three cross-curricular topics each year: health, environment and citizenship. It now reaches about 80 per cent of the elementary school pupils in the state in both rural and urban areas.

Another example is a programme directed toward rural adolescents in São Paulo state. It focuses on the particular needs of this vulnerable group, offering general and occupational education, as well as social promotion activities. As they often start working early, they may fail at school. This fact limits their possibilities as citizens and workers, often pushing them into rural-urban migration. Once in cities, they are restricted to non-qualified jobs. This project of 'integral education' aims to develop adolescents' values, attitudes, knowledge and skills, with special support to their families.

The Rural Citizen Project, developed in several states, is a concentrated set of actions in the fields of health, education, nutrition, culture, sport and leisure, among others. Since transportation is difficult and expensive, these events, somewhat similar to fairs, gather rural people, offering services and developing short educational projects. One of the aims of the project is to

issue birth certificates and identification cards, essential to civil life, but hard to obtain in rural areas.

The geographical distribution of occupational training enrolment and number of participants in social promotion projects (*Table 7.2*) reflects development disparities. Concentration is clear in southern and south-eastern regions, where agricultural modernization and industrialization are more advanced, while northern (the Amazon Valley), north-eastern and central-western regions receive fewer benefits. Except for the north-eastern region, the poorest in Brazil, where social promotion project participants are in the majority, resource allocation is a result of and an incentive to regional concentration. In some cases, coverage was low due to local conditions. This seems particularly true for the Amazon Valley, where the population is highly dispersed. For example, in a northeastern state, Maranhão, which is larger than Poland, the administration offered only four vocational training courses in 2000, issuing certificates to 416 students. In the same region, Paraíba had no activities.

Table 7.2 SENAR: occupational training enrolment and social promotion participants by geographical region (%), 2000

Regions	Occupational training enrolment	Social promotion participants
Northern	5.2	8.4
North-eastern	16.9	32.0
South-eastern	26.1	22.3
Southern	39.5	31.7
Central-western	12.3	5.6
Total	100.0	100.0

Source: SENAR site (www.senar.org.br), captured on December 10, 2001.

The success of educational programmes depends on personnel development. Although SENAR temporarily hires most of its workforce, it is especially interested in strategic groups, like instructors, supervisors,

mobilization agents and union leaders. A relatively high number of them have had increasing development opportunities (*Table 7.3*). Technical meetings for big groups had an impulse in 2000 so that the average number of participants per programme went up from 24.5 to 105.0. Such increase is explained by two factors: 1) the drastic reduction of resources, already mentioned, made the institution place personnel development, at least temporarily, as a secondary goal, with the expectation of recovery in the future; 2) budget cuts led to prioritizing general issues instead of specific ones, increasing coverage. As the quasi-tax percentage increased recently, it is likely that investment in this area will compensate its losses in the near future.

**Table 7.3 SENAR: human resources development
by programme area, 1997-2000**

Areas	Programmes	Participants
Instructors' and supervisors' training		
1997	29	821
1998	28	1,032
1999	28	1,080
2000	76	2,032
Supervisors		
1997	1	12
1998*	4	28
1999		
2000		
Mobilization agents		
1997	8	235
1998	8	219
1999
2000	18	479
Instructional materials production		
1997	13	199
1998
1999	2	35
2000

Other technical meetings

1997	8	...
1998	36	583
1999	41	980
2000	438	53,366

Total

1997	59	...
1998	76	1,862
1999	71	1,949
2000	532	55,877

Source: SENAR reports.

* Including mobilization.

Policy lessons:

- Interaction between occupational training and social promotion minimizes costs and contributes to reaching better results.
- A concentrated set of actions in diverse fields of social promotion tends to be effective, since it addresses rural people and families in a holistic, non-fragmented policy perspective.
- Women and children are the priority target populations for investing in health and education, in particular in environmental education.

Chapter 8

Instructional materials and distance education

Numerous instructional materials were produced in the last four years: a total of 97 primers for occupational training students and social promotion programme participants and two handbooks for instructors, among others. As previously stated, primers are printed for courses or programmes that have relatively high numbers of participants; otherwise local materials are used.

