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CINTERFOR/ILO

# **VOCATIONAL TRAINING ON THE THRESHOLD OF THE 1990s**

Volume I

A study in two volumes of  
changes and innovations in  
specialized institutions of  
Latin America

**Centro Interamericano de Investigación  
y Documentación sobre  
Formación Profesional**

**Montevideo, Uruguay**

***Vocational training on the threshold of the 1990s*** was elaborated by Maria Angélica Ducci, CINTERFOR/ILO expert. Pedro Daniel Weinberg, Ligia Chang Alfaro, Eduardo Martínez Espinosa, Jaime Ramírez Guerrero and Fernando Rojas, collaborated as consultants. Thanks to the special contribution of SENAI from Brazil, Marisa de Assis and Arlette de Paula Guilbert also collaborated as consultants.

This document constitutes the final report of the *regional study on vocational training institutions and systems in Latin America*, implemented by CINTERFOR/ILO with the collaboration of IBRD, IDRC of Canada, GTZ of Germany and IDB. The research was designed and conducted by María Angélica Ducci. The abovementioned consultants and specialists from vocational training institutions associated to CINTERFOR, participated in its implementation.

## **PREFACE**

This study was commissioned as part of a World Bank program of research and policy analysis on vocational and technical education and training in developing countries. Launched in 1988, the study was supported by the World Bank, the Deutsche Gesellschaft für Technische Zusammenarbeit (Germany), the International Development Research Centre (Canada), the Inter-American Development Bank, and the International Labour Office. An Advisory Group consisting of John Middleton (World Bank), Ewald Gold (GTZ), Daniel Morales-Gomez (IDRC), Nassim Mehedff (IDB), and Claudio de Moura Castro (ILO) helped develop the design of the study.

The study was carried out by the InterAmerican Center for Information and Research on Vocational Training (CINTERFOR), under the able direction of Maria Angélica Ducci. Located in Montevideo, Uruguay, CINTERFOR is affiliated with the International Labour Organization, and is governed by a Board elected by the Vocational Training Institutes of Latin American countries.

CINTERFOR will publish the study in Spanish. This English language version is being disseminated to provide quick access to the data and conclusions for those that do not read Spanish, even though the translation is less than fully polished. The findings, interpretations, and conclusions are solely those of the authors, and should not be attributed to the World Bank, its Board of Directors, its management, or any of its member countries, or to any of the other organizations who co-sponsored the study.

## PROLOGUE

*Since its creation, one of CINTERFOR's fundamental tools for promoting the development of vocational training in the region has been the fostering and direct undertaking of research in this field. The national institutions specialising in vocational training have incorporated units for research into the socioeconomic and occupational context in order to guide the programming decisions they must make in the short and medium term. In this way, over the past twenty years, in different spheres and levels, methodologies have been developed and research work has been carried out, particularly in three areas: 1) studies for training needs assessment; 2) follow-up studies on graduates; and 3) occupational analyses.*

*In the 1960s, when the human resources issue gained attention in the region, many cost-benefit studies were undertaken by vocational training institutions in specific areas of their activities. At the same time, CINTERFOR, with a certain frequency but without regularity, has performed some global analyses of the trends and innovations in the field of vocational training, taking advantage of the results of technical seminars and missions for observation and negotiation of programmes with national institutions. Some years back it produced a series of papers by country, which offered a characterisation or a profile of vocational training, using a method of an anthropological sort, through direct observation, interviews, and qualitative analysis. The result was limited by the resources then available and the time allotted for this work, given that we had decided to perform it with the Centre's own personnel. The papers that it managed to complete were published. The focus proposed a creative approach to the question in each country, starting with general questions as to who is responsible for vocational training and how it is structured at national level, and going on to observe the degree of participation of specialised entities - which would later be the subject of a specific description - and of enterprises and non-governmental organisations. For the reasons indicated above, the studies were limited to a description of the specialised national institutions.*

*Yet there remained at Cinterfor an interest and a willingness to once again take up this essential task, which we see as the very basis for our existence. The project included a broader initial study, and then the establishment of an*

*information system to provide the data for an annual report on vocational training products, trends and innovations in each country. With the recent economic crisis and the drastic measures for structural change in the production area, national institutions and public authorities have seen the need for full consideration of the targets and roles of vocational training. Moreover, the institutional structures devoted to socioeconomic research have deteriorated and in only a very few cases continue producing effectively. A broad questioning of the vocational training endeavour would require a redoubling of efforts at all levels.*

*By a very fortunate coincidence of interests, the World Bank, that had undertaken the elaboration of a document on policies for technical-vocational education and training, brought about the possibility of linking the objectives of CINTERFOR and the Bank in an overall regional study involving greater resources, to provide a qualitative assessment of what is happening in vocational training and its strategic dimensions. The great currentness of this issue also attracted the adherence of important organisations such as IDB, GTZ and IDRC. Thus, an interest group was formed, permitting a pooling of resources - even if limited - to undertake an ambitious research project, the product of which is this document. It also made it possible to bring together a professional group with representatives from the various associated agencies, which contributed to perfecting the project idea, in line with the needs of the co-participating organisations.*

*We are very grateful for the contributions of financial and professional resources made by the aforesaid organisations, and we particularly acknowledge the technical contribution made by the project's consulting group, formed by John Middleton of the IBRD, Daniel Morales Gómez of IDRC, Ewald Gold of GTZ, and Nassim Mehedff of IDB. We similarly received significant support from the ILO Vocational Training Policies Services, and particularly from Cláudio de Moura Castro, who also participated in the discussion and in the work of the aforesaid group. This study was also possible thanks to the existence in our region of experienced professionals who combine specific knowledge of their countries with a vision and a spirit of cooperation and integration at international level. Their technical contribution and the collaboration of their respective institutions were decisive. Among them are Marisa de Assis, Ligia Chang, Arlette de Paula Guibert, Eduardo Martínez Espinosa, Jaime Ramírez Guerrero, Fernando Rojas, and Pedro Daniel Weinberg.*

*To the technical conduction of the study, María Angélica Ducci, of CINTERFOR, has brought her prior experience on studies prepared by her, a broad knowledge of different national contexts as a result of the on-going contact*

*she maintains in the execution of her duties, and her outstanding professional qualifications; she has contributed all this, together with her enormous dedication to the project. I must recognise her decisive contribution to providing the regional community with the important information supplied by this paper, thus allowing discussion and thought among the highest authorities and practitioners of vocational training.*

*The conceptual framework and the substance of the project are also the product of the culture and of the context of the healthy discussions fostered by CINTERFOR as one of its essential goals. On innumerable occasions, and whenever professionals in this field meet at the Centre's offices, the discussions generate questioning and points of analysis that give shape to lines of research related to the possible scenarios for vocational training in the future. We are thus indebted to a regional culture which is nourished by contributions whose authors range from anonymous instructors and technical experts in the most far-off training centres, to the directors making the decisions that affect the day-to-day operations and the destiny of training in Latin America and the Caribbean.*

*This edition was produced to take advantage of the incomparable opportunity represented by the privileged forum of the Technical Committee, where CINTERFOR directors examine the most important issues for the decisions guiding the destiny of vocational training. We wanted to present the paper on this occasion, even if it meant sacrificing some details of content and any future revisions. Our thanks go to the World Bank, IBD, IDRC and GTZ for their agreement, and to our associated members for their understanding.*

*This Regional Study opens up the way for other research which we hope to be able to carry out in the near future, with the direct participation of our associates and co-sponsors. Yet the best achievement of all will be the incorporation of the research function as an instrument for change and modernisation at all of the institutions, as part of their on-going endeavours.*

*João Carlos Alexim  
Cinterfor Director*

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## **PRESENTATION**

**The present report is the result of the regional study on vocational training institutions and systems in Latin American countries, carried out by the Inter-American Centre for Research and Documentation on Vocational Training (Cinterfor), a specialised ILO programme whose objective is to promote the development of vocational training in the region. This study was implemented within the framework of the project financially supported by the International Bank for Reconstruction and Development (IBRD), the Gesellschaft für Technische Zusammenarbeit (GTZ) of Germany, the International Development Research Centre (IDRC) of Canada, and the Inter-American Development Bank (IDB).**

**The purpose of the study was to undertake a global, in-depth review of the performance of VTIs in the countries of Latin America, with a view to providing elements for undertaking or reinforcing the changes required in their organisation, structure, operation and fields of action, so as to respond as closely as possible to the current and future needs of economic and social development of the countries.**

**Under this scope, the research was oriented to identifying the distinctive characteristics of the organisational, financing, planning, management and operational models implemented by VTIs in Latin America, and to examining their margin of agility, flexibility and adaptability to cope with changing situations and demands.**

**Special interest was placed on the analysis of the evolutionary dynamics of the economic and social role played by VTIs and to the exploration of the potential they offer, as well as the advances achieved and the difficulties faced in responding to emerging demands, such as modernisation of the production apparatus and development of technology and productivity, as well as attention to economically and socially disadvantaged sectors and groups.**

**In this sense, the study detects the range, nature and projections of the most significant contributions and innovations implemented by these VTIs to improve their performance and the effectiveness of their actions. It identifies,**

among the experiences and models studied, those formulas, initiatives, means, mechanisms and practices which have proven to be especially effective for responding to specific needs and under given circumstances, with a view to their serving as a reference for decision-making at the political, strategic and operating levels of VT in the countries of the region and worldwide.

The result of this effort seeks to foster an exchange of ideas and a network for thinking and discussion on priority VT subjects, in the light of the lessons taught by experience, and to strengthen cooperation links on this subject at regional and international levels.

The approach adopted was of a comparative study at Latin American level. In the treatment of each of the subjects chosen, the most relevant experiences in the largest number of countries and institutions comprised in the research were considered. In order to deepen and enrich the analysis and understanding of the phenomena detected, special importance was given to the connections among the different subjects and their location in the general context of VT.

The focus is at all times centred on the VTIs, although it is explicitly acknowledged that they are not the only entities responsible for training of labour in the countries studied. It was beyond the scope of this study to cover the entire gamut of highly heterogeneous and disperse agencies and entities involved in the field of VT in the countries included in this research. Rather than providing a full panorama of VT in the region, the study sought to provide an in-depth analysis of the "official institutions", which in the majority of the countries studied are where the largest volume and the broadest spectrum of VT services are concentrated, and which, at the same time, are the crucial actors in the sphere of national VT policies in the respective countries. An attempt was made to examine the performance of these VTIs against the backdrop of the educational context in general, and, in particular, of technical and vocational education coming from other sources, primarily the formal education system. Likewise, an attempt was made to insert the analysis of VTIs in the dynamics of the labour markets and in the transformation of production structures, with their consequent economic and social implications, seeking there an explanation and support for the phenomena detected in VTI behaviour. The study did not, however, go into depth on these subjects themselves, on which a broad range of studies and specialised documents already exists. Here they were important insofar as they act as conditions and a frame of action for VTIs, and as such they were acknowledged and referred to succinctly over the course of the study when it was deemed essential for the sake of understanding the central subjects. The efforts of the study were concentrated on the behaviour of VTIs and their interaction with the environ-

ment, and thus, they were not channelled into a detailed survey of the different aspects of that environment that are of interest for the purposes of VT.

The study was targeted on identifying the promising trends for the adjustments required in the organisation of VTIs and of VT at a global level. Hence, rather than detecting massive and relatively foreseeable trends in the evolution of VTIs, the study attempted to grasp the innovative experiences, the unconventional practices, the unique contributions that are beginning to emerge at various institutions and which are of interest because of the potentials they offer. These potentials were judged in terms of achievement of greater efficiency, effectiveness and quality in the services provided, as well as in terms of their viability and the degree to which they have proven to be appropriate for resolving problems, sorting out difficulties or dealing with new demands. The research sought to explore the solutions different VTIs have found or tried, the conditions under which these innovations can operate more successfully, and the connotations of the decision-making process that facilitate or hinder the flexibility, adaptability and effectiveness expected of VT.

This approach led the study back and forth, over the course of the analysis, between general, more well-known aspects often common to several VTIs, and more specific aspects that have not reached a level of consolidation warranting conclusive affirmations and which are peculiar to only a few VTIs, but whose innovative nature or originality make them noteworthy. In both cases the study sought to trace the lines underlying the strategies and practices detected, illustrating them with examples and empirical references to give sufficient richness and transparency to the conceptual elaborations proposed.

With a view to achieving the aforesaid goals, it was necessary to use a whole range of sources of information, from data extracted from systematic compilations, as well as reports and studies already published and official documents with a certain degree of elaboration, to disperse, unstructured information, and even opinions and thoughts of experts in the field of study. Exhaustive bibliographic information was collected, and structured instruments for primary data collection were applied in the field, complemented by interviews and observation missions.

The methodology of the research was intentionally geared to obtaining and cross-referencing information of a highly varied nature, with a view to going beyond formal statements and affirmations, and to understanding what is behind widely circulated publications. In this sense, particular value was given to qualitative information, direct observation, and the data provided by qualified informers, which frequently were key factors for discarding or

interpreting statements that did not seem to jibe with reality (or to get an idea of the distance between the two), as well as for accessing information on subjects not as yet written about or recorded, but which in fact constitute real VTI practices. Thus, the intention was not to prove hypotheses or to find causal relationships between phenomena, but instead to explore the nature, frequency and intensity of such phenomena, and their reciprocal relations.

The regional scope of the study also implied broad geographic coverage and a wide variety of countries. This led the participating agencies to agree on establishing three levels of breadth and depth in the collection of information and the analysis of the findings: a global level, covering all the countries of Latin America, for the analysis of all general aspects that could be based on information from documents or from the knowledge available at Cinterfor. A level of intensive field work for the core countries of the study, in which there would be collaboration from the participating VTIs, for the systematic compilation of information on more specific or more in-depth aspects. A level of selective study in certain countries on subjects of particular relevance at the respective VTIs.

All of the official VTIs associated with Cinterfor in the countries of the region were invited to participate in the project. In the countries selected for the study, the formation of a national research team comprised by technical staff from the VTIs involved in the study was formed.

In line with the response received from the institutions, the study concentrated on seven countries: Argentina, Brazil, Colombia, Costa Rica, Chile, Dominican Republic and Peru. Ecuador and Uruguay could also be included, but with less intensity. Hence, sixteen VTIs were studied in depth in those countries: CONET (Argentina), SENAI, SENAC, SENAR, and the Secretariat of Manpower of the Ministry of Labour (Brazil), SENA (Colombia), INA (Costa Rica), INACAP and SENCE (Chile), INFOTEP (Dominican Republic), SECAP (Ecuador), SENATI, SENCICO, General Office of Vocational Training of the Ministry of Labour and the Ministry of Education (Peru), and UTU (Uruguay). Other relevant VT entities in the same countries were explored to varying degrees, according to their willingness to participate in the study. For countries where it was not possible to obtain the direct participation of the respective VTIs, the study used already existing sources of data and the knowledge accumulated by Cinterfor. In sum, in all cases where it was possible to obtain information, all of the countries of Latin America were considered to widen the scope and wealth of the study.

The strategy for implementation of the research was participatory, at all stages seeking an exchange of ideas and the active collaboration of all those

involved. Firstly, at the level of the sponsoring agencies, an Advisory Committee was formed, composed of one representative from the World Bank, one from the IDB, one from GTZ, one from IDRC, and one from the ILO Training Policies Branch, with which the Cinterfor coordinator of the project established an open dialogue and discussion, which was particularly direct at the times of the most important decisions during execution of the project. The VTIs that were the subject of the study actively collaborated in compiling materials and information, and several of them made local researchers available to the project, who supported the collection of data and also acted as work and discussion groups.

The team of consultants that participated in the various stages of the project was multidisciplinary in its composition, including varied nationalities as well as complementary specialisations, with a view to achieving a maximum wealth of knowledge, experience and points of view.

The study is divided into three parts, which respond to the three main axes around which the numerous subjects dealt with were organised. The result is eight chapters, grouped as follows:

The first part refers to VTI actions and projections in the overall context of the Latin American countries, particularly as they relate to education and production.

Chapter I places VTIs in a historical perspective and explains the factors affecting their formation and transformation over the course of the last half century. It addresses the specific identity of VTIs, and proposes an interpretation of their conceptual and strategic metamorphosis.

Chapter II projects VTIs into the educational context, contrasting their distinctive performance with that of formal teaching systems, against the backdrop of the renewal of education concepts, and the ties and discrepancies between academic and technical perspectives.

Chapter III attempts to place VTI at the crossroads of modernisation of the production structure in Latin American countries, identifying the new responses they have created to recoup ties to enterprises and to adjust to the demands posed by technological renovation and the imperatives of productivity and competitiveness. Emphasis was placed on non-conventional lines of work and on innovative -even if incipient- options chosen by VTIs to adapt to the demands of the present time. The expansion of the range of training services, both horizontally and vertically, the changes in emphasis of the clientele, modes, contents and approaches to training, and the appearance of new

services that go beyond the field of training strictly speaking, are subjects which set a new pace for VTIs as we begin the last decade of the 20th century.