Such experience has been useful for introducing distance education in occupational training and personnel development. Sparsely populated areas may benefit from new educational technologies at a lower cost, with flexible teaching-learning conditions. Programmes started in 1998 have focused on mobilization agents, instructors and rural workers. CD-ROMs, booklets, radio programmes, cassettes and videotapes have been produced since then. Computers and the web were added some time later. Radio broadcasting has offered this additional contribution to the development of rural Brazil. The cost per student or participant must have been high in the beginning, as a result of low enrolment. However, it seems to be decreasing, in spite of the fact that the average number of participants per programme still was 30.5 in 2000. According to some interviewees, because the primary sector has a wide range of simple, basic problems, distance education has had a strong impact on behavioural change and productivity growth. Partnership with universities and research institutions will certainly improve performance.

Policy lessons:

- Satisfactory cost-effectiveness depends upon an optimum equilibrium between centralization and decentralization in the production of instructional materials. Excess in the former may reduce costs, but it will also reduce effectiveness, being less sensitive to local needs and languages. Excess in the latter may increase effectiveness on the basis of excessive cost.
- Good quality distance education, as internationally recognized, is expensive. The only remedy is to ensure high enrolments to reduce cost per student.

Chapter 9

Financing and responsiveness

Studies on cost per student or participant or the evolution of financial resources are virtually non-existent. Yet, interviews and analysis of documents helped to clarify these issues. As pointed out before, vocational education/training systems in Brazil have been specifically funded by a payroll tax. The same occurred with SENAR when it was constituted by a federal act in 1991. Complex games due to opposing political pressures causes relatively frequent legal changes, reducing or increasing not only SENAR's, but also SENAI's and SENAC's income. Impacting on prices as an indirect tax, the contribution or quasi-tax affects sensitive areas, such as food prices and the inflation rate. Therefore, ups and downs in its legally-established percentage are not surprising.

As a consequence, in the case of SENAR, but not of SENAI and SENAC, the burden of the payroll tax on employment caused its substitution by a 0.1 per cent contribution (a sort of quasi-tax) on gross revenue derived from agro-industrial product sales. In such a large country as Brazil, it is hard to estimate the size of evasion. Diverse sources informed that around 90 per cent of the total SENAR income depends upon that contribution, the other 10 per cent coming from services, partnerships, etc. After this legal change, resources had an almost 50 per cent decrease in actual value, reflecting the level of activities (see especially *Tables 6.1 and 7.1*).

SENAR income composition is illustrative of the sector difficulties. It is estimated that a much greater part of the urban S System comes from service sales and other non-traditional sources. In contrast, this proportion is only about one tenth of SENAR revenues. This is not a result of negligence. Despite many statements, rural activities are still a long way from modern management and technologies oriented toward national and international markets. As a matter of fact, the rural sector is poor, heterogeneous in terms of sub-sectors and geographical areas and it is fragile from the organizational perspective.

At last, after long negotiations, Act no. 10,256, dated July 9, 2001, increased the contribution percentage to 0.25 on gross revenue from agro-industrial product sales. This means that the resource amount has increased lately from the estimated yearly amount of around US\$19 million. It is remarkable, however, that such income is more subject to economic conjuncture and seasonal variations than that of the urban sectors.

These resources are collected from rural employers by the official social security system. Its 3.5 per cent commission on the total amount is relatively high. Moreover, several interviewees complained about the late financial transfers to SENAR. The chronic social security deficit may be temporarily covered by the delay in sending money to its legal addressees. Furthermore, external auditing is practically unfeasible such that some interviewees called the social security system a black box from the SENAR standpoint. Transparency in governmental as well as non-governmental finance for the public in general is also very low.

Once received by the National Administration, the contribution goes to a fund to be distributed among states and the Federal District monthly. Regulations apply some 'Robin Hood criteria' to benefit the least developed regions. One of them is a modest minimum of four courses or programmes per month. As showed above (*Table 7.2*), this equalization fund does not seem to have very significant effects on the regional distribution of enrolment and social promotion project participants.

Therefore, from the legal point of view, SENAR is sustained by a quasi-tax on employers, that being the rationale for them to manage it. Students and social programme participants are not allowed to pay for services. However, from the economic standpoint, this contribution may work as a sort of sales tax, being incorporated into the final prices paid by consumers. As noted before, the same applies to traditional payroll taxes.

Considering the vulnerability of rural production to seasonal variations and other factors, this alternative method of financing is a powerful incentive to responsiveness. Quick responses to demands and effective projects are essential reasons to convince rural employers to pay the proper amount of money to SENAR. The hard work invested in generating income and providing

services is another difference in relation to the first generation of the so-called S System. High economic growth and payroll taxes assured a relatively comfortable situation for training institutions, so money came anyway, at least until the adjustment in the eighties.