Chapter IV examines the role of VTIs as instruments for social policies, through the attention they have given to economically and socially disadvantaged sectors, underscoring their innovative contributions in terms of policies, strategies and methodologies for incorporating this target population. While highlighting the achievements in terms of equity through work with these disadvantaged groups, the chapter also shows the institutions' work in this field as part of an on-going search for reconciliation of economic and social objectives.

The second part of the study brings together the fundamental subjects related to the day-to-day activities of VTIs, covering the processes inherent to the functioning of all organisational structures, but from the specific standpoint of institutions of this sort. It outlines the internal dynamics of VTIs, including the connotations of their behaviour vis-a-vis different situations, pressures, circumstances and changes in context.

Chapter V takes up the subject of VTI policies and institutional planning. Chapter VI concentrates on the processes of management and administration, going into the real way VTIs operate: how decisions are made and how the institutional apparatus is mobilized.

Chapter VII addresses the specific services offered by VTIs, indicating the technical-pedagogical bases for them, and the most significant methodological contributions they have made to the discipline of education for work.

The third and final part of this study explores the complex field of VT financing, systematising the practices that have taken root in the countries of Latin America in this regard, and the innovations being tried in the light of the review of criteria brought about by economic crisis and budget adjustments. Chapter VIII discusses the role played by the State in the task of training and the new approaches and tools arising in the region in order to redimension the frameworks for defining the responsibility and competence of the State in the financing and operation of VT. This analysis takes into account the assessment efforts made in various countries in the region, with a view to offering guidelines as to the efficiency and effectiveness of VTI services. The discussion of possible scenarios for VT financing policies and mechanisms reviews the various formulas for attracting and managing resources at VTIs in the region.

The text ends with a series of thoughts arising out of the findings of the study, which open the way to an indispensable dialogue for the decanting of ideas and arriving at ever-firmer bases for decision-making in the field of VT.

From this standpoint, this study is an open document, subject to new contributions, criticism and debate, which will become enriched and be useful to the extent that it stirs increased participation and reflection in broad circles interested in the subject. The study in itself is an effort at reconstructing a partial, complex, elusive and rapidly changing reality. The currentness of the document can thus be extended only insofar as we recognise its transitory nature, so that it may serve as the point of departure for new analyses concentrating on aspects considered to warrant further attention and which will require periodic up-dating.

Leadership and coordination of the research work at regional level were undertaken by María Angélica Ducci, who was responsible for conception and organisation of the study. In her capacity as chief researcher, she was responsible for preparing and drafting the preliminary reports and of this final report.

The study would not have been possible and would not have reached the level sought without the valuable contributions of many persons in terms of ideas, thoughts and knowledge that were decisive for the development of the work and for the detailed analysis of the complex and multi-faceted issues involved. A group of high-level consultants contributed their professional experience and their personal dedication at the various stages of the research. Pedro Daniel Weinberg collaborated with the regional coordinator on the crucial stages of the study, contributing valuable thoughts and suggestions, as well as his investigatory zeal and his personal commitment, in the search for new information and ideas. Ligia Chang performed a broad diagnosis of innovations in VTI operations and participated in the preparation of the instruments for collecting primary information in the countries. Marisa de Assis covered the study of non-conventional VTI services, a hitherto unexplored area, shedding light on the new roles for VTIs in the development of technology and productivity as referred to in Chapter III. Jaime Ramírez contributed his vast experience on VT for disadvantaged sectors, providing Chapter IV of the study with an updated and thoughtful analysis of the role of VTIs in this field. Eduardo Martínez provided a detailed study of VTI planning and management, and prepared a careful review of the state of the art in terms of VT evaluation. Arlette de Paula Guibert concentrated her experience on pedagogical aspects of VTIs, and Santiago Agudelo contributed his broad knowledge in the methodological aspects taken up in Chapter VII. Fernando



Rojas brought to the group of consultants the experienced and innovative view of an expert in public finance, complementing the analysis appearing in Chapter VIII from a perspective external to the VTIs themselves. While each of these specialists worked on certain issues and stages of the study, the regional coordinator fostered the exchange of ideas and information among them, with a view to stimulating thought and encouraging a convergence of approaches.

The study also had the collaboration of support consultants in the countries, among whom we should mention Raúl Fajardo in Peru, Jaime Ramírez in Colombia, Ligia Sánchez in Costa Rica, and Guillermo del Campo and Mery Camacho in Chile. Luis Pigni handled the tabulation of statistical data.

In addition to the support of the aforesaid consultants, from whom valuable contributions and exceptional dedication were received, the study was enriched by the guidance and comments of the members of the committee of sponsoring agencies, including John Middleton, of the World Bank, Daniel Morales Gómez, of IDRC, Ewald Gold, of GTZ, Nassim Mehedff, of the IDB, and Claudio de Moura Castro, Chief of the ILO Training Policies Service. In particular, the on-going dialogue with John Middleton made it possible to situate the study in the broad perspective of the World Bank document on technical-vocational education and VT policies for developing countries, which he directed. His comments on the preliminary version of this report, along with those by Adrian Ziderman, also of the World Bank, and Daniel Morales Gómez, permitted a highly useful critical revision. Finally, the interest and support of Claudio de Moura Castro and his inquisitive observations contributed to a constant, provocative analysis.

Acknowledgment is also extended to the VT authorities and specialists in the countries of Latin America, too many to be named, who contributed their ideas, experience, comments and suggestions, all of which were held as particularly valid, given their source in the practice of VT.

Special mention is warranted by those who gave their day-to-day support to the research work involved in the study. Alicia Richero patiently and carefully did the job of collecting, selecting and classifying materials and documents, together with Stella Pérez, of the Cinterfor Information and Documentation Service, who made a very special effort in collecting and systematising data and information which were highly scattered and difficult to access. Cristina Sosa, in addition to demonstrating her excellent performance as Cinterfor secretary assigned to the study, contributed her efficient and warm personal dedication, far beyond the scope of her professional duties. She

**and Margarita Poggio handled, with particular meticulousness, patience and care, the transcription and composition of various preliminary versions and of the final text of this document.**

**Finally, the generous collaboration and support of the entire Cinterfor team, made it possible to complete this demanding endeavour.**

## INTRODUCTION

Nearly half a century after the beginning of its institutional life in Latin America, vocational training (VT) has become an issue for debate, with renewed interest being shown in this connection. It is quite normal that any activity which has a social impact should be, at all times, subject to criticism and evaluation particularly when it is a field that is largely financed with public resources and from which benefits are expected for the whole of society.

VT has drawn growing attention in recent years, not only from sectors directly affected by it but from the most varied angles. This attention goes from governmental spheres, both from an educational and labour point of view, to production structures including the general public to whom these services are offered. Institutions running VT have increased their interest in self-analysis, pressured by the responsibility for the results of their efforts. Academic circles dealing with economic and social development and educational and labour sectors, in particular, have also, in increasing depth and with greater frequency made the study of the subject of VT their own. International cooperation agencies have also shown constant interest in a field which, for a long time, has been privileged with the support addressed to developing countries.

It is evident that the role VT is called upon to fulfill in the development of human resources and, as such, in the economic and social development of the countries themselves, is of permanent interest. However, at present, faced with a labour world which is characterised by accelerated, variagated and unforeseeable change, review and scrutiny are a priority for the formulation and adoption of adequate policies in accordance with the new needs that emerge. On the other hand, the task has become particularly complex. The transformations that have taken place in the very field of VT blur its outlines as a subject of study and invalidate its parameters and classical ideas applied heretofore to its performance.

The very concept of VT and its philosophical doctrinal and operational background, have evolved notably and it is not now as clear-cut, well-demarked and explicit as it used to be, and no longer does it have the relative consensus that supported it a few decades ago. Even more intricate is the universe of actors and avenues that nowadays appear on the VT scene.

In Latin America to talk of VT means inevitably to refer to the specialised institutions which started to emerge in the middle of the present century in practically all countries of the region. They gradually took a leading role in the training of qualified manpower. Those institutions, although not all of them public in nature, are in each one of the countries the official VT entities. In some way, they are under the tutelage of the State and their financing is basically public in origin.

These institutions acquired quite a clear-cut profile in the region and obtained considerable importance, weight and the recognition of the role they played in most of the respective countries. For a long time, allusion has been made to a Latin American VT model. This term implicitly led to merging the task of VT with the work of these specialised bodies, underscoring the strength and the importance that VT institutions (VTIs) acquired to such an extent that they became identified with the task that they proposed and that they undertook.

The first step for an up-to-date analysis of VT in Latin America focusing on these VTIs makes it necessary to separate concepts in order to have a correct understanding of them. VTIs, in fact, are not the only ones dispensing training in this field. Nor do they cover the greater part of VT offered in the region, which goes by far beyond the field of VTIs and takes into account the variety of initiatives which have appeared from a wide range of institutions, both in public and private spheres, within and without formal educational systems.

In this universe, there is no doubt that VTIs are, in all the countries concerned, the entities that individually concentrate the largest volume and the broadest range of VT supply. Moreover, they are the ones with the longest continuity, and have consolidated a long and successful history which can hardly be equaled by any other training body or institution. Finally they are the ones that have the greatest weight in public spheres and therefore constitute the cornerstone of all national human resources training policies. In this way they cannot but be considered the institutional backbone for approaching the subject of VT in Latin American countries.

On the other hand, VTIs have started to operate in a much wider field than that strictly conceived as VT. Although training was the initial task and is still the focus and the basis for their activities, this paper provides an assessment of how far VTIs have become diversified and they have modified their role in a gradual and sometimes imperceptible way, in the short term. These changes are in general qualitative and as they have taken place gradually in time, in all spheres of institutional behaviour, there does not seem to be a general awareness, even within VTIs themselves, of how far this evolution has

transformed their very essence. Hence the effort made in this study to understand the nature, the scope and the significance of these changes, and the stress on the dynamics and flexibility of VTIs to face up to the transformations of the environment where they operate.

The economic and social situation of the countries of the region is a well-known fact. They are still going through the crisis that started at the beginning of the eighties, with its aftermath of enormous external debt, deterioration of the terms of exchange, fiscal deficit and only slight signs of reactivation in some of the countries, whereas in others high inflation indexes and abrupt and repeated currency devaluations persist. Together with the efforts made by governments to introduce economic policies to curb public expenditure, to promote exports, and to encourage investment and production, there is a general social malaise stemming from the real deterioration of wages, from a distorted distribution of income, from insufficient services and social benefits, fewer opportunities for jobs and work, deterioration of working conditions and the impossibility to make progress in the struggle against poverty, as a result of the aggregation and combination of the above factors.

The climate pervading the region is one of uncertainty, lack of credibility as to the possibilities of recovery and development, and great confusion as to the ways and decisions most appropriate or less onerous, in a broad sense of the term, to overcome this situation. The many facets of this crisis make each proposal a double-edged sword as seen in the heated political debate which seriously questions from different standpoints, the development style to be chosen for each country.

The well-known factors of the crisis and its turbulent recessive consequences have led to an inertia requiring a special effort to put development back on its feet and to find a route for change that goes beyond the mere day-to-day pressures which thus far have forced authorities to focus their attention on short-term economic policy, putting off longer term endeavours. The so-called structural adjustment must be addressed now with greater vision of the future, to get the dynamics of the economy as a whole moving, and to ensure greater equity, surmounting the negative balance left in terms of social cost of the adjustment in recent years.

Today it is openly accepted that the structural adjustment in the countries of the region concentrated more on correcting short-term maladjustments, particularly inflation, than on growth and promotion of structural change. It is likewise acknowledged that the social cost of that adjustment fell disproportionately on workers and middle-income strata, who absorbed the bulk of the sacrifices associated with stagflation. The demographic inertia of previous

decades, compounded by the intensive incorporation of women in the job market, increased the labour supply at a time of contraction of economic activity. The inevitable result was a skyrocketing of unemployment, coupled with a deterioration in the quality of jobs and salaries, as well as an increase of employment in small and micro-enterprises, and of the number of independent workers. Thus there was rapid growth of the informal labour market. Along with the weakening of the economic capacity of significant sectors of the population, the countries were forced to implement drastic restrictions on social spending and public investment, with a consequent worsening of poverty levels. The options chosen to redimension and modernise the State apparatus frequently lead to a deterioration of the coverage and quality of public services, and sacrifice an in-depth restructuring that would be capable of activating and sustaining dynamic development toward the future.

A mechanist solution of economic adjustments clearly no longer suffices. Instead, the countries of the region have begun to look into a new strategy for development, designing policies geared to correcting and broadening the productive structure and making it more competitive internationally. The globalisation of the economy incites these countries to project themselves beyond their national and even regional borders, which inevitably implies a new look at approaches to economic growth and social development, and a substantial increase in productivity and international competitiveness of their production apparatuses.

The challenges faced as we begin the 1990s thus consist of achieving a point of inflection in the preceding Latin American development pattern, reversing it so as to get back onto a growth path, along with a sustained effort to catch up in terms of equity and international competitiveness, surmounting the lesson painfully learned by the countries of the region, and adjusting to the implacable conditions posed today by the world context.

The current debate concentrates on the springboards necessary for achieving that essential competitiveness, identifying and making use of the comparative advantages of each country, region, location, and sectors and subsectors of economic activity, as well as defining the new role that the State will be called on to play in this scenario.

Here we see the postulates of a new phase in the process of structural adjustment, for which ECLAC has very correctly coined the term "productive transformation with equity". The standpoint of productive transformation with equity attempts to simultaneously facilitate the adjustment process, minimizing its costs, and getting beyond the short-term view, thereby inserting

the Latin American countries in a long-range growth and modernisation process, based on technological change and the skill of their human resource.

In this light, VT takes on a crucial role. Moreover, it is perhaps one of the endeavours where we best see an interplay of considerations involving economic dynamism and social equity. If the productive transformation for greater competitiveness of the economies of the region is based on the incorporation of technical progress, the training of human resources is undoubtedly the key element and is ultimately responsible for implementation and long-term maintenance of the development achievements that can be expected from the countries of the region.

Latin America has distinguished itself internationally for the capacity its countries have shown in creating worker training systems that have been sufficiently strong and agile to fairly flexibly adapt to the changing demands of economic and social development. Having arisen at the outset of a development model based on import substitution through industrialisation, the VTIs included the embryo of dynamism that will enable them to progressively adjust to the new demands development has posed, and to the gaps and needs that have become clear over past decades. This should be seen as an encouraging sign for undertaking the significant change required today.

The agility and flexibility of national VT systems is thus an imperative condition for achieving the goals proposed. The traditional, powerful VTIs of the Latin American countries are thus called upon to deploy a major effort in adapting to the new demands. They have in their favour a history of extraordinary versatility and a considerable capacity for innovation. It is necessary, however, to reactivate the seeds of flexibility that little by little became lethargic in VTI behaviour over the years, and at the same time to recoup the successful experiences they have put in place and which today offer enormous potential for dynamising and improving the quality of their services and the flexibility of their actions.

Let us recall that in this transition phase there is a desarticulated reorganisation of production, distribution and consumption spheres, whose novelty and significant traits for VT derive from technological heterogeneity, accelerated by the incorporation of new technologies in an indiscriminate, disperse and asynchronic way. It also stems from decentralisation, fragmentation and new ways of operation of productive units, thus revaluing the role played by small enterprises, which are already in the majority. Likewise there is a sustained growth of the informal sector, as an alternative market that makes up for the modern sector's inability to expand. From the labour point of view, all this leads

to the contraction of job opportunities and the polarising of the occupational structure, together with diversification and flexibilisation of the labour market, and the appearance of sporadic, unstable and changing jobs. This general picture emphasises, on the other hand, the relations between labour and market, underscoring the interdependence and links among sectors of activity, technological levels, production and market circuits, origin and type of enterprises, rate and degree of productivity, and uncovers the weaknesses, disadjustments and gaps of the productive system, which is the target for VTI action.

The complexity and diversity of this panorama poses demanding challenges for VT and for the institutional apparatuses the countries have for handling it. For that reason, this study aims at assessing VTI potential to successfully cope with challenges of this scope, as we set out upon the final decade of this century. It is necessary to rediscover who these VTIs are, what they do, how they now operate, how they have evolved, to what extent they have shown an ability to adapt to and even to foresee the new demands posed by the world around them, what changes they have gone through, and why and how they have decided to implement them; to what extent those changes have given shape to a new model for Latin American VTIs; how VTIs are inserted in the overall vocational training effort of the countries of the region and what part of that task they have made their own; what is the rationale underlying the choice of their priority areas for action and the way it is implemented; to what extent and with what tools they are prepared to undertake a qualitative leap like the one required of them today; what their strengths and weaknesses are and where it would be advisable to concentrate efforts for improvement in the near future; and which are the promising lines of action they have already foreseen and how they have managed to implement them.

In sum, we must ask what role VTIs are playing in the economic-social sphere in general, and in the educational and productive sphere in particular, how they fulfill that role, and how they project themselves into the future, taking into account the concrete achievements they have made over the course of their already lengthy institutional history.

The present situation in the countries of the region makes it difficult to carry out a study of this nature. Political, economic and social instability underlie the context in which VTIs operate. Based on their solvency and continuity, they try to overcome the obstacles stemming from all this, for planning and implementing their activities, and to project themselves towards the future. Nevertheless, a certain confusion and uncertainty can be detected which in a way influence their reactions and their activity. They mobilise on the basis of reasons which are scattered and variable, anticipating alternative



scenarios which are frequently contradictory. Consequently, they avoid adopting rigid, exclusive and definitive attitudes. Many of their changes are tentative and provisional, cautious and oriented in multi-directional. On the whole, rather than redefining their paths, VTIs "put their eggs in many baskets" as a strategy for survival. This prevailing attitude prevents them from reaching comprehensive and definitive conclusions.

The institutional image they project is not transparent to their own personnel and associated sectors, or to the general public. It is quite symptomatic to find that within VTIs there is no clear-cut picture of their own role or orientation. Frequently, they fall back on past images, which inspire greater security and transparency. Signs of change are visualised, in fact, in relatively watertight compartments in the hierarchy and in the institutional structure, but they do not go far enough either vertically or horizontally throughout the whole institution. Thus there is a coexistence of attitudes and ways of operating, which swing back and forth between tradition and innovation.

The study attempts to approach the current reality of the VTIs, highlighting variety and specificity, changes and seeds of innovation, rather than seeking homogeneous, generalised, traditional activities. The triggers of change have been given special attention here. Beyond what can be seen from the outside, through each of the VTIs examined here, the study attempts to delve into the meaning and potential of the changes, assessing the reasons generating them and the mechanisms used by the VTIs to put them in action. Insofar as the data permitted, the study took into account objective indicators of magnitude, continuity and impact of the innovations. Nevertheless, in many cases, there was barely qualitative evidence, frequently supported by partial assessments and opinions. As a result, more than definitive conclusions what we have are promising routes for further exploration and research on the current map of VTIs.

The prism for observation of these issues necessarily involves a series of value judgments commonly applied to the performance of the economic and social functions expected to be fulfilled by institutions of this sort. In this sense, the viewpoint for analysis of each of the topics covered by the study is constantly projected against a backdrop of values against which the performance of the VTIs is measured. Naturally, the most evident and inexcusable value judgments have to do with efficiency and effectiveness; but there has been incorporation of others which in some way intervene or ought to intervene as triggers of change at VTIs. Not in order of importance, and with the understanding that they in fact overlap one another, the criteria used in the analysis of VTI behaviour include: productivity, technical quality, currentness, legitimacy,

innovation, growth, prosperity, competence, equity, flexibility, dynamism, participation, continuity and projection.

Insofar as the analysis involves such value judgments, there has been no attempt in this study to measure the degree to which the VTIs achieve maximum or ideal standards of performance in terms of each variable. It seeks instead to understand how they move in relation to each one. It is also not possible to assess the achievements on each of these planes, and, even less so, to compare the achievements of one institution against those of another, since the diversity involved makes it impossible to place them in a homogeneous group and subject them to a common measurement.

In any event, this study has sought to reflect the richness of the experiences undertaken by VTIs, which are indeed vast.

## **PART ONE**

# I

## VTIs REVISITED

In the Latin American scene the denomination VTI refers to an organisational option chosen by most of the countries of the region to approach the training of manpower in a systematic way. Conceived as bodies for non-formal training, independent from regular education systems and endowed with great autonomy and fluent ties with the labour market, VTIs appeared in the region at the beginning of the forties. This experience, which started in Brazil, gave rise to a movement that propagated to the other countries in subsequent decades, multiplying itself and adopting different variants.

A VTI's analysis like the one undertaken here cannot, therefore, be removed from the historical context of the region's countries over the past half-century. They have lived immersed in the profound changes in the economic, social, political, cultural and technological realities of the Latin American countries in this period. Those transformations have forced them to constantly adapt to new standpoints, to assume new roles, and either to expand during periods of growth or to contract during periods less favourable to the fulfillment of their mission.

Throughout the complicated history of the Latin American countries since the 1940s, when the first VTIs appeared in the region, the fluctuations they had to bear put to the test their ability to adapt and their true institutional validity. They survived successive crises of different sorts, and managed - with a fair degree of success - to revalidate their function each time it was questioned by the circumstances and pressures arising out of the new national situations in each country.

Not wishing to get into an in-depth discussion of the highly debated question of Latin American history in the last half-century, nor to analyse the various polemical interpretations of the courses followed by the countries on the road to development, it seems worthwhile to roughly sketch out the most salient aspects of that development, as they relate most directly with the context in which VTIs operate. Naturally, such a sketch leaves aside the marked differences among countries, the different times at which each of the comparable or similar transformations took place, and the very diverse situations they faced at a given historical time. What will be attempted is to provide barely a glimpse of the most outstanding economic, social and cultural phenomena that

affected the demands and expectations placed on VTIs over the past fifty years. This should make it possible to seize the magnitude of the changes and the successive challenges faced by VTIs to date.

## **1. LATIN AMERICA OVER HALF A CENTURY: THE VTI SCENARIO**

Until the global crisis of the 1930s, Latin America had been characterised by eminently agrarian societies whose surpluses were turned toward the exportation of agro-livestock and mineral commodities. As of the crisis, it began an incipient process of industrialisation, seeking to partially and progressively provide a substitute for the importation of manufactured products, which had become impossible due to the drop in commodities exports. This was the birth of a new economic model, "import substitution", as ECLAC would call it, which called for self-supply of manufactured goods, based on elementary industrialisation.

This change in the development model, undertaken by the first countries in the 1940s, brought about a transition toward a new economic and social panorama which, being asymmetrical and unbalanced, gave rise to profound changes and tensions that would linger on for quite some time. Suffice it to mention the most well-known phenomena of that transition: rural to urban migration, the population explosion, and industrial expansion with a new division of labour including a worker proletariat, a growing middle class and a capitalist class based in the modern sector of industry and services. At the same time, the State that regulated the process became stronger and more bureaucratised, and the expansion of education was focused on the secondary and higher levels, under pressure from the middle classes.

It should be noted that this phase of industrialisation through import substitution was largely promoted by public policies which were, naturally, created and applied by the State. The State began to be committed to the generation of development, using its own resources and claiming for economic regulation. It thus took on direction of the economic process, and at the same time undertook social policies tending toward integration of lower-income sectors, by raising their material standard of living and their social well-being. Such social policies were of the assistance sort, typical of the "welfare state," which allocated most of its meager resources to this function, thereby inevitably holding back the expansionary dynamics of productive development. Fiscal crisis became endemic and has prevailed through to today.

The developmental project of the Latin American countries, inspired by the ECLAC thesis, proposed massive incorporation of modern techniques in order

to cope with industrialisation, along with agricultural reform and political democratisation. The limitations of domestic markets, and the difficult links of dependency with developed countries, encouraged sub-regional and regional integration of markets. This gave rise to the Latin American Free Trade Association (ALALC), the Andean Pact, and later the Central American Common Market. Nevertheless, this international projection of the development model was repeatedly at loggerheads with nationalistic interests, so that integration ran into serious stumbling blocks, although it was held up as a goal, which opened up the way for significant cooperation among Latin American countries.

Despite the unexpected dynamism of industrialisation, developmentalist aspirations based on inward growth were soon frustrated for a variety of reasons beyond the scope of this paper.\* Nevertheless, it must be recognised that from the 1960s through the crisis at the end of the 1970s, albeit with many imbalances and inequalities, the countries showed real growth. The growth rate for the Gross National Product (GNP) maintained not at all insignificant levels, even if we do find marked differences among the countries, in line with the degree, pace and timing of the modernisation phenomena taking place in each one. Most authors support the ECLAC groupings for the countries as follows: 1. Advanced modernisation countries: a) early: Argentina, Chile and Uruguay; b) recent: Costa Rica, Panama and Venezuela; 2. Rapid and unbalanced partial modernisation: a) large countries: Brazil, Colombia and Mexico; b) medium-sized countries: Ecuador, Paraguay, Peru and Dominican Republic; 3. Incipient modernisation: Bolivia, El Salvador, Guatemala, Haiti and Honduras.

Average per capita GNP grew from US\$ 925 to US\$ 2,043 between 1950 and 1980, i.e., a 220% increase, ranging from 112% for Haiti to 353% for Brazil, with a significant number of countries at over 200%.\*\* During this period, national economic systems were established, large production entities were created, and significant capitalisation and technification were achieved in almost all spheres of economic activity. "The modernising State took on impressive dimensions and a key role in production, yet without ceasing to encourage private enterprise, creating the infrastructure and the related bureaucratic, regulatory, financial and social welfare services it needed. Moreover, it fostered the growth of productivity by establishing large training systems and expanding the supply of public education.\*\*\*

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\* Un excellent summary on this subject is found in Graciarena, J.- *Desarrollo nacional, estructura social y proyectos políticos en América Latina*. Document prepared for the Seminario de estudios superiores sobre FP, organised by Cinterfor in 1989. (unpublished)

\*\* Data from ECLAC in: *Transformación ocupacional y crisis social en América Latina*. Santiago de Chile, 1989, p. 24.

\*\*\* Op. cit., p. 22.

The Latin American countries' transition to modernisation was greatly accelerated during the stage from 1960 to 1980, since they were able to adopt the productive forms developed previously by the central countries and incorporate their technologies and organisational structures. Furthermore, they embarked on that route while at the same time assimilating the changes that were already taking place in the industrialised countries, such as tertiarisation and integration of their economies.

This could not but generate dramatic, progressive changes in the economic structure, in the work force and in the levels of productivity; at the same time there emerged significant asynchronisms and heterogeneities among the different sectors, activities, regions and social groups, which were integrated in varying degrees - or simply not integrated - in this modernisation circuit.

The challenge to the VTIs was enormous, complex, multiple and changing. Let us take a look at the magnitude of some of the changes over the past half-century.

In the period from 1940-1990, the total population of the region evolved from 150 to almost 450 million people. This fact alone reflects a triplication of the scale of the social collective over fifty years. Despite the drop in birth rates in almost all the countries at different times since the 1950s, life expectancy increased significantly, from 50 to 70 years of age on the average. At the same time the infant mortality rate fell considerably. As a result of the rapid decrease in overall mortality rates, and the later and in many countries incipient, drop in overall fertility rates, the structure of the regional population continues to be very young, except in the countries with early social modernisation and urbanisation. The age group from 0 to 14 years decreased only from 45 to 30%, while youths from 15 to 24 years of age continue to represent some 20%.

Population growth is inseparable from urbanisation, another major phenomenon which has been explosive over the time period in question. The urban population evolved from 60 million in 1940 to 300 million in 1990. Rural to urban migration intensified dramatically with the onset of the industrialisation process, as of the 1950s. The inability of city structures to handle an average population growth rate of over 4% a year brought with it the impossibility of employing all of the new contingents, often with very low educational levels and cultural patterns inadequate for urban industrialisation.

This gave rise to the well-known problems of urban marginality and the appearance of slums, a visible form of poverty arising primarily out of the unemployment and underemployment of vast sectors of the population. The so-called "dynamic insufficiency" of Latin American industry to generate employ-

ment implied the failure of the modern sectors, more inclined toward the incorporation of equipment and machinery than of manpower, to absorb the large supply of labour available, which was lacking in the necessary skills. This surplus labour would become involved in the informal sector of the economy, with its low skill and productivity levels, and low income.

In some countries the problem of unemployment reached critical proportions during the period, with rates of 10 and even 15%; these rates would seem to be returning to historical levels, recording an average of 6.6% by the end of the 1980s, after having reached average rates in excess of 7% between 1982 and 1986 (1982: 7.2%; 1983: 8.5%; 1984: 8.9%; 1985: 8.5%; and 1986: 7.3%).\*

The great expansion of the economically active population (EAP), which evolved from 53.8 million to 117.2 million between 1950 and 1980, implied more than a doubling. An average annual incorporation of approximately 2.1 million reveals a magnitude that would be difficult for even strongly growing economies to absorb.\*\*

Education, in turn, expanded significantly over the last five decades. The initially generalised illiteracy, reaching rates of 45% in 1950, is currently residual (averaging approximately 13%), even if in some countries it does hit higher levels, particularly among rural and indigenous populations. Primary school is today accessible to practically all school-age children, but serious drop out problems still exist. Of the children entering the first level of education, only 53% reach the fourth grade, although there are broad variations between countries and regions. Middle-level education has become the norm for those who get by the first barrier of attrition in primary school. The higher levels show the largest growth rates and are the generalised aspiration of middle-level education graduates.

For the work force, this upward pressure in educational levels, along with the expansion of the supply of education well beyond the supply of jobs, translates into "credentialism," as a syndrome of the devaluation of education. Moreover, formal education continued to be academically oriented, which meant an insufficient contribution of the regular system to the training of human resources in line with the needs of production activities.\*\*\*

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\* García, N.E. et al.- *La evolución del mercado laboral entre 1980 y 1987*. Santiago de Chile, PREALC, 1988. 51p. (PREALC, 328)

\*\* Rama, G.- *La evolución social de América Latina, 1950-1980: transición y cambio estructural*, p. 50. (unpublished)

\*\*\* Rama, G., op. cit., p. 32.



From the standpoint of the occupational structure, we logically find a major displacement in the relative importance of the various economic sectors, and in the position of the functional specialties and levels in each sector. The contribution of agriculture to GNP fell steadily in relation to the total, and the product of secondary and tertiary sectors increased progressively. The drop in relative weight of the agricultural GNP was less in countries with advanced modernisation, while the increases for the secondary and tertiary sectors, which started out at high levels, are less pronounced than for the other groups of countries. In any case this implied -and more markedly so in countries having rapid, recent modernisation- a transfer of labour from less productive sectors (agriculture) to other more productive ones (manufacturing and modern services), which required a more diversified and higher level of skills, particularly of the technical sort.

The transformation of industry was accompanied by a strengthening of an infrastructure of trade and diverse services which constituted the normal and necessary support for growth of the secondary sector. Public sector occupations expanded both qualitatively and quantitatively: banking became increasingly important, spurred on by the renewed financial activity connected with industrial expansion. There was a multiplication of the establishments linked to foreign and domestic trade, and an expansion and diversification of the chain of intermediaries involved in each of the stages of commerce, and the multiple services associated with them. All of this gave rise to increasing and specific demands for human resources, many of which had to be trained systematically. The burden fell upon public VT institutes, since, as mentioned, formal education did not provide a satisfactory response.

Toward the end of the 1980s the countries found themselves forced to undertake drastic structural adjustment measures to counteract the situation deriving from the international crisis, which caught them with serious macro-economic imbalances and a highly fragile production apparatus, despite recent growth. The prevailing economic policies imposed a substantive change in the approach to development of the countries, and focused expectations on a reordering and reactivation of the production apparatus geared to achieving the competitiveness required for access to world markets. The protagonism of the State, a characteristic of the phase of industrialisation for import substitution and inward growth, has now given way to the protagonism of the private sector, in an extroverted perspective that shakes the very root of the prevailing production and productivity schemes. The State, while not losing its relevance, has begun to assume a more selective role, for fostering, promoting and supporting free enterprise initiatives.

The combination of fiscal deficits and the foreign debts incurred by the Latin American countries to sustain - and in a certain way to undermine - their industrialisation process, has given rise to extremely difficult and demanding alternatives for the economies of the region. The incorporation of technologies and the adaptation to the standards of productivity and quality imposed by international markets imply yet another adjustment for VTIs, with a view to making them capable of responding effectively to this challenge, which rests primarily on the incorporation of technical progress. To do so, the countries have no other alternative than to raise the skill levels of their labour force, which is their most abundant resource.

It is thus not surprising that the profile of VTIs has not remained unaltered in different parts of the Latin American region or in the course of the last half century. Quite the contrary, one of the peculiarities of these organisations lies in the flexibility with which they have adapted their plans and programmes to approach different types of clients using a multiplicity of operational resources and technical means that were available at the time and in very different circumstances, historically and geographically speaking. Hence that more than one observer finds it very difficult to define what a VTI is at present.

To a certain extent there is a continuum going from organisations which more or less stick to this day to their initial purpose of training manpower required by the labour market, to bodies whose purpose is to respond to a wider spectrum of the needs of enterprises where training is just one component among many others. One might wonder in that case whether these institutions have not denatured their initial purpose. Are they strictly training agencies or are they rather becoming productivity centres?

Any answer to these queries should take into account the nature of the activities carried out by VTIs which do not stick rigidly to a mandate embodied in legal instruments, governing them. On the contrary, their action is defined within certain parameters, (and these parameters are indeed reflected in legal instruments) but trying to approach in the most imaginative and appropriate way, the demands stemming from labour markets and production systems.

These new avenues opened by some institutions should not suggest that there has been a radical change of orientation in their sphere of action. They mean that there is a continuous readjustment of programmes. When VTIs first emerged, the priority was to train manpower required by the manufacturing sector in a process of industrialisation aimed at import substitution. At present many VTIs have seen that enterprises are less in need of qualified manpower and have other priorities which in general refer to organisation, management and efficient technical development of productive units.

The continuity and recognition that these VTIs have attained for so many years is explained to a certain extent by the fact that they had the capacity to look out to the requirements that in different situations came from the labour world and the production circles. Far from remaining within a rigid structure and sticking to a paralysing approach, most Latin American VTIs have managed to establish that change, innovation, creativeness and flexibility should be the elements that gave them permanence.