In contrast, in the SENAR case, since convincing taxpayers is recognized as a significant factor in reducing fiscal evasion, the collecting system is very fragile. A special problem for this organization is the fluidity of income resulting from primary sector products. Of course, these conditions are variable. Evasion in large-scale, export-oriented sectors, like soybean production, and in entrepreneurial organizations is almost insignificant. The opposite happens to small and medium farmers, often oriented toward the internal market and food production. Their finances are precarious and more vulnerable to the burden of an inequitable tax system. However, they are some of the most needy sub-sectors in terms of technical assistance and occupational training.

This is one of the reasons why the payroll tax persists as a source of financing the S System first generation and the first level of public education. Despite high unemployment and underemployment, proposals to alleviate payroll tax have been resisted for decades. It is noteworthy that different governments have avoided the delicate issue of tax system reform.

Another factor affecting responsiveness might be a payment for services offered by SENAR to employers and/or workers. This could also be a means of reducing the high drop-out rate in occupational training programmes, indicated above. However, rural poverty is so serious that such payments would prevent peasants and family farmers from participating. Moreover, additional payments would be considered an additional quasi-tax, since the funds collected by the official social security system are already legally earmarked for these activities.

Policy lessons:

- Partnerships, service, and sales cannot be solely responsible for most of the rural occupational training and social promotion in a developing country like Brazil. Thus, public funds are necessary for large-scale, long-term programmes.
- The main weaknesses of a quasi-tax on primary product sales instead of a payroll tax are its variations and fiscal evasion, causing relatively high levels of organizational instability.
- 'Robin Hood' criteria, preferably adopted by formulae, are necessary to meet equity demands, otherwise, poor regions will become poorer, while richer regions will become even richer.

Chapter 10

Modest costs

In the absence of cost research, impressions and estimations are the only available sources. SENAR costs per student or participant are likely to be much lower than those of the vocational education/training systems for the urban sector. As mentioned before organizational structure and facilities are responsible for a minimum percentage of the total cost. For instance, the Federal District Administration uses two rooms assigned by the employers association. The regular personnel are composed of one superintendent, one supervisor and two clerks. Mobilization agents and instructors, as in the rest of the country, are not on the payroll, but they are specifically hired by short-term, renewable contracts, reducing the impact of fixed-labour expenditure. Instructors earn from US\$5.00 to US\$5.80 per hour plus financial aid for transport. The variations are due to their level of schooling. As an average course in 2000 had 31 hours, the cost related to instructors varied from US\$155 to US\$180. Transport aid, mobilization agents, instructional materials and equipment need to be added to this amount. The total payroll of the Federal District in 2001 was declared around US\$ 2,390 per month, hardly comparable to similar organizations. Considering that expenditure on instructors corresponds to 80 per cent of the total, the average expenditure per student would be US\$15.07 in 2000, whereas the average expenditure per student/hour would be US\$0.49. Compared to PLANFOR in the same year, SENAR courses in Federal District were 50 per cent shorter, and its estimated expenditure per student/hour was 45.4 per cent of that official programme. In contrast, the average drop-out rate declared in the former was 3 per cent, while the average at SENAR was approximately 20 per cent.

In Maranhão, one of the poorest states in the country, the regional administration has a total of 11 employees, five among them are rural technicians (one for each economic sub-sector). Three projects are funded by a partner. Flexibility is imposed by local economic conditions in order to face major variations in income. In fact, local SENAR relies on its own money from July to December only.

Paraná, a relatively rich state, has a small, rented head office, 38 employees (including its superintendent), and over 200 instructors temporarily hired. Regional supervisors are nine agronomic engineers who travel from one place to another in mobile offices, equipped with a notebook computer, audio-visual equipment, a mobile phone and access to the Web from any area of the state.

These examples indicate that the institution maximizes variable costs and minimizes fixed costs, as a matter of adaptation to its context and the consequent need for survival. Specific research on this issue would reveal interesting results and experiences for other countries.

Policy lessons:

- Cost reduction is assured by reduction of fixed costs in personnel and facilities.
- Reduction of drop-out rate is a significant source of financing for activities and projects.

Chapter 11

Modest costs – good results?