This experience of nearly half a century by VTIs has given them characteristics of a unique institutional nature and activities which project far beyond the tasks which were originally allocated to them. To understand the current reality of these VTIs we have to acknowledge the diversity that we can see among entities dispensing institutionalised training in the region. In that respect we might say that there is unity within diversity. Most of these VTIs have, to a certain extent, a common root and origin; but being change and evolution the predominant trait that distinguishes them from other institutions, each one has adopted approaches and activities according to its peculiar circumstances and local requirements, as well as to its own history.

## **2. MOVEMENT TOWARDS THE CREATION OF VTIs**

It is interesting to note the origins of VTIs and to follow their evolution, identifying the characteristics and factors which triggered off the deep and different transformations that allowed them to survive and to face up successfully to the new challenges that the economic and social environment submitted to them.\*

### **a. The original conception**

This saga of institutionalised VT started with the creation of the National Industrial Training Service (SENAI), in 1942, and the National Commercial Training Service (SENAC), in 1946, in Brazil. Almost at the same time in Argentina a National Committee for Training and Vocational Guidance (CNAOP) was launched in 1944 with similar purposes; however, it was ephemeral, since it was soon absorbed by the traditional structures of the Ministry of Education at the beginning of the fifties.

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\* For details on this subject see: Ducci, M.A.- *The vocational training process in the development of Latin America: an interpretative study*. Montevideo, Cinterfor, 1979. 130p. (Studies and monographs, 44)

Only many years later, once the Brazilian scheme had become consolidated, other similar institutions started appearing in other countries of the region. These institutions, although inspired in the original model, coined important variations as to their structure, organisation and coverage.

The common triggering factor for the emergence of VTIs was the search for an innovative institutional scheme to meet the need to train qualified manpower - specially at the level of semiskilled and skilled workers - in order to support the industrialisation process that Latin American countries embarked upon.

In general, regular education systems were not in a position to tackle such an urgent and massive task. They were already burdened with a notorious schooling deficit at elementary and secondary level and their slant was towards an academic and aristocratic kind of education, far removed from the world of production, disdainful of manual tasks and concentrated on professional options at university level for jobs that gave intellectual prestige. Finally, the rigidity and budgetary restrictions of a chronic nature in education ministries made it impossible for them to take on a task which called for creativity and a dynamic attitude and entailed a heavy economic and financial load.

Despite the respectable tradition that some countries already had concerning technical education, vocational schools at secondary level and above all the experience in the so-called schools of arts and crafts, it was seen that all this effort was not a sufficient or adequate basis for the qualitative and quantitative take-off that circumstances required: manpower training demanded by the industrialisation process which started in the years after the Second World War, particularly in Brazil and Argentina. This happened again, years later, when other Latin American countries launched their respective industrialisation programmes: the andean countries in the mid fifties and the Central American countries in the subsequent decade.

Nor was there in the region a deeprooted tradition for informal apprenticeship of the different trades. Although great part of manual qualifications were passed on through experience, enterprises had not developed the capacity to train on an organised basis the workers that they required. Industrialisation gave rise to new firms and opened up new lines of production. Rural workers migrated into towns in search of the new work posts. An institutional figure was urgently required to fill in this training gap experienced by firms and enterprises, capable of acting speedily and at the scale that the enterprises needed. The task consisted not only of imparting the required occupational skills for the different trades, but also it was necessary to transmit to these new workers, which came from the country

and were of peasant origin, the norms, the patterns and styles of industrial organisation of labour.

All the above factors explain quite clearly the emergence of VTIs whose foundational attributes and characteristics are present to a greater or lesser degree in most of them. This process took three main paths or solutions. First of all, clear-cut independence from regular education systems and as a consequence, a greater proximity to the labour world. Secondly, financing based on a contribution by firms and enterprises under the form of a tax on their payroll; and thirdly, participation of the sectors which were directly involved in the matter, that is to say, government, employers and workers. This was embodied in the directive boards of VTIs.

The combination of all these attributes ensured great autonomy for VTIs, which was based on stable financing and on the permanent practice of a dialogue with the market that they were destined to cater for. Thus, political connections of VTIs linked them to the vanguard sectors in the economic and social spheres, associated with the industrialisation process and the take off of these countries.

In the late fifties and especially in subsequent decades, similar institutions emerged in nearly all Latin American countries. By and large they were concerned with the training of urban manpower mostly for the industrial and construction sectors. Their task focused on training skilled and semi-skilled workers and most of them allocated significant resources for the training of adolescents according to apprenticeship schemes.

Also from the start the clientele that these institutions catered for came from underprivileged backward sectors who were dropouts or had difficult access to the services of regular education. It is easy to understand therefore, that in many cases, management of training was entrusted to labour ministries which were taking over responsibilities in all matters pertaining to the labour area.

If institutionalisation of VT in most Latin American countries took place outside education ministries, this was not due only to the reasons of a practical nature that we have pointed out before. It was also due to the decision of associating it to labour policies of a clear-cut and explicit nature. We may quote the following examples: the foundation of SENAI in 1942 and SENAC in 1946 in Brazil cannot be fully understood outside the context of the labour legislation promoted by President Getulio Vargas in the late thirties. The launching of the CNAOP in 1944 took place when the Labour Ministry was included in the Argentine cabinet. The Colombian National Apprenticeship Service, SENA,

was established in 1957 among a number of other measures about wages and family subsidies sanctioned by the Military Junta of Colombia in order to look after the economic needs and promote the standard of living of underprivileged sectors of the population. The National Apprenticeship Institute in Costa Rica, although it was created as an autonomous institution directly tied to the Presidency of the Republic, it was promoted and proposed since its inception by the Labour and Social Welfare Ministry.

Perhaps the most decisive, innovative and widely known feature of the Latin American VTIs was the financing system adopted by the majority of them in the region. Such financing system consists of a compulsory quota that enterprises pay in the form of a levy grant equivalent to a percentage of their payroll, ranging between 0.5 and 2%. Exceptionally the workers also contribute with approximately 0.5% of the profits and bonuses they are paid. In some cases, supplementary contributions from the fiscal budget are foreseen in the law, either regularly or for specific contracts. However, in practice, these latter contributions have been negligible.\*

This formula implied the obvious recognition that the burden of financing VT should be the enterprises' responsibility. It also constituted a means of ensuring a dynamic and continuous flow of resources, thus avoiding the painful dependence on the public budget, typically suffered by governmental bodies. Finally, it guaranteed at least theoretically, automatic adjustment of the available resources to the fluctuations of the labor market, since the volume of contributions was determined by the number of workers actually employed at any given time.

In spite of the fact that most VTIs were created within the public sphere and under the tutelage of the respective governments, the origin of the financial resources levied from the enterprises led to great involvement of employers in the management of VTIs and ensured the creation of fluent links with production units. At the same time it led support to the great autonomy which as an exception in the governmental machinery was conferred upon VTIs. The stability and gradual increase of financial resources granted according to the law, conferred to VTIs a strength that enabled them to grow and become consolidated. Thus they generated a rich tradition and a great capacity for adjusting and adapting to changing situations.

The tripartite approach as a permanent mechanism for negotiation and bargaining about conflicting interests among governments, employers and

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\* More detailed information concerning formulas for applying this financing mechanism can be found in chapter VIII of this document.

workers, became another cornerstone for the flexibility that VTIs were endowed with throughout their history.

Encouraged by the ILO and ratified in the different countries by the joint support of the three sectors involved to promote development based on industrialisation, the tripartite approach was included from the very beginning in the legal instruments that created VTIs. This practice of constant cooperation gave rise to a number of situations where participation was becoming more concrete. Though they were all based on the same basic principle, the growing heterogeneity and specificity of the different parts involved was recognised. The necessary patency and sensitivity of VTIs to the new and diversified demands that emerged every day was thus ensured.

These common institutional characteristics enabled us to consider this vast conglomerate of VTIs of Latin American countries as a relatively homogeneous whole. Furthermore, some authors refer to a "Latin American VTI model"\* to reflect the institutional figure having the defining traits of the organisation and functioning of these bodies, their legal basis and financing as well as their style of direction and operation, which are still present in most of these entities. It is beyond all doubt that these institutional characteristics to a large extent made possible the dynamic evolution of VTIs. However, it would be misleading and even useless to try to define VTIs of Latin American countries within a rigid model, pointing to specific lines and definitions regarding their nature, their structure and their organisation. What we want to show in this study is how each one of these entities has explored and exploited in its own and peculiar way the possibilities afforded to them by their foundational pattern. We are particularly interested to analyse how VTIs have responded to their different challenges, how they have reacted to the demands that emerged and what is their capacity for change and adaptation to different realities.

#### **b. Institutional arrangements**

Strictly speaking, there does not exist a fixed formal institutional pattern of VTI replicated throughout the region. Moreover, multiple variations of a common basic conception of VTI have taken shape in the different countries, offering a wide range of specific organisational solutions.

The original solution which crystallised in Brazil with the creation of SENAI (National Industrial Apprenticeship Service) in 1942, was followed

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\* Ducci, M.A.- The Latin American vocational training model. *International Encyclopedia of Education*. Pergamon Press. (in print)

shortly afterwards by SENAC (National Commercial Apprenticeship Service) in 1946. Though SENAI and SENAC are the pioneer institutions shaping the VTI track in the region, it must be clearly understood that they do not exactly and fully represent the formal organisation most typical of the Latin American VTIs. A number of quite important distinctions must be pointed out.

Firstly, both Brazilian VTIs were attached to the respective employer's federations in the industrial and commercial sectors, thus being constituted as private entities. Though the close connection with enterprises was considered an essential principle, the direct and exclusive dependence on the private employers' sector was not followed by those VTIs that came later into existence elsewhere in the region. In fact, the two already mentioned Brazilian VTIs were the only ones created in the private sphere until recent times when in other countries new VTIs are arising as private organisations tied to employers' organisations. Practically all those VTIs that appeared during the fifties, the sixties and the seventies, became public institutions set up as decentralised bodies, connected with the ministries of Labor, while remaining largely autonomous.

Secondly, the two Brazilian institutions were assigned a sectoral coverage, being SENAI in charge of the manpower training for the secondary sector, and SENAC for the tertiary sector. Instead, the most common institutional figure throughout the region was for a long time that of one single VTI catering for the whole of the economic activity.

Some countries followed a quite different path. Thus, Argentina and Uruguay which already had a long tradition in technical teaching and education, based on a strong educational structure specifically aimed for that purpose, opted to adopt accelerated VT programmes as a marginal activity, attached to the educational mainstream. To date neither CONET in Argentina nor UTU in Uruguay have consolidated a scheme to look after the needs of young people and adults regardless of a recognition equivalent to academic schooling.

The rest of the countries chose the way of institutionalisation of VT outside the regular educational system. This long march was started by Colombia (SENA, 1957), Venezuela (INCE, 1959), Peru (SENATI, 1961), Costa Rica (INA, 1963), Chile (INACAP, 1966) and Ecuador (SECAP, 1966). In the early seventies a new generation of VTIs appeared: Paraguay (SNPP, 1971), Honduras (INFOP, 1972), Bolivia (FOMO 1972), Guatemala (INTECAP, 1972) and Panama (IFARHU, 1973).

In general, VTIs act under the aegis of Labour Ministries although they always enjoy an operational autonomy which is quite unusual for other bodies



of the public administration. But there are other forms of organic linkings. Thus, in Argentina and Uruguay institutions of this type depend on education ministries, SENAI and SENAC in Brazil and some other training institutions of a sectoral nature (for instance construction and textile industry) in Mexico, depend on entrepreneurial institutions. ICIA in Mexico is the only one whose origin and operation proceed from a contract of work subscribed by the trade union and the employers in a branch of specific activity, that is to say the sugar industry. There is also the case of SENCICO in Peru which is within the orbit of the Ministry of Housing and Construction. Finally, but not exhausting this list, Venezuela has another variant to show. INCE is an autonomous entity attached to the Ministry of Education; besides, there are specialised organisations for the different sectors which are linked simultaneously to INCE and to other public organisations and private bodies in the country: the Construction Chamber for example, the Tourist Corporation, the Textile Association, the Ministry of Agriculture and so forth.

International cooperation undoubtedly played a decisive role in the dissemination of the aforesaid model for organisation of vocational training throughout Latin America. The leadership assumed by the International Labour Office (ILO) in this field largely explains the fact that the options, while covering a broad range, primarily revolved around labour matters, clearly within the framework of the labour policies promoted by governments. The motivation that the ILO managed to generate in Brazil would be applied later by the same organisation to feed the proposals which, through technical cooperation, it brought to other countries of the region.

The dissimilarity of the organisational links chosen for VTIs in the different countries was a result of the historical moment in each case and, primarily, the balance of power between public and private sectors interested in managing this new field of action opening up in the sphere of public activity. In the 1940s, Brazil faced the imperative of industrialisation, and almost by fate, administration of SENAI and SENAC was entrusted to the private sector. In reality, it was barely made responsible for implementing a minor portion of the new industrial training law promoted by the government of Getúlio Vargas as one of the pillars of his social policy. While the Ministry of Education would be responsible for technical and vocational training for industrialisation, employers were called by the government to collaborate in the establishment, financing and administration of the industrial apprenticeship system implemented for young people excluded from middle levels of formal education. The success and growth that would be attained over the years by the newly-created apprenticeship institutes, SENAI and SENAC, was not foreseen at the time.

SENA arose in clear emulation of the Brazilian experience which, fifteen years following creation of the system, was bearing significant fruit. Nevertheless, Colombian employers, far from taking the initiative, resisted the application of a new tax burden to create an apprenticeship institute following the Brazilian model. They ultimately accepted it within a package of labour laws and following negotiations with the Government to compensate them by releasing them from severance pay obligations. The union movement had already gained ground in the vocational training area, with the Workers Training Institute that was established within the Ministry of Labour, which would later serve as the organisational base for SENA. Thus SENA, within the public sphere and the product of negotiations between different social sectors, would set the trend for the vast majority of VTIs thereafter appearing in the region with the intensive promotion and technical cooperation of the ILO. SENA's organisational model was more in line with the principles of ILO doctrine and, by being in State hands, ensured the balance of interests and the overall, long-term responsibility which were understood to be essential in labour policies. It should also be remembered that this period began to be influenced by the views of ECLAC, which insisted on State leadership in the planning, guidance and control of a development model based on import substitution and regional supply of internal markets. If the VTIs were to produce the labour required for that industrial development, it was reasonable to ensure the organisation and administration of the new institutions in the State apparatus.

### c. Legal framework

There is a great disparity as to the juridical norms governing the activities of VTIs. It so happens that in some cases there are constitutional precepts legislating in this respect, for instance in Mexico. In other countries, parliaments have approved bills and organic laws dealing with this subject. This is the case for Argentina, Costa Rica, Dominican Republic, Ecuador, Nicaragua, Paraguay, Peru. In other countries, the VT system is governed by presidential decrees, resolutions or laws (Bolivia, Brazil, Colombia, Chile, Guatemala, Honduras).\*

In broader outline, two periods may be distinguished in the matter of legislation concerning VT. The first one includes all activities prior to the creation of VTIs in each country. The second one embodies the institutionalisation of training.

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\* For details about VT legislation in Latin America, see: Barbagelata, H.H.- *Digesto legislativo de la formación profesional en América Latina y el Caribe*. Montevideo, Cinterfor, 1981.

During the first period, legislation covered mainly two central areas: one which governed technical and vocational education in schools that fell under the jurisdiction of Education ministries, such as polytechnic schools, for example; and the second one, that of regulation of the minors' apprenticeship contracts, which fell to the Labour ministries.

With the appearance of VTIs the matter is approached in a much more encompassing and precise way. Thus, a number of juridical norms emerges, specifically aimed at the organisation, planning and management and financing of the training of adult workers and minors. In any case, some authors maintain that legislation on training has not given rise to an autonomous branch of the juridical science. Furthermore, the norms in force are the subject of study of labour law in some cases, and administrative or educational law in others.

This heterogeneous nature of the juridical norms from different sources, nature and coverage that govern training and VTIs themselves, have been the cause of conflicts of jurisdiction among labour and education ministries and often with other ministries and official departments dealing with the promotion and social welfare of the population in general or of special groups such as young people, women, and minorities of different kinds, etc. Sometimes they are even clashed with the top agencies of economic and social planning.

Héctor Hugo Barbagelata has classified matters pertaining to training legislation in the following way:

- a. Conceptual matters, objectives and means of dispensing VT.
- b. Relationship between VT and formal education, attributes and responsibilities of the State and rights and obligations of individuals in this connection.
- c. Situation of VT within the framework of individual and collective labour relations and the content of decrees and obligations of the parties involved.
- d. Organisation, operation and financing of national VT systems.
- e. Organisation, functions and aims of VTIs.
- f. Regulation of labour contracts including manpower training (Apprenticeship contracts, work contracts, in plant, internships, etc.).
- g. Certification of occupational skills.

A noteworthy aspect of all this is that despite the fact that in their origin most of these VTIs were conceived within the framework of labour ministries and as a basic element of their labour policies, training as such has not been incorporated to labour norms or standards, that is to say, to labour law. With a few exceptions, the juridical norms adopted to a legislation dealing exclusively

with training problems. Two cases in which these norms fall within a broader context are Mexico and Peru.

The General Labour Law of Mexico as modified in 1978, not only made it mandatory for employers to give training to their workers but for the first time in the region it integrated and supplemented training problems into the basic labour law institutions of the country. For its part, the General Education Law of Peru adopted through Decree Law 19.326 of 1972 envisioned training within a broader educational framework although far removed from labour concepts and operational aspects. On the other hand, the inviable nature of that law, particularly from a practical point of view, made it ineffectual in a short time. The subsequent Peruvian General Education Law was sanctioned only ten years later, with a scope and aims quite different from those of this preceding Decree.

Despite the fact that most constitutional texts in Latin America and the Caribbean refer to social labour and educational matters, they seldom tackle training in a specific way. A few examples of this can be found in some of the provisions of Brazilian constitutional texts (from the 1937 Constitution to the modified 1988 text), and in the Mexican labour law (as modified in 1978).

A final consideration regarding the legal framework of training and its institutional arrangements in the Latin American region is related to the failure to update current legislation. In other words, the legal provisions covering VTIs and their endeavours do not fully reflect the reality. In many countries, VTI plans and programmes go well beyond the objectives, purposes and goals set out for them by legislation. As can be seen throughout this paper, VTIs cover areas not always taken into account by legislators at the time of drafting their organic laws; they act in fields and through modes not originally foreseen. Thus, the legislation does not cover new conceptions in the field of training, and does not take into account the innovations introduced in the practice by the institutions over recent decades.

### **3. FORGING AN INSTITUTIONAL CULTURE**

#### **a. The mark of VTI founders**

Latin American VTIs show certain generic characteristics which were forged by the first pioneering institutes of this nature that came on the scene. These characteristics were invariably absorbed by their followers, to such an extent that they are the root of an institutional culture which over and above formal differences, pervades and brings life into the distinctive nature of the activities of VTIs throughout the whole region.

Stress has also been laid on the influence of personal factors and the character of the men that directed and conducted these institutions originally. The founding fathers of the first VTIs that appeared on the scene, stamped on them a commitment with a flexible and efficient alternative to overcome the incapability of regular formal educational systems to train workers for the new born industrialisation process. They opted for a solution directly linked to the world of labour and production. They tried to revalue manual tasks and technical work. They steered clear from the academic and intellectual tradition of formal education and tried, on the other hand, not to come into conflict with it. They endeavoured to define their own space for action and finally they were deliberately reluctant even to incorporate the concepts and terminology utilised in traditional academic circles.

Seldom were Latin American VTIs preceded by precursor entities in their own countries. Their founders were, in general, businessmen with a political foresight and social influence who had led circumscribed experiences in the training field and had realized that there was a source and room for further action to enable industrialisation and development. These men showed capable of mobilising and convincing political circles offering an institutional scheme which was viable for meeting the well-recognised demand. Just the fact of having managed to get VTIs accepted with a solid financial basis and with an unusual autonomy within public circles, speaks about the expectations that were pinned upon them to get out of the bottleneck that the lack of skilled workers meant for industrialisation.

In spite of all this the initial steps taken by VTIs were in general quite modest. They adopted an unpretentious, although exclusive terminology. They defined their tasks with practical and concrete objectives and without trying to have a political impact. For a long time VTIs laboured in silence and concentrated on pragmatic goals calling for precise and short-term answers. The first VTI directives remained in their posts for a long time and in general accompanied the process of growth and development of their respective VTIs.

The patterns and values that these men quite naturally brought into some VTIs gave rise to an institutional culture that has prevailed in spite of the accelerated evolution that VTIs underwent later on. It was that culture that acted as a balance to weather to great storms and fluctuations that VTIs have been exposed to particularly in the last two decades. Although implicit in this culture there was a capacity for change and adaptation to that sort of situation, VTIs have also fallen back on their original genetic process to resist any loss of identity that indiscriminate changes might have brought about.

## **b. Schools emulating factories**

The trademark of quality of VTIs was based on their vocation to understand the nature and the rationale of the production environment. The upper technical staff of these newborn VTIs was made up mainly by engineers and technicians, and the teaching staff was made up by workers with long experience in their respective trades. What mattered was knowledge and understanding of the production environment and above all of the industrial rationale, rather than pedagogic qualification which could be imparted by the VTIs themselves.

The strength of VTIs was based on nimble and permanent links with the production environment and therefore, the physical infrastructure, the operative modalities and the style of action emulated the factory atmosphere. They endeavoured to become valid interlocutors with the productive organisations.

Nearly half a century ago, Euvaldo Lodi who was then the President of the Brazilian National Industrial Confederation said when he opened SENAI: "A vocational school should have the industry that it intends to serve as an indicator for the organisation of its curriculum, its methods and process, its matriculations and the guidance of its students. Without this, it would be an expensive and useless trick."\*

This quotation and the whole text of that speech by Euvaldo Lodi sum up a style and a programme platform that served as a guide first for SENAI and then to the other institutions that were created along the years. What we want to underline is that from the very beginning these institutions were conceived as closely linked to the needs of industry. The structure and the activities of these entities should be updated constantly in close connection with these firms that they serve. Hence that VTIs are constantly soaked and oxygenated by this close connection with the world of labour and production. Their vitality, their currentness and their efficiency can only be understood insofar as they respond to the mandates of the reality that they ought to serve.

Although VTIs ultimately fulfil an educational mission, the novelty, when we look into their birth process, is that the productive aspect in the widest sense is what prevails and defines the activities of these bodies. This in no way means that the pedagogic aspect is laid aside: quite the contrary, the pedagogical proposal of VTIs is merged together with their first mandate which is that of

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\* Lopes, S.- *Uma saga da criatividade brasileira*. Rio de Janeiro, SENAI, 1982, p. 52.

work and production. Euvaldo Lodi expressed all this in a very clear way. He said: "No formula seems to us better to ensure this cooperation than the one that places the school within the manufacturing plant. Up till now the workers in our industries, with a few exceptions, learnt what they knew in the work environment. That is therefore our tradition in this matter: to improve upon the system, to get rid of imperfections and defects, to enrich it, to make it rational and systematic. That is our aim."\*

Therefore, teaching and pedagogics are seen as instruments at the service of training, but they should not denature the central purpose of the whole matter, that is to say, to train workers technically for their jobs.

The complex apparatus generated by formal teaching and educational technocracy, the conceptual confusion between what a school is and what teaching means, the monopoly of knowledge and so forth, were things that did not manage to deflect VTIs from their basic commitment. This programmatic clearness, this conceptual rigour and operational firmness promoted by the engineers and technicians that launched these entities, lie at the root of the auspicious results that contributed to shape a scheme that was perfected and enriched along the years.

An institutional culture coined from the very beginning as a response to the nature and rationale of the production environment. This culture was pervaded by an enterprise atmosphere, attentive to the needs of industry and ready to maintain contact and permanent dialogue with it using the same language. The codes of conduct and operation adopted by them, reflected the patterns of the labour environment. The technical and pedagogical response was forged with productive elements and based on the knowledge of production processes, revaluing practice in a real work environment as a main component of the learning process. Training programmes were structured to transmit apart from knowledge and skills, the values, habits and behavioural patterns inherent in professional work.

Along nearly five decades VTIs have shaped up a character and a personality of their own, and we might even say that there is a certain sectoral identity which goes beyond national frontiers. This character and personality do not stem exclusively from the peculiar traits which we have already pointed to, that is to say, financing, tripartite approach, independence from the regular educational system. But they also depend on the genetic and cultural elements that we have described in this section.

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\* Lopes, S.- Op. cit., p. 52.

### **c. International cooperation at its best**

Probably, much more than in any other field of economic and social activity, the dialogue and exchange of experiences among similar institutions of the different countries has contributed to refining the institutional culture which has prevailed throughout their existence and which at one time even made it possible to speak of the existence of a training mystique.

The founding fathers were certainly pioneers in their respective countries. Through their leading behaviour they skillfully handled political spaces to create new institutions which quite naturally would be more welcome and receive greater solidarity from similar entities in other countries than in their own national environment. Although initially there was no adequate forum to debate these matters and to exchange ideas about the task that was invented along the way - frequently through a process of trial and error - the directors of VTIs managed to establish contacts at international level and to keep open communication channels with their peers in the region.

It was in this way that a seed for mutual cooperation was planted, which the ILO was later to channel through the creation of a regional agency specialising in cooperation and encouragement of these links of brotherhood which had spontaneously emerged among VTIs of the continent. In 1964 negotiations by the ILO with the authorities of the Latin American countries, and specially with directors of VTIs which already existed then in several countries, led to the foundation of the Interamerican Centre for Research and Documentation on Vocational Training (CINTERFOR).<sup>\*</sup> Held up and supported by member VTIs, CINTERFOR became a catalyst for the mutual transfer of policies and training strategies and of the whole technical apparatus that was in operation. It was also a sounding board for innovations of all kinds which have circulated quite fluently among VTIs. The influence of this international circuit has no doubt been a promotor for the dynamics and flexibility of VTIs. It has capitalised on the ability and curiosity in VTIs and it has given new life to the easy transmission of ideas and awareness of mutual aid. It has also contributed to find all the critical areas of training and to look for formulas and solutions.

The impact of international technical cooperation, both of a bilateral kind from industrialised countries particularly interested in the development of VT

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<sup>\*</sup> CINTERFOR is a regional specialised agency of the ILO created in 1964. Its headquarters are located in Montevideo, Uruguay. Its main commitment is the development of VT in the Americas through information, research and documentation on VT matters, as well as through technical cooperation among the countries.



in the region, and of a multilateral nature through international bodies and credit and development banks, was decisive for the growth and consolidation of VTIs. Furthermore the great strides in innovation that these VTIs took along their history were always supported to a great extent by this cooperation current. Promotion and cooperation agencies found in VTIs a receptive and valid interlocutor; eager to learn and to experiment, to improve its performance and also capable of offering the guarantee of continuity and expansion of the contributions that they received.

All this explains why more recently created VTIs have not only benefitted from the organisational and operational formulas devised by the older organisations of a similar kind in the region and outside the region, but they have also been able to observe, to consult and to request for help and lessons in the experience gathered in the field to overcome the hurdles that their predecessors had to face up to. They also provided them with short cuts to avoid making the same mistakes.

#### **4. THE FRUSTRATED ASPIRATION FOR COORDINATING SYSTEMS**

##### **a. In search of articulation and control**

Towards the mid seventies the general picture of VTIs seem to be quite well consolidated. Although some of these institutions were quite new by then, they started off with an advantage that was the international cooperation system established in that field which enabled them to take advantage of the technical pedagogical expertise and of the organisational and operational experience which have been accumulated by pioneering institutions.

By then most VTIs had a solid organisation and a fairly good infrastructure, that is to say, adequately equipped training centres, good teaching personnel, highly qualified managing and technical staff and an original technical-pedagogical approach. They also had an exceptional delivery flexibility, that is to say, in-plant training programmes, urban and rural mobile activities, etc. As a result of all this and as a result of the positive attainments of their work, VTIs obtained the recognition of society in general and, in particular, that of employers and workers.

Although they were powerful and covered a growing range of VT activities, VTIs obviously represented only a portion of the varied gamut of training agents offering their services on the market: public organisations and enterprises carrying out important training programmes, as well as private firms which set up training units to look after their own needs. There has been a proliferation

of private training academies, and non-governmental institutions (NGOs), looking after the increasing demand for VT. In this way, the VT scenario has become diversified with the presence of new actors. Hence the fact that labour ministries have started to maintain the need to establish a superior body operating as a national VT authority ensuring effective and rational coordination, laying down policies, ordering priorities, proposing strategies and harmonising action with a view to avoiding duplication of efforts and squandering of resources.

In different countries and almost simultaneously, the response to this problem was found in the creation of harmonising mechanisms: the model of "training systems" was introduced. In Brazil in 1976 the National System of Manpower Training was created under the direction of the Federal Manpower Council (CFMO). That same year in Chile, the National Training System was created under the coordination of the National Training and Employment Service (SENCE). In 1978 the Federal Law of Mexico which had been modified that same year, gave rise to an employment training coordinating unit (UCECA). Other countries dealt with this matter resorting to different types of arrangements, for example, in governmental areas which had to do with education. In Uruguay, in that sphere, a training council (COCAP) was created in 1978 and in Peru a General Educational Law was introduced in 1971 regulating training around the so-called special training centres (CECAPES). Later on, it was the Peruvian Labour Ministry that took this over with the General Direction of Vocational Training (DGFP). In the mid eighties the latter attempted to set up a training system with wide participation of sectoral bodies that operate training but the employers did not back this initiative, so until now it did not become operational.

If we were to typify the solutions adopted in that direction, we might say that they basically fall into two groups: on the one hand, the organisation of systems promoted by national vocational training institutions; on the other, systems managed from outside, usually by governmental bodies specially appointed for that purpose.

In the first instance, traditional training institutions of the dominant type expand their scope and, apart from executing agents, they act as promoters and guides of training activities external to them. Although this pattern has been followed by several institutions in their evolution (the Colombian SENA, the Costa Rican INA, the Ecuadorean SECAP), it has not crystallised fully. On the basis of national development plans and training needs detected, institutions lay down vocational training policies that they implement themselves, and encourage and support outside initiatives, although without controlling or supervising them. Nevertheless, it is obvious that institutions are increasingly

interested in keeping close links with other training agents - including enterprises - in order to coordinate and rationalise their activities within the whole. In this kind of setup, the presence of the central institution continues to be preeminent, acting throughout all economic sectors and bearing responsibility for vocational training vis-a-vis the State.

One variation on that scheme is the creation of a national system through the subdivision of the parent vocational training institute. Such is the case of the Venezuelan INCE, that has split into nine specialised INCEs, known as sectoral institutes. Thus, INCE has retained national responsibility for vocational training, while turning itself into a kind of system, although it still lacks normative or supervisory powers over vocational training imparted outside of INCE or its subsidiary institutes.

The organisational pattern of a vocational training system centered around a national executing institution has been adopted by more recent training bodies of the Region, such as INFOTEP of the Dominican Republic, and by similar ones being organised in El Salvador and Nicaragua.

The second trend is clearly exemplified by Brazil, Chile and Mexico. The main thrust in those three countries is to enhance the role of the State as the promoter, guide and controller of vocational training, while minimising its role as an executor. At the same time, the responsibility of employers to train their own workers is underlined, and a wide range of executing agents are recognised; private initiative is given a free hand and manifold possibilities to offer vocational training. Another important feature of this model is that the State retains mechanisms for direct action in the training of marginal sectors not covered by private initiative.

Some circumstances shared by these three countries have led them to the adoption of this organisational pattern:

- The idea of an overall system spread more quickly in countries where power was divided among national training bodies. In the case of Brazil, for example, the fact that there existed specialised institutions for different sectors of economic activity (SENAI for industry, SENAC for commerce and services, SENAR for the rural sector), plus a variety of training programmes run by a large number of organisations, made the need for global coordination more evident. In Mexico, some branches of production, more powerful and better organised than others, had their own sectoral training bodies operating independently (ICIA for the sugar industry, ICIC for construction, CATEX for textiles). The wish to project these experiences to other sectors that needed training, and induce them to play a more active and central role, led quite

naturally to the creation of a system. Chile, for its part, already had INACAP as a central vocational training body that covered all sectors of activity; but the new Statute of Training and Employment passed in 1976 turned it into just another executing arm, side by side with a variety of other training agencies and on a par with them.

- The emergence of national vocational training systems was associated with the promulgation of legal provisions making enterprises directly responsible for implementing training programmes for their workers. In the three countries under consideration, laws and acts were passed between 1975 and 1978 providing for financial incentives to firms dispensing training (Brazil and Chile), or making it compulsory for enterprises to give training to their workers (Mexico). The concept of a system, therefore, goes hand in hand with the will to recognise and stimulate the role of enterprises as training agents.

- In all three countries, the more powerful vocational training bodies were connected with the private sector. In Brazil, at least SENAI and SENAC were linked to employers' federations, although SENAR was dependent on the Ministry of Labour. In Mexico, the institutions mentioned above were also associated with employers' chambers in their respective economic areas. In Chile, although INACAP saw the light as a public institution, as a result of the Corporate Statute of Enterprises of 1975, the Statute of Training and Employment of 1976 and Decree-Law No. 5 of 1981 that modifies the role of training bodies, it underwent political, institutional and administrative modernisation. It became independent from State financing and acted under similar conditions to those of other technical executing agencies recognised by governmental authority.

In spite of these coincidences, different shades of intent may be perceived in each case. In Brazil, where powerful vocational training bodies were directly connected with employers, the State had not played a very important role. A wish to correct that situation became apparent, ascribing to the State the coordination of a national manpower training network, whose main pillars were the traditional institutions. In Chile, on the contrary, the intent was to minimise the role played by the State, transferring to private hands its functions as executing agency, leaving with it only a modicum of orientation, supervision and control. In Mexico, lack of any long-standing training tradition on the part of the State and the miscellaneous nature of training bodies in the private sector, led to the formal investiture of the State, when it was decreed that training was a mandatory activity.