In spite of numerous innovations and years of practice, evaluation needs to progress significantly at SENAR. The institution has systematic course and programme evaluation by students/participants, instructors and supervisors. The former evaluate instructors and courses/programmes, whereas instructors evaluate courses or programmes and the mobilization process. Supervisors make a comprehensive evaluation of the courses/programmes in all their stages. However, student/participant follow up is still to be implemented, although ILO co-operation has been negotiated for this important programme.

A private group conducted a recent project evaluation on the socio-occupational impact of the *Vocational Education Program for Non-schooled Rural Workers* (Lopes, 2001). This exploratory project aimed to identify and interpret the impact on selected rural communities of an integrated SENAR programme in less developed areas. It integrates a literacy programme for youths over 15 years of age, social promotion and occupational education. The synergy of different activities addresses the difficulties already mentioned of qualifying illiterate people in rural areas, since isolated actions are not effective. Qualitative methodology was directed toward listening to participants. Intentional sampling chose three states where SENAR had higher, average and lower levels of educational activities. In each of them, counties and rural communities were stratified on the basis of different variables and randomly selected to compose an experimental and a control group, each one with 210 interviewees. The first group was composed of communities where SENAR had offered its courses/programmes previously, while the second group had not had any SENAR action. This evaluation project had two kinds of limitations: 1) the control group had previous experience in associations, co-operatives, unions and community organization so that both groups were not clearly differentiated in classical methodological terms; 2) most of the investigated variables, such as community organization, participation and social consciousness, are expected to have long-term results.

Yet, data collection occurred mostly in the fourth month after SENAR courses and programmes finished in the selected communities.

The research project found a relatively weak impact of the SENAR action on community organization and participation, as well as the collective business and work perspective. People often did not show a clear disposition to act together. In contrast, socio-occupational impact was significant, particularly concerning:

- 1) entrepreneurship;
- 2) conscience in relation to the importance of education;
- 3) use of television and printed instructional materials; and
- 4) perceptions on the need for further schooling and occupational education.

Courses and programmes also heightened motivation for reading, discussing political issues and increased citizenship consciousness. Some of the recommendations based on this investigation are:

- 1) a special emphasis on community organization;
- 2) a focus on environmental issues and entrepreneurship in all courses;
- 3) development of a follow-up system of students/participants;
- 4) promotion of stronger integration among diverse economic and social actions in the rural communities.

Therefore, these particular results were positive and significant, although further study is necessary.

Besides this project, an informal evaluation by *Confederação Nacional dos Trabalhadores na Agricultura* – CONTAG (National Confederation of Agricultural Workers) brought up interesting points. According to its critical view, SENAR is managed by rural employers, as determined by law, with the symbolic participation of the other actors. CONTAG has three representatives in a total of 14 board members. However, they are restricted to managerial and financial issues. According to their perception, they do not have an actual voice on institutional policies. Thus, educational and social actions are conducted from the perspective of the employers, not the workers. As a

consequence, courses are too focused on teaching ‘how to’, i.e. on imparting skills, missing the social and entrepreneurial aspects. Not leading to ‘conscientization’ (a concept introduced by Paulo Freire), the courses and programmes tend to reinforce the present social system. CONTAG’s proposal is that employers should manage 50 per cent of the earmarked resources, leaving the other half to the rural unions’ programmes, which are based on their own philosophical principles. Since some of the most serious challenges to Brazilian society are poverty and undereducation, it advocates massive investment in education and social promotion within an institutional framework different from SENAR. Thus, real social change is not expected to happen under the aegis of employers, if equality is to be reached in the country.

Of course, the divergence between both national confederations in relation to SENAR’s structure and organization must be seen in the context of wider political and ideological differences. It is likely that the suggested ‘Solomonic’ solution of splitting notoriously scarce financial resources in half would not work. As seen, CONTAG does not demand a tripartite model, but another alternative to the traditional Brazilian model of partnership between government and employers. Of course, this is an issue for long discussion.

Policy lessons:

- SENAR strategies reach the goal to keep costs low. However, it is important to have modest costs and at the same time to reach good results, i.e. high cost-effectiveness.
- Therefore, formative and summative evaluation is essential to assure positive effects. Budget cuts in this area may be fatal.
- The well known tripartite system, composed of government, employers and workers, must effectively work to avoid biased processes and results. Pacts are difficult though effective.