In all three countries an institutional formula was found by assigning relevant functions to a department of the Ministry of Labour, that acted as seat and secretariat to the system. It was responsible for encouraging and promoting

training by the private sector; orienting, registering and controlling initiatives and authorising the use of resources granted by the State to enterprises, through tax deductions, for the training of workers. Direct training is excluded from the public function, except in specific circumstances, for disadvantaged sectors, through specialised governmental bodies in Brazil and Mexico, or with public funds transferred to the private sector, as in the case of fellowships and grants adopted in Chile.

In Brazil, the Federal Manpower Council which sits on top of the pyramid has persistently looked for a national manpower training policy that may legitimise its claim to leadership vis-a-vis the powerful private institutions. In Chile there is no such concern and leadership is left to the interplay of forces in the market. In Mexico, the State acts as supervisor in the enforcement of the law (vocational training is constitutionally mandatory), and encourages implementation. In all cases the governmental department centralising the system is responsible for promoting the vocational training process in the private field, and supplying technical information and inputs that may be useful to all parts of the system.

#### **b. The failure of earlier formulas**

The programmes outlined for those systems seemed to be quite justified and reasonable. The possibility of elaborating short and long-term policies, to lay down strategies and programmes in order to put some order into this vast supply of training according to the demands of the productive apparatus, seemed to be an imperative need.

But in ten years' time all these promising expectations crumbled. At the beginning of 1989 the Executive Power in Brazil dissolved the Federal Manpower Council. Mexico did not manage to overcome the bureaucratic stages of registration of joint committees and of plans and training programmes for the different sectors; in Chile no significant progress was made in the formulation of the training policy. In Uruguay there is still a debate concerning this matter. The Peruvian Parliament, for its part, deactivated the mechanisms created by the General Educational Law of 1971 concerning the special training centres.

The difficulty in institutionalising training systems in these countries is due to a number of reasons. In general, one of the main reasons is the inability of labour ministries to take over leadership in the field. They have also been unable to establish legitimate institutional frameworks for the formulation of human resources training policies. During the last decade labour ministries saw their power dwindle, they failed in their attempts to modernise structures and above all, in the best of cases, they once again assumed their traditional role

of mediators in labour relations and of inspectors of working conditions. Operation of these training systems becomes further complicated by the rivalry that exists between labour and education ministries. In fact, both ministries claim main responsibility for handling all these matters.

The system is successful in Chile through SENCE in channelling tax incentives for training and in allocating resources through fellowship schemes. But up to now it has not become an effective system for the formulation of training policies, or for the development of quality control mechanisms and the control of resources invested. In the case of Brazil, the Federal Manpower Council practically limited itself to authorising tax discounts for enterprises so requesting, and did not manage to exert influence further than in the two already existing institutions, that is to say, SENAC and SENAI, and the then recently created SENAR; coordination of the scattered training efforts was minimal as this council was based fundamentally on the action of the two pioneer institutions. As we said before, in Mexico the Labour and Social Security Secretariat never managed to overcome the stage of registration of training actions by some thousands of enterprises. In general, the firms that complied with the formal requirements were those already doing so before the Federal Labour Law was modified. In Uruguay, the specialised entity COCAP never managed to overcome its marginal role in the encouragement of a training system. In Peru, at present there is a new redefinition of regulating functions, and again there is a certain clash between the ministries of labour and education. In the meantime the specialised body, SENATI, is under the policies and directives of the Industry and Tourism Ministry, whereas another body, SENCICO, acts under the direction of the Ministry of Housing and Construction.

To sum up, this attempt to create training systems did not even manage to coordinate the action deployed by those VTIs which were considered to be official and having national coverage. Neither did it manage to find channels to orient, on a national and integrated basis, the many public and private bodies already dispensing training in an intensive way.

It is clear that beyond the intrinsic weaknesses of the ministries of labour in leading an undertaking of this scope, their powers of control were seen to be minimal vis-a-vis the strength of the already consolidated VTIs, which had considerable autonomy, significant financial resources, and the backing of private sectors that logically resisted the control of a government agency. The newly created regulatory agencies were able to fulfill their role only insofar as control of the activities of the different training agents was linked to allocation of government funds for VT financing. Yet even in those cases, given their technical inability to define a national policy, to define and enforce standards

for service quality, to evaluate results, foster initiatives, and reorganise disperse efforts, they were unable to legitimately and effectively control anything. Providing themselves with the necessary technical capacity would have implied an absurd duplication of the existing capacities at the VTIs, which were far from objectionable. Regulation of VTIs, enterprises and the many diverse training agents would have required a considerable bureaucracy, without any guarantees of greater efficiency in the rendering of services. The market, therefore, won the hand, and the strong VTIs continued providing technical and even political leadership in the field of VT.

Despite the fact that many of these VTIs still consider themselves to be monopolies of manpower training in their respective countries, in reality they are competing with other training agents. We might then introduce a classification taking into account the general picture, and this would go from scenarios which are nearly a monopoly, the case of Colombia with SENA, that of Costa Rica with INA, to situations of free competition as would be the case of Chile.

It is extremely difficult to reach a quantitative approximation regarding the influence of VTIs action in all the efforts made by countries in the training field. In the last few years we have witnessed a veritable explosion of initiatives from the different circles, for example, production firms, public and private agencies such as ministries, sectoral institutes, promotional organisations, development organisations, technological centres, and productivity centres, and there has also been a proliferation of private academies and institutes, foundations and organisations of a non governmental kind offering paid or free training services.

What does seem clear is that despite this proliferation of training agencies and the diversity of training arrangements which range from monopolies to free competition going through different shades, VTIs continue to play a leading role in these countries for manpower training, at increasingly complex levels. Hence the fact that VTIs are the main focus of attention for any initiative to promote the development of human resources.

## **5. DYNAMISM AND CHANGE IN VTI PRODUCTION**

VTIs have shown to be highly dynamic in their activities. Over the course of what is now a several decade history for most of the institutions, they have constantly grown, broadening and expanding their services both quantitatively and qualitatively. We know that VTIs concentrate and manage - in a fairly autonomous way - a significant volume of resources, especially in comparison to other public administration institutions that are subject to constant budget cuts

and pressures to channel their resources towards other alternatives. VTIs, due to the legal basis of their financing, have long enjoyed financial security and stability, with budgetary resources that have progressively allowed them the luxury of a certain economic ease. The older institutions in particular have been able to amass a physical and technical infrastructure that, once the appropriate dimensions have been achieved, has allowed them to free up resources for exploring new fields. Intense growth, backed by the availability of resources, has brought them to a situation in which the pressure is no longer to do more of the same, but instead to expand into new areas.

#### **a. Global expansion**

Because of this situation it is particularly difficult to delineate a panorama faithfully reflecting the real VTI production, either in quantitative or qualitative terms. In particular, the question of VTI production statistics is unfortunately a very slippery issue. In this study an attempt was made to gather statistical data on production that would respond to homogeneous categories that would allow us to trace a curve of trends over the course of time. And at the same time it would serve as something of a basis for comparison of the production of different VTIs. Nevertheless, that attempt made clear the very magnitude of the difficulty of making production statistics into a reliable indicator of the volume and nature of the services provided and produced by the VTIs.

The most conventional way of measuring production is with VTI annual enrollment figures. But this route has its pitfalls as well. It is relatively easy to turn to indicators such as quantitative growth of VTI enrollment, although the limitations inherent to using that indicator alone immediately become clear. We see two counterposing, if not counteracting, trends behind the enrollment coverage figures.

- On the one hand, we know that statistical figures, particularly for recent years, do not include a significant number of persons trained through the modality of working with third parties. As we shall see below, VTIs have begun to work intensively through agreements with other agencies and with enterprises and economic sectors, which implies that they do not always indicate as their own trainees those persons who enroll in programmes undertaken in this way. Similarly, several VTIs have emphasised the multiplying effect of their direct actions, either towards enterprises or communities, so that the true enrollment effect they give rise to is not captured by VTI production statistics.

- On the other hand, enrollment figures can be artificially inflated in VTI statistical records, primarily due to two reasons. First, the increasing use of the



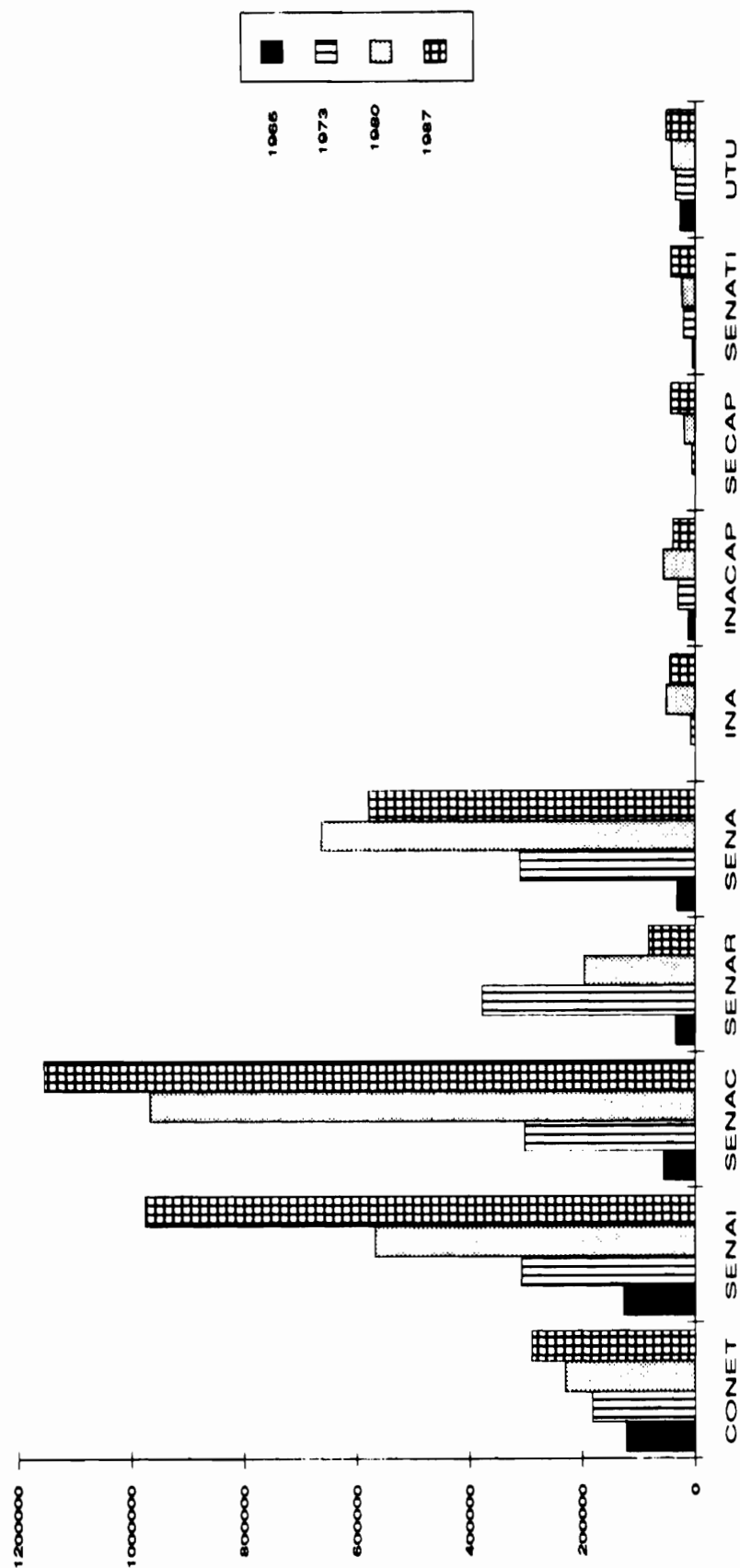
modular approach to programmes leads to a fragmentation of courses, so that what was previously recorded as a single enrollment in a long course can now be multiplied by the number of modules taken by the person enrolled in a modular sequence which is the equivalent to the entire previous type of course. Unfortunately there are no statistical figures that make it possible to discern the real number of persons trained. For such purposes, we should cite the example of SENA, which is one of the few institutions that have concerned themselves with estimating the real number of persons trained, on the basis of annual registrants. In this sense, SENA reports that for 1987, with somewhat more than 580,000 direct registrants in course, the actual number of persons served is in the area of 200,000, a figure it arrives at by deflating, using a factor which takes into account the phenomenon of repetition of short courses by the same person in the same year. While no such factor is available for correcting the enrollment figures for other VTIs, it is possible that to some extent the phenomenon repeats itself, with greater or lesser intensity, in other cases, even if it does depend on the duration of the courses in question.

In spite of the fact that, because of the foregoing factors (along with others that further limit the validity of statistics), real VTI production is distorted by using the sole focus of the number of participants enrolled, such figures still provide some approximation as to the volume of services offered. For the twelve VTIs studied in greater detail for the purposes of this research, the statistics show sustained growth in the total number of participants enrolled, although the initial stage of expansion of enrollment coverage typical of VTIs during their initial and intermediary stages, with a subsequent drop in growth rate, is in general the case for all the VTIs studied. The strong increase that took place between 1965 and 1980 at the older institutions slowed between 1980 and 1987. The younger institutions continue to follow more or less the same pattern, with the corresponding delay. In any event, there are few who continue an accelerated enrollment growth. This relative stagnation would seem to be linked to structural changes in the institutions' organization itself, and to the nature of the services rendered. Last but not least, it may reflect the contraction of employment opportunities for trainees owing economic recession.

An analysis of the VTIs (Graph I.1) covering the fifteen years from 1965 to 1980, shows a strong increase in enrolled participants, as a result of expansion of the older institutions (SENAI, SENAC, UTU, CONET, SENA, SENATI), and the creation of various VTIs as of 1965, which were consolidated and expanded over the following years (INA, INACAP, SECAP, SENAR, SENCICO). The 1980s were characterised by slow expansion, where few institutions grew. Those that did grow did so at a much more moderate rate than in the past, and some even had a falling off of registrants. This period nevertheless saw the creation of INFOTEP, which has contributed a high growth rate in recent years,

Graph I.1

# EVOLUTION OF TOTAL ENROLLMENT FOR TEN VTIs (1965 - 1973 - 1980 - 1987)



Source: 1965-80: Anuarios estadísticos de la FP. Cinterfor.  
1987: Survey to VTIs. Regional study.

when its expansion has been going full swing. Graph I.2 shows enrollment evolution for ten VTIs for 1965, 1973, 1980 and 1987. INFOTEP and SENCICO, founded in 1980 and 1977, respectively, are excluded here.

If we compare the dynamic expansion of the participants enrolled in VTI with the economically active population (EAP), we find that the speed of growth of the former has exceeded that of the workforce. The average annual rate of increase in enrolled participants for the 1973-1987 period was 1.8% greater than for the EAP, for the set of institutions mentioned in the foregoing graph. Average annual expansion of the EAP was 3.6%, as compared to 5.4% for enrolled participants. A second level analysis shows that from 1973 to 1980 the annual average EAP growth rate was 3.7% and for 1980 to 1987, 3.5% for the countries in which said VTIs operate. For similar periods, growth in VTI enrolled participants took place at average rates of 6.8% and 2.4%, respectively. By comparing these indicators quantifying the growth rate of both variables it can be deduced that between 1973 and 1980 the increase in enrollment was faster than EAP growth. On the other hand, in the 1980 to 1987 period the enrollment growth rate was lower than the workforce rate.

While the relationship between enrollment and the EAP is a fairly limited indicator, to the extent that some VTIs provide for sectoral coverage and thus their potential clientele is not clearly reflected in the entire EAP, it is useful for maintaining a comparability between the weight and relative significance of the production of such institutions over the years. Around 1973 this relationship had an average value of 2.1%, while reaching 3.7% in 1980, and falling to 3.4% in 1987. As can be seen in Table.I.1, the behaviour of different VTIs varies widely.

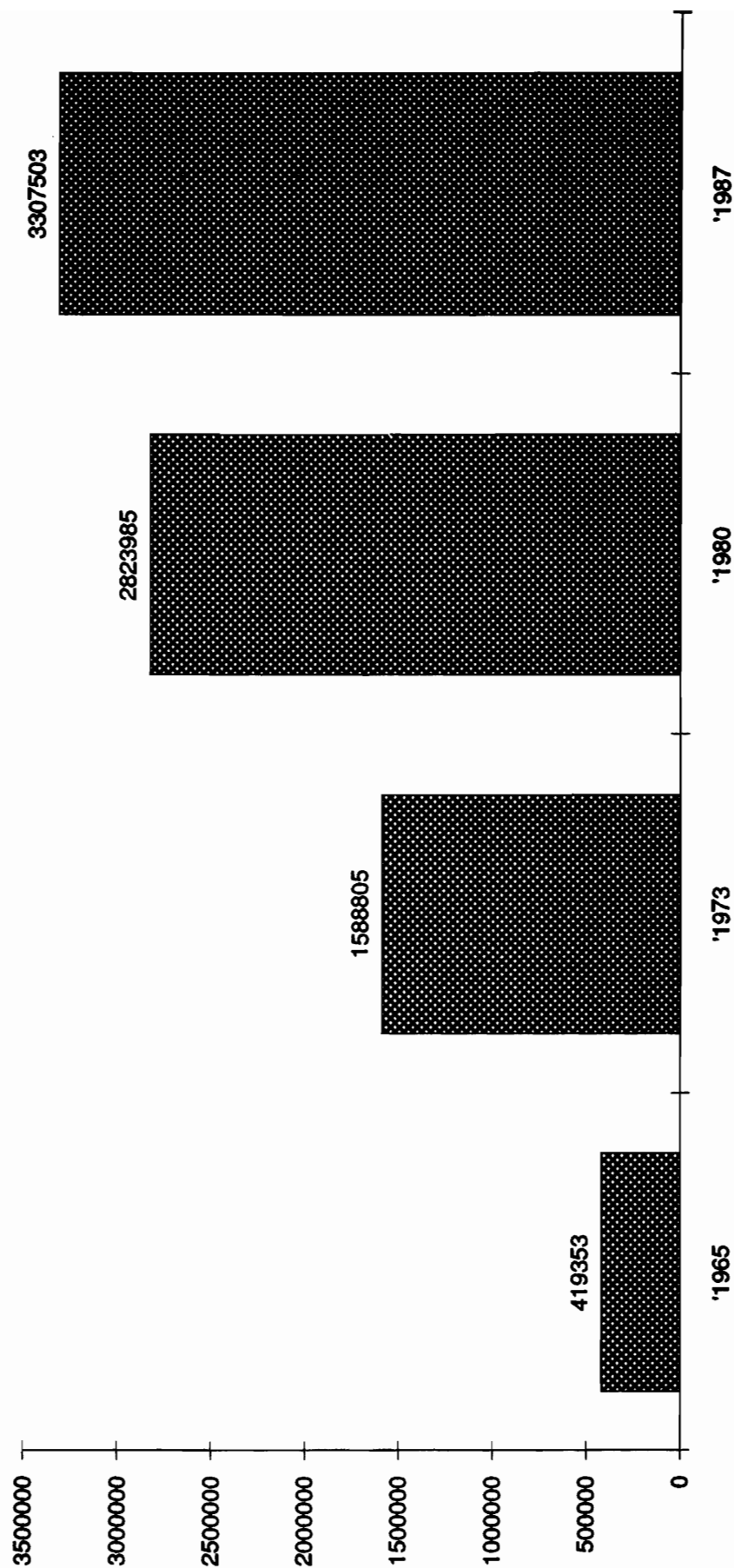
Nevertheless, two major trends can be seen: one related to VTIs whose coverage grew in 1980 and 1987 in relation to 1973 (CONET, SECAP, SENATI, SENAI and UTU); and another related to institutions having greater coverage in 1980 and falling off in 1987. The most clear cases of this situation are SENA and INA, which in 1980 reached the highest coverages among all VTIs in relation to the EAP, while after 1987 this proportion was significantly reduced in both cases.

#### **b. Individual variations**

Variations in the absolute number of enrolled participants for the twelve VTIs are shown in Table I.2 for the year 1987 in relation to 1980. Briefly, the factors having the greatest weight in the increase or decrease of such absolute numbers for each of the VTIs are as follows:

Graph I.2

**GLOBAL EVOLUTION OF ENROLLMENT FOR TEN VTIs \***  
(1965 - 1973 - 1980 - 1987)



\* Includes: CONET, SENAI, SENAC, SENAR, SENA, INA, INACAP, SECAP, SENATI, UTU.

Source: 1965-80: Anuarios estadísticos de la FP, Cinterfor.

1987: Survey to VTIs. Regional study.

Table I.1

## TOTAL ENROLLMENT RATE WITH REGARD TO EAP

VTI	COUNTRY	1973	1980	1987
CONET	Argentina	1.9	2.2	2.5
SENAI	Brazil	0.9	1.3	1.7
SENAC	Brazil	0.9	2.2	2.0
SENAR	Brazil	---	---	0.1
SENA	Colombia	4.6	8.3	5.9
INA	Costa Rica	1.4	6.7	4.9
INACAP	Chile	1.1	1.5	0.9
INFOTEP	Dominican Rep.	---	---	0.4
SECAP	Ecuador	0.3	0.8	1.4
SENATI	Peru	0.6	0.4	0.8
UTU	Uruguay	2.5	3.7	4.5

Sources: 1973: Estudio prospectivo sobre la formación profesional en América Latina.

1980 - 1987: Survey of VTIs. Regional study.

Table I.2

**VARIATIONS IN VTI's ENROLMENT  
1980 - 1987**

INSTITUTIONS	TOTAL ENROLMENT		INCREASES	DECREASES
	1980	1987		
TOTAL	2.823.985	3.325.063	723.718	222.640
SENAI	569.453	975.779	406.326	
SENAC	967.342	1.154.689	187.347	
CONET	230.858	289.540	58.682	
SECAP	20.210	43.410	23.200	
SENATI	23.818	43.939	20.121	
UTU	42.284	52.766	10.482	
SENCICO		9.370	9.370	
INFOTEP		8.190	8.190	
SENAR	190.077	83.229		113.848
SENA	663.183	580.113		83.070
INACAP	58.858	39.568		18.290
INA	57.409	44.470		7.432

Sources: 1980 - VTIs publications.

1987 - Survey to VTIs. Regional study.

- The chief basis for increased enrollment at SENAI was the significant increase in indirect actions, corresponding to cooperation with enterprises through accords and agreements for exemption and withholding. Here we are talking about training undertaken by the enterprises themselves with the assistance and supervision of SENAI. More than three-quarters of the increase in enrollment is due to persons trained in indirect actions.

- In 1981 SENATI by law obtained greater autonomy, whereby it established a new organisational structure and new links with enterprises, resulting in significant growth of enrollment in upgrading courses for workers already in service, which represent almost all the increases in enrollment for the period.

- At SECAP enrollment also expanded through upgrading courses implemented as of 1981, which absorbed some 15,000 new participants of the total 23,000 increase in enrollment for the year in question.

- CONET and UTU have maintained average growth in enrollment, and are at a more stabilised level.

- SENAC showed strong growth in the 1973-1980 period during which its enrollment tripled, reaching one million students, and then incorporated somewhat more than 180,000 students between 1980 and 1987. The basis for the expansion has been courses for upgrading and support to small businesses, technical-operational development, management development, and instrumentation.

- SENAR, created in 1976, provided upgrading courses for nearly 200,000 rural workers in 1980. Nevertheless, due to financial crises, its enrollment fell significantly and reached only a bit more than 80,000 rural workers in 1987.

- In the case of INACAP, the Chilean Higher Education Reform of 1980, which provided for INACAP's recognition by the Ministry of Education and Culture as a Technical Training Centre and Higher Vocational Institute, resulted in the institution's making important changes in the nature of its services, opening up a strong line of technical and higher education for longer terms and with higher technological levels, which was reflected in a drop in the number of students enrolled.

- In the case of INA, the significant drop in enrollment is virtually artificial, since it is due to the near elimination of the road safety courses that INA had been giving as a legal requirement as of 1976. In 1980, this course represented 60% of the participants enrolled; in 1987, it represented barely 0.8%, with 271

participants. The total figures thus hide the fact that INA significantly increased qualification and upgrading courses, technical assistance to enterprises, and public workshops on training-production.

- The fluctuations in SENA enrollment are perhaps the most difficult to interpret, given the profound change in the nature and organisation of its training activities during this period. The drop in absolute figures for enrollment does not reflect the fact that they are offset by production figures for non-conventional services, particularly for dissemination of technology, distance training, and others resulting from SENA's strong movement away from school-type contexts.

In spite of all the theoretical and practical limitations surrounding the analysis of VTI production statistics, a final approach that may aid in providing a picture of the relative importance of these institutions in their respective countries could be a quick comparison between enrollment in VTIs and in the regular educational system. The twelve institutions studied had, as a whole, 3.3 million persons enrolled in 1987. If we consider that for the same year total enrollment in regular educational systems at all levels was approximately 63 million students in the respective countries, the VTI enrollment figure is the equivalent of 5.2% of that of the regular systems. If we limit the comparison to general middle level education, we see a 1987 enrollment of 9 million students, with VTI enrollment thus representing 37% of that figure. Nevertheless, the figure was higher in 1980: 42%. It should be remembered that enrollment in general middle level education in these countries grew in the 1980-1987 period at an average rate of 5.9% while VTI enrollment rose at a slightly lower average rate of 4%.\*

As we will see below, such comparisons lose their real effectiveness insofar as the nature of the services currently offered by VTIs makes it increasingly difficult to compare them to middle level education, even in the technical and vocational areas.

To some extent, the decrease in VTI enrollment expansion has to do with the curb on resources as of the years of the economic crisis. Undoubtedly, however, the phenomenon reflects much more profound factors that are probably connected with a relative stagnation of quantitative demand by traditional VTI clients, along with qualitative change in the nature of the services demanded of VTIs by the production apparatus. A more detailed analysis of the services currently offered by the institutions and the operating modes they are using, as we will

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\* UNESCO. *Anuario estadístico*. París, 1988.



see below, would seem to indicate that VTIs continue to grow, particularly through new lines of action which are still not reflected in the statistics.

## **6. CONCEPTUAL AND STRATEGIC EVOLUTION OF VTIs**

### **a. Job training**

As it happened VT grew and acquired its own identity in Latin American countries where it was taken over by specialised institutions. Nearly all the VTIs mentioned in this paper started their activities expressly to offer a special type of training to recycle or retrain individuals for the performance of a job. This training took the form of systematic programmes or courses offered to people in order to impart to them abilities, skills, and technological knowledge for certain occupations. In accordance with the terminology coined by ILO Recommendation 117 of 1962, these courses had the objective of developing professional aptitudes of the participants.

This was the mission originally entrusted to VTIs. Their task was forged in practice as these institutions grew and developed. To begin with, their goal was clear-cut and concrete: they had to train manpower to occupy available or foreseeable work posts in the labour market, particularly at the skilled or semiskilled level.

Attention was focused on adolescents for whom apprenticeship schemes were adopted, fundamentally structured for the so-called universal trades of the manufacturing industry. VTIs were endowed with an appropriate infrastructure for that purpose by building and equipping training centres which were replicas of the plants themselves, and using the support of employers for a combination of the school-room teaching and practical periods which characterise apprenticeship schemes, which were based on legal contracts.

Soon they utilised the idle capacity of manufacturing plants, particularly in evening hours to look after the needs of adults who were also seeking for suitable training in order to join the ranks of a growing industry. This contact with firms and enterprises added a new demand, that is to say, the updating, retraining, supplementary and further training of workers, and specialisation of operatives already employed in the factories. These were the training approaches which became traditional in Latin American VTIs.

For a long time VTIs endeavoured to consolidate in large and diversified programmes and gradually expanded the rank of occupations and sectors that

they attended. Born with a multisectoral mandate, they went further and adapted the experience they had gained in the industrial sector for activities in the commerce and services sector, that is to say the tertiary sector, and subsequently to agricultural and livestock branches of activity. It was only much later that they extended their action to the rural sector, conceiving it as an overall interrelated whole of activities and occupations that goes far beyond the strictly agricultural and livestock activities.

As they ventured into new sectors, they refined their technical and pedagogic processes to impart training and improved and added new operational forms to widen their coverage and upgrade their quality, timeliness and appropriateness of the services they offered.

#### **b. The social turning point**

The process of industrial development that had given rise to VTIs and made it possible for them to grow and flourish came up against difficulties that soon became evident in the social area. The lack of dynamics and the capacity of absorption of manpower by the modern sector of the economy had a decisive effect on VTIs, which were forced to open up new lines of work. Already before the seventies, some of the oldest VTIs in the region had launched a qualitative diversification to cover new fields, such as rural training, the attention of small and medium-size enterprises, the training of disadvantaged urban and rural sectors, women, independent workers, and so forth.

This new stress on social aspects became a turning point for the very definition of VT. Work posts ceased to be the focus of attention and they were substituted by man himself; thus, man became the main subject and target of training programmes, which endeavoured to promote all his abilities, not just his occupational skills; they tried to encourage his social promotion and bring him advantageous conditions to approach economic activity as a road for raising his income level, style of living and self-realisation, both personally and socially.

From that moment on, VTIs not only train workers to give them a trade, but training programmes and vocational guidance courses "are aimed at uncovering and developing human aptitudes for an active, productive and satisfactory life, which together with other forms of education may upgrade the aptitude of individuals to understand personally or collectively everything concerning working conditions and the social environment, and bring influence to bear upon them".\* This proposal of the ILO which is adopted by most Latin

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\* ILO. Recommendation 150 on vocational guidance and training in the development of human resources. Geneva, 1974.

American institutions, although some of them had already been applying these principles, postulates a shift from occupational aptitudes towards human qualities. A shift is made from limited consideration of employment possibilities towards a better understanding of working conditions and the social environment in which they operate.

By virtue of this novel conceptual tack, the first floodgate was opened which would enable VTIs to explore everbroadening channels. They had to face the challenge to train man for productive work, whatever the conditions of that work from the point of view of technology, productivity and labour relations, bearing in mind constantly as a goal, man's professional advancement and his personal and social improvement. This required an arduous readaptation and institutional opening from the point of view of policies, ranging to strategies and operational modes as well as teaching methods and processes.

New diagnostic studies of the economic structure of countries of the region showed that it was necessary to acknowledge the coexistence for periods which were much longer than have been thought so far, of dispirit levels of technological development with different VT requirements. The more dynamic sectors of the economy continued incorporating peak technologies with the corresponding changes in occupational structures and profiles for their workers. Intermediate sectors continued to reflect the occupational structure of the manufacturing model that have been the basis for the original design of these VTIs, whereas the lower sectors, called traditional or informal sectors far from tending to disappear, had started to play a leading role as a mechanism for adjustment for labour markets.

States started to exert pressure upon VTIs so that they might help in priority social programmes laid down by governments, such as the struggle against unemployment, the attention of the urban informal sector and the peasant sector, and the special population groups, such as women, young people, the handicapped, etc. For their part, these underprivileged social sectors strived to obtain better educational opportunities and to their access to the labour market with a consequent increased demand upon VTIs.

From the side of firms and enterprises, demands also grew and proliferated in all directions which made VTIs deploy a wide battery of responses to look after the most variegated levels of technology and new occupational categories.

### **c. Meeting emerging demands**

Two main and apparently opposing options lay open to VTIs. On the one hand, they had to look after the needs of the more dynamic productive units

with an economic end in view, and on the other hand, they had to attend to the needs of disadvantaged sectors and groups with a social objective in mind.

One of the most polemic aspects in defining the field of action of VTIs has been precisely the search for a balance between these two extremes, a topic that we shall embroach more fully when we refer to institutional policies. Suffice it for now to point out that the different users of VTI services increasingly compete with one another for the resources that the institutions allocate to attend to the needs of different segments of their clientele. Enterprises in the modern and intermediate sector of the economy are fundamentally interested in increasing productivity, and in the practical training of their personnel according to technologies of their work posts. For their part, workers employed in this type of enterprises or expecting to have access to such jobs, wish a training with a wider and deeper technological basis enabling them to have greater occupational mobility and promotion towards higher hierarchical levels. And finally, productive units and social groups which lag behind aspire to overall programmes to overcome their shortcomings and all this going beyond the limits of a purely technical training.

In all three cases, an adequate response would call for going over and above training. It is necessary not only to diversify the qualitative supply of training courses and programmes but to go beyond their limits transcending into services of a non-conventional kind, which entail new functions for VTIs, for the promotion of productivity and technology and that, in a strict sense, do not fit into the concept of VT as outlined above.

In this way VTIs went through a second great floodgate in their field of action. Their institutional dynamics became stepped up and was oriented mainly towards new clients and technological levels in an effort to fill in gaps and generate new products that were felt as useful and necessary in accordance to needs detected.

In this respect, VTIs have behaved with a style that might even be called entrepreneurial. They have sought for new markets, created new products and services, they have promoted and validated their acceptance in an effort to upgrade their quality on the basis of the expectations of their direct and indirect users and committing themselves to offer the responses that are solicited of them, either in an implicit or explicit way without stopping at the limits of training itself. This stance would imply a new trend that is still incipient in VTIs of the region, but that seems to become more evident in some of them. They focus their action on the needs of production units rather than on the social demand of individuals.

A strict and permanent contact with enterprises, which characterised from the very beginning the way in which VTIs operated, was undoubtedly what allowed them to adapt to the changing demands of firms and companies. VTIs could not ignore the fact that the bottleneck for production units no longer lay in the scarcity of skilled manpower. Reaching productivity and competitiveness levels ensuring the stability, growth and expansion of an enterprise, also depend today to a great extent indeed, from the organisation and management of production, from the quality of products, the rationalisation of costs; it depends on design, on technological decisions, on the handling of credit and finance, on marketing, and in the last resort on general management of the enterprises. It is thus that VTIs started timidly at first, with greater self-assurance at present, to tackle services both in the training field and in other non-conventional areas, in order to solve the crucial problems of firms and enterprises.

What a recent editorial in the publication of one of these VT bodies says seems nowadays to be the rule rather than the exception. It reads as follows: "the most accurate image of SENATI would be that of a system of training and further training of human resources in industry, and of support to technological development and productivity of firms and enterprises in this sector".\* Or as the Regional Director of the Brazilian SENAI of Rio de Janeiro says: "SENAI trains manpower, disseminates technology and promotes the renewal of the industrial facilities of the area as its history runs parallel to the evolution of all our industry."