Conclusions

SENAR has offered interesting solutions to occupational education/training and social promotion in rural Brazil. It also has offered new alternatives in the field of management and partnership, starting from a different point in relation to its first generation predecessors. The role of the state has been redefined in recent Brazilian history, in terms of reducing its direct presence and enlarging its roles as supporter and regulator. Competitiveness, responsiveness, dynamism, flexibility and partnership have been some of the key words for vocational education/training in this country. Actors have defended the tightened relationship with labour markets, although privatization of vocational education/training has not been a successful proposition. Partnership and decentralization have been intermediate alternatives between state action and the invisible hand of market forces (Atchoarena, 1998). In fact, apprenticeship systems in Brazil in the Second World War and the post-war were pioneer partnerships between state and employers. The former seldom exerted any sort of central control. Even in hard times, the Brazilian S System did not follow drastic adjustments and goal changes like those of the National Institute for Vocational Training (INACAP), in Chile, where deregulation policies and withdrawal of public financial support led this institution to sell services to those people and firms that could pay, causing a consequent negative impact on equity (Bas and Castro, n.d.).

Thus, SENAR and the other Brazilian vocational education/training systems seem to be in an intermediate position. At least in the case of the rural sector, total privatization would affect equity dramatically. As discussed in prior sections, public funds have been essential in reaching the least privileged social groups, where the average income is much lower than that in urban areas.

In fact, the lesson the country may offer is not on privatization, but on a diverse kind of adaptation to a globalizing economy that is opening up. Although the federal government established an official organization also called SENAR in the eighties, an administrative reform closed it some years later as a consequence of inefficiency and the demands of fiscal austerity. Therefore, the new SENAR is not the result of a privatization process. On the contrary,

it started from zero. As it has been managed and inspired by private business philosophy since its foundation, its greatest difficulty, besides relative underfinancing, was the installation of the appropriate national, regional and local staff. Small group training was an interesting way to disseminate the institution's goals and processes in its first years.

It is interesting to point out that the old S System also provided some lessons. Relatively solid until the beginning of the external debt crisis in the early 1980s, they heavily relied upon payroll tax. Almost suddenly, urban unemployment and high inflation led it to adaptation, not to a radical adjustment, but to a compromise solution in the same framework of public, non-governmental organizations. They then had to reduce investment in facilities, often substituted by mobile units temporarily parked in companies and communities. The most technologically sophisticated and profitable economic activities, as well as the informal sector, started to deserve special attention. They also cut permanent personnel, reduced activities and developed a modern managerial mentality. They looked for alternative sources of income and competed vigorously in the market to keep alive (Amadeo and Gomes, 1994). In recent years, they have worked largely with consultants, sponsors and partners, as well as with trained personnel for business competition. Middle- and high-level managers are relatively well rewarded and work on the basis of market concurrence. Personnel training has been a key factor in the change, although a whole generation of workers recruited by traditional patterns has been an obstacle. Furthermore, diverse activities have a supplementary payment from users (persons and companies), which is easier in the urban than in the rural sector. For instance, in the field of social promotion, at least in a large state, early childhood education has been maintained by parents' co-operatives and some funds from the S System. This adjustment caused unavoidable change in the children's socio-economic status. However, most of the educational resources have gone to adult education to meet urgent needs from employers and workers, with faster economic and social return. Even so it is important to observe that this organizational adjustment was not sufficient. Political pressures resulted in a payroll tax increase in the late eighties, as a means to assure solvency in the system.

SENAR simply should not have had to make these changes. In the early 1990s, its founders had the lessons from the urban sector in the previous

decade. They also had the experience of the failure of the official rural apprenticeship in the eighties. They simply knew what would not work. Then they did the hard work to build flexible organizations and light structures, to hire temporary personnel and to centralize most of the instructional material production to reduce unit costs. The *ethos* of market competition is so strong that officials tend to be highly reserved in detailing some experiences, fearing they may be copied by other organizations.

Adapting to new times, SENAR has found new solutions and has developed innovative projects. The main lesson to be learned is the need of a light, flexible organizational structure and cutting fixed costs. Moreover, social promotion and occupational education need to be associated in the same areas. This is a way of effectively reaching target populations. In summary, some policy suggestions for other countries emerge from the SENAR case, most of them indicated before:

- 1) *Privatization*: The first S System generation experience, mentioned above, is that of adjustment. In this sense, the lesson is that to start from nothing is easier than to restructure a huge organization. These traditional institutions, as well as SENAR, have been maintained as a cluster of public, non-governmental organizations, according to basically the same legal framework of the 1940s. Contrary to what is commonly believed, SENAR is not a private company, although it aspires to acquiring this legal status.
- 2) *Equity promotion*: SENAR's experience has shown that market mechanisms alone are favourable to efficiency, but not necessarily to equity. According to the tradition of the Brazilian tax system, formulae have been largely used for resource distribution, in order to compensate for regional differences. Area, population, *per capita* GDP, production value and minimum level of activities per state are some of the usual components. In the SENAR case, progressive distribution (or 'Robin Hood' effects) is also based on formulae. The definition of target groups, however, depend on articulations by farmers associations, workers' unions, and mobilization agents, being vulnerable to pressure demands. Yet, these criteria do not create miracles in equity. The most important reason is that the struggle of economic and political forces in the arena shape revenue formulae. They also reflect market mechanisms and

may lead to a vicious, not a virtuous circle, as many experiences in educational finance suggest (Levacic, Ross, Caldwell and Odden, 2000; Odden, 2000).

- 3) *Planning and market mechanisms:* As written above, market mechanisms are very good at improving efficiency. However, policies need to balance efficiency and equity, like a pair of scales. SENAR has had its master plans at national and regional levels, aiming to reduce disparities among sub-sectors and regions. Nevertheless, competitive mechanisms often imply obtaining more money, while compensation has a cost, sometimes very high, in an institution relying on seasonal sources of income. As a result, economic and political forces negotiate in the planning process, so that the institution can equilibrate costs and benefits. This is the main limit of the search for equity.
- 4) *Increasing rural output and productivity:* It is noteworthy that SENAR is concerned not only with better productive processes, but also with entrepreneurship. Family production is one of the special *foci*. Many of SENAR programmes and partnerships are directed toward preparing workers and particularly small and medium producers to improve their productivity and expand their output. In Brazil, as in many other countries, small and medium companies generate many more jobs relatively than big business. In a country with a huge population, employment is so crucial that a public, non-governmental organization, Brazilian Micro and Small Business Support Service (SEBRAE), acts nationally in training, advising and other fields in favour of small, medium and individual businesses. Its good results led to a useful partnership with SENAR.
- 5) *Integrating experiences:* Decentralized, flexible action is one of the greatest of SENAR's competitive advantages. However, it is necessary to ensure the capitalization of these experiences. Regional and national meetings for exchanging and analyzing experiences among supervisors, instructors and mobilization agents are the main means for reaching this goal. Moreover, the National Administration has set standards for market research, personnel selection, curricula planning, instructional material production, certification, etc. Besides relative decentralization, vertical two-way flows of communication among the organizational levels are

an important means to integrate and to accumulate experiences. But the turnover of instructors is an obvious problem.

- 6) *Social promotion and occupational training*: In the context of rural societies, one of the most successful features of SENAR's experience is the integration of occupational training and social promotion in the same organization. As mentioned before, this is one of the differences in relation to the S System first generation, which does not mean that this separation would be necessarily good for the urban milieu. In the SENAR case, a lighter managerial structure is certainly a benefit. Furthermore, poverty in rural areas has special demands. Work life is intrinsically related to general education, health education and other fields of activity already mentioned, requiring a holistic perspective. Many of the rural producers live in the same place as they work. SENAR gains better results in the proportion of active dialogue between occupational training and social promotion. This synergy seems to improve cost-effectiveness.

Adapting to new times, SENAR has found new solutions and has developed innovations. Its impact is still to be better evaluated in order to know what really makes a difference in rural society. Furthermore, process evaluation is also important. It is a fact that the institution has reached relatively lower unit costs, as a result of a competitive philosophy and hard struggle for resources. But, just as light and shadow are intimately associated, some relevant questions concern the economic, social and organizational effects of the relatively low levels of resource predictability, as well as the complex management of numerous partnerships. Of course, it is good to have a light structure and minimum costs, however, what is the corresponding burden of administering complex interactions with such diverse partners and three levels of governmental? Has an organizational culture been developed, with cumulative experience for the future? What is the effect of the need to negotiate new arrangements for almost every project? Raising money from different sources is useful, however what are the consequences of occasional underfunding on effectiveness? In other words, what is the difference between healthy competition for alternative sources and a hard struggle against underfunding? These are some questions on the limitations and possibilities of the new model. They are not lessons for other countries, but issues to be considered.

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