What is novel here is that the concept of production units no longer refers to large or medium-size enterprises with relatively high standards of organisation and productivity. It encompasses that all continuum of firms and companies ranging from the more structured and sophisticated technologically speaking to micro enterprises and independent workers of the informal sector. This new approach is fully in tune with current symptoms of reshuffling of the productive machinery. There is a dynamic interrelation among enterprises of different sizes and ranges of production, as well as a deconcentration and break down of large enterprises into more or less integrated circuits of small units for the partial production of goods and services, which in turn are later connected to the market through multiple channels.

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\* *Recursos humanos y desarrollo industrial*, SENATI, n. 1, July-August. 1988, p. 3.

## II

### VTIs IN THE EDUCATIONAL CONTEXT

A study of VT in the Latin American region, like the present one, should envisage this phenomenon within the framework of the overall educational effort carried out by the different countries, as VT ultimately constitutes an eminently educational activity.

The statement that training is an eminently educational activity is even today questioned by different circles. It was only towards the end of the 1970s that the fact was taken into account that training, although outside the jurisdiction of educational authorities in most countries, makes a substantial contribution to the education of the adolescent and above all the adult population. This was recognised only when educational milieus, both those connected with management and those related with research, were shaken by the ideas postulated by Ivan Illich as to the need to acknowledge that schools are not the only educational agent in society, as well as his plea for removing education from the school-room, from both a practical and theoretical-conceptual point of view.\*

It was precisely through the dissemination of the unorthodox ideas of Illich and his followers that education managers and scholars started to feel that their endeavours were being questioned. Simultaneously they began to verify that in most countries, particularly those of the Third World, important teaching tasks were being carried out totally outside the directives, regulations and routines stemming from education ministries. In the case of Latin America, in particular, it was seen that there were VTIs operating massively, with broad social, economic and labour coverage, in the training and development of human resources.

Alberto Galeano Ramírez, a former Director-General of the Colombian SENA, was one of the first to recognise explicitly the need of conceptualising the training phenomenon in educational terms. To his mind, the activities implemented by a VTI fit within the framework of a national educational policy. He further recognises that VT is part and an essential element of the

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\* Illich, I.- *Deschooling society*. New York, Harper & Row, 1972.

educational revolution required by his own country. One of Galeano's thesis at the beginning of the eighties was precisely that it was necessary to bring together formal and non-formal education in such a way as to provide all Colombians with the elements enabling them to understand and control modern society projecting it towards the future.

## **1. EDUCATIONAL PROGRESS AND VT**

### **a. Progress in the formal education system**

In the last few decades, particularly as from the 1950s the educational situation of the region has shown appreciable progress with regard to the improvement of attention of school age population, in particular children and young people and the wider coverage of educational services. This can be seen if we compare it with the slow development that have taken place in this region until the end of the Second World War. It seems obvious that most of these steps forward have been halted or frozen in the last few years as a result of the serious economic situation afflicting the whole region. Economic readjustment policies in force and the need to curb public expenditure have had a negative incidence on public financing of social programmes, education among them. Most countries of the region show a decrease in relative terms of public investment in education as a percentage of the national GDP.

Data available for 27 countries of Latin America and the Caribbean include some indicators that shed light on the advance made by education in the region:\*

- From 1970 and 1985, illiteracy rates diminished from 27.3% to 17.3%; although the number of literate adults doubled (going from 119 to 209 million) the number of illiterates has remained unchanged: 44 million.

- Enrollment in pre-school education increased considerably from 2.8 million in 1975 to 6.8 million in 1983.

- Primary education has at present a network of schools in a position to absorb all children of that age group; in fact, nearly all countries of the region

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\* Information on which these conclusions are based has been taken from the Statistical Yearbooks published by ECLAC, the Economic and Social Progress Yearbook of the IDB, publications by the World Bank and the OAS and the following documents: UNESCO/OREALC. Situación educativa de América Latina y el Caribe, Proyecto Principal de Educación. 1980-1985. Santiago, Chile, 1988. UNESCO, Evolución cuantitativa de los sistemas educativos de América Latina y el Caribe. Análisis Estadístico. París, 1986 (Document ED-87-MINEDLAC/Ref. 2).

have a gross rate of schooling over and above 99%, with the sole exception of Bolivia, Haiti, Guatemala and El Salvador. These rather auspicious figures, however, have to be taken with care in view of the persistence of high rates of dropout, repeaters and temporary deserters. Besides, young people leaving school in the first three grades belong to the poorer social sectors, both in urban and rural areas. It was also been noted that the facilities, equipment, teaching material and personnel of schools in disadvantaged areas show the greatest shortcomings and insufficiencies.

- Total enrollment in secondary education grew considerably from 1960 to 1985, from nearly 3 million to over 20 million students, although with great variations among one country and another as to the age groups of the enrolled students. In any case, although absolute enrollment figures are still swelling, since the late 1970s there has been a slowing down of growth rates. In most countries, general secondary education programmes accounted in 1985 for about 90% of the total enrollment of that level. Exceptions were Colombia, Costa Rica and Cuba, 75%; Guatemala and Honduras, 68%. Argentina and El Salvador constitute two very special cases. Although their total enrollment for general secondary education is only 40% and 31% respectively, this is due to the value and weight of commercial teaching programmes which are rather high, 30% in the case of Argentina and nearly 50% in El Salvador, so that if we add up general secondary education and commercial education in both countries, values of about 70% are reached.

- In overall numbers, higher education evolved in thousands from 560 in 1965 to 1,640 in 1970, 3,647 in 1975, 4,854 in 1980 and nearly 6,000 in 1984. Rates of development show considerable variations between one country and another ranging from those which had an extraordinary and sustained increase throughout the whole period to others where enrollment dwindled. In between are others which had a considerable growth in the last twenty years and a few which had had cyclic fluctuations along the period under review.

- Public investment in education as a percentage of the Gross Domestic Product shows in general a tendency to diminish in the 1975-1984 period; many of the countries show an increase towards 1980 and then a decline which in some cases reaches levels lower than those of 1975. For the year 1985 figures fluctuate on an average between 1.2 and 3.0 for most large countries: Argentina, Brazil, Colombia, and Mexico. On the other hand, the smaller countries, Central America and the Caribbean, had figures usually higher than 3.0.

The reasons accounting for this educational expansion are of quantitative and qualitative nature. Among the former we may quote the growth of enrollment as a consequence of the gradual incorporation of vast social sectors



that had historically lagged behind (practically the majority of rural inhabitants and the poorer urban sectors). In broad outline we may say that 1940s and 1950s witnessed a spectacular expansion of enrollments in primary education. Towards the late fifties and until the mid seventies the most significant growth rates were for secondary education, and in the last twenty years higher studies and pre-school enrollments achieved the greatest quantitative development in the last twenty years.

The expansion of physical infrastructures (schools and equipment) and of personnel assigned to teaching tasks was the result of priorities assigned by governments to educational expenditures. Public financing for education played a decisive role in making such progress possible.

Qualitative achievements were associated mainly to the introduction of new teaching modes and technical pedagogical innovations devised to serve new social sectors and to the recognition of extra curricular or non-formal educational activities and training action, as part of the overall national educational effort.

#### **b. Implications for VTIs**

We have drawn this general simplified picture of the advances made in formal education in the region just to analyse the repercussions they had on the work of VTIs in Latin America. For example, in their initial periods nearly all VTIs made important efforts geared, on the one hand, to providing priority attention to young people excluded from regular education systems, through apprenticeship schemes. Moreover, the main, express purpose of the first VTIs that appeared in the region was to structure and manage the apprenticeship mode which until then had been dealt with in a casuistic and weakly regulated way in some expanding sectors of industry. Apprenticeship was conceived as the track for young people from 14 to 18 years of age who had finished primary education and had no possibility or aspiration to continue in the formal education system. It was thus an alternative to middle-level education, and was initially designed for the children of workers who aspired to continue in their parents' occupations.

Generally speaking, apprenticeship as a methodical process for acquiring technological and practical knowledge was organised into three years, alternating classroom stages at VTI centres and production stages at the enterprises sponsoring the apprentices. Originally there was no accreditation of equivalency to formal education levels. It was conceived entirely as an independent system of training for work, without any pretensions of paralleling the regular system. Furthermore, apprenticeship coverage was minimal compared to the figures for enrollment in middle-level education, and quantitative goals were

set in relation to the real possibilities for enterprises to absorb apprentices and not merely as a quota for another optional outlet for the large numbers of young people abandoning formal education at the end of primary school.

The advances in formal education did have decisive repercussions in terms of the VTIs' progressive abandonment of numerous "remedial" courses that were initially established to cover the deficiencies in formal schooling found among candidates for vocational training. During their first years of existence, all the VTIs found it necessary to give introductory courses providing participants with the basic reading-writing and mathematics skills necessary for the vocational training offered.

As a result of the substantial improvement of the schooling levels of the population in general, VTIs do not devote at present as many resources to the implementation of literacy and grounding programmes. Until about ten years several of them still participated directly through their own programmes or indirectly through the efforts carried out by education ministries in literacy and adult education campaigns. They did so for two reasons: one, because as pointed out above they had to give to their potential users the rudiments of elementary schooling enabling to take advantage of their training courses; and two, because the solvency of VTIs was recognised in carrying out non-conventional or extracurricular education programmes. This means to say, that they had a greater ability to penetrate through their own special pedagogic resources (training approaches, specialised personnel, methodologies, teaching materials, etc.) into social sectors that had been persistently relegated by regular education systems.

This "release" of resources when VTIs no longer had to invest so much in the elementary education of their prospective trainees did not mean lack of attention by them to underprivileged sectors. Quite the contrary, it implied a redefinition of their programmes, carrying out tasks connected with aspects relating to their specific and original vocation, that is to say, training for productive work. In other words, the experience these institutions had accumulated with disadvantaged sectors plus the mandate emanating from the highest government spheres made it possible for VTIs to be among the first public sectoral bodies to be called upon for the promotion of social policies formulated to foster equity and overcome poverty through an educational effort. In fact, the programmes aimed at the informal sector and peasant farmer populations do not involve pre-established educational requirements. Instead, they tend to value and emphasize job skills, and use methods that try to do without a mastery of reading-writing and mathematics, with a view to adapting to the real educational characteristics of the target population.

**In the case of more formalized VTI courses, the expansion of the coverage of regular educational systems at the primary and secondary levels made it possible for VTIs to gradually change the education requirements for course candidates and to raise their training levels. This has translated into:**

- Greater selectiveness in accepting apprentices, based on their previous schooling. Although completion of primary school (which in some countries has been increased from six to eight or nine years) continues to be a requirement, candidates often have further schooling.**

- Creation of new courses at higher levels, such as for technicians and technologists, which are demanded by participants having a middle-level education.**

**We should note that VTIs generally do not give too much importance to the formal requirements for previous education for the vast majority of their courses, especially those geared to adults. This makes it difficult to gather data on the subject. Nevertheless, they do report that the educational level of the clientele they serve has risen, which has enabled VTIs to restructure their programmes in the light of a better mastery of basic knowledge.**

### **c. Different reactions to the crisis**

**We should now consider the incidence of the current crisis on the progress achieved in the educational field by countries of the region in the light of some conclusions about the experiences accumulated by VTIs.**

**Statistical data supplied by international agencies, (IBRD, IDB, ECLAC) show that as from 1980 there has been a clear tendency towards a reduction of public expenditure on education. In other words, policies for curbing public expenditures have been having a negative effect on the education sector, which has in general resulted in a quantitative stagnation and the lowering of the quality with regard to the advance experienced in previous periods. In some cases, a very evident harm can be seen, a decline of schooling rates, deterioration of physical infrastructures, (school buildings, equipment, laboratories, libraries, etc.); deterioration of remuneration levels of workers of the sector. To sum up, a depreciation of the quality of the teaching imparted by the State.**

**When this reality is compared with what happens in VTIs, an outside observer might wonder: why the official education systems continue to operate so rigidly for the procurement of resources; furthermore, VTIs are eloquent proof of flexibility in this area. These bodies, most of them public in nature, have been trying out for years financing schemes of a varied and innovative kind. As**

we shall see later on, for a long time VTIs based their funding on levies on the payrolls of firms and enterprises, which were the main and, sometimes, the sole source of financing they had. At present nearly all of them have resorted to new formulas, which at the same time diversify their sources of income and relieve the overwhelming burden of the current economic crisis. To answer that query perhaps we would have to think not only about the flexibility of VTIs in so many aspects (financing, among others), but also about the operational decentralisation and deconcentration which characterises them. Public education at all levels has not shown evident proof of trying to find alternative sources of funding, nor to devise non-conventional financial arrangements. As opposed to VTIs and with a few exceptions, education ministries have not managed to create appropriate artefacts to gather resources from the private sector to be invested in their regular budgets. The leading role granted by VTIs to their operational units is among others an open road that might be suitable for the securing of fresh moneys.

In connection with the above the monopoly of State bureaucracy over the educational sector trying to encompass the planning and management of all units making up regular official education, would seem to be another element undermining the progress achieved in that area in recent years, in particular, regarding with quality of the teaching imparted. Management of the educational system is still in most cases in the hands of central authorities responsible in that area. It is still a close circuit impenetrable to any systematic participation of social agents. It enjoys an autonomy that becomes isolationism for the rest of the economy and society. Participation opportunities are few and far between. The most advanced thing in this respect are the cooperative boards set up in the universities of certain countries, but in those cases those who lead universities are the members of the university community itself: professors, students, graduates and sometimes, administrative workers in those centres of study.

This absence of participation is not only confined to planning and management aspects. The lack of communication channels between the educational system and its environment, where the labour market is an important element, detracts also from the possibility of generating mechanisms capable of updating and restructuring social knowledge, informal teaching learning schemes and the results that technological innovations, automation, new materials, etc., may have on the productive processes and the organisation of labour.

The negative impact of the current crisis on educational systems in the countries of the region cannot be denied or minimised. But it is also necessary to admit that educational systems continue to act along rather traditional lines.

Innovation and change scarcely go beyond the well-intentioned statements and discourse of educators and administrators.

What happens for example at the level of secondary education, is eloquent proof of all this. School-room approaches are still a monopoly in the responses offered by education ministries. Methodologies continue to be centered around the school-room and far removed from everyday life in general, and from occupational markets in particular. The pedagogic idealised view of reality goes against any possibilities of modernisation with regard to programmes and curricular contents. The great difficulties encountered in the introduction of reforms into secondary education in the 1970s, these so-called diversified or careers cycles, are an example of all this; what is still even more serious is the fact that the expectations attached to this level of education were targeted precisely on such reforms that so far have shown no positive results.

## 2. THE DISTINCTIVE EDUCATIONAL APPROACH OF VTIs

In 1967 an eminent American sociologist published an essay which became rapidly famous due to the daring of the thesis it was founded on. The ideas propounded by Seymour Martin Lipset in *Values, education and entrepreneurship*\* caused a commotion among specialists and laymen, both as a result of the patterns for action that he suggested as to the provoking nature of this assertions. Lipset's interpretation of the evidence he found and the proposals he makes shook academic circles and entrepreneurial spheres. From the host of new ideas suggested by this author we should here mention the statement that the values of Latin American education had an aristocratic slant. To prove this assertion he quotes politicians, educators, social scientists and other Latin American authors. We shall only quote here two of them: the Brazilian Deputy Florestan Fernandes and the sociologist Juarez Brandão Lopes. Fernandes says according to Lipset: "Education has remained impermeable to economic, social and political revivalist influences (...). The school continues to be an isolated institution divorced from man's conditions of existence and specialising in the transmission of bookish techniques, potted knowledge and routing intellectual concepts. Formal education, in a word, is guarded from any impact that would adjust it to the constructive social functions which it should properly carry out in society aiming at homogeneity and expansion".

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\* In: La Belle, T.- *Education and development: Latin American and the Caribbean*. Los Angeles, Latin American Center, 1972. p. 77-124.

After a survey among students attending secondary schools, whose results were published in the mid fifties, Juares Brandão Lopes underlies the permanence of traditional Brazilian values relating to work in an environment in which economic development demands new specialists.

Therefore the kind of education prevailing in the years when VTIs started to operate is steeped in a scholarly and academic atmosphere. The schools of the fifties still emphasised and reflected the values of a traditional aristocratic society. According to the authors quoted above, education was still channelled towards training for work post and occupations of social prestige and for that very reason, it was removed from production and practical considerations. To sum up, for a long time regular education systems promoted in an open and also in a covert fashion, a contempt for manual work and those who carried it out.

We have quoted these random examples just in order to recreate the scene where VTIs were launched. They were in fact born in a climate that was inimical to everything connected with work notions, particularly manual work; where the world of production remained alienated and outside the values passed on by schools to their students in an explicit and implicit manner. Of course, the situation has not been completely overcome to date. Thus, Alberto Galeano Ramírez wrote several years later: "In education, generality, intellectuality and abstraction have a privileged praise vis-a-vis what is living, sensitive and concrete."\*

For that reason we should here like to examine the role played by VT organisations in the region to contribute in some way to surmount the old atavistic prejudices upheld by regular education and also to show that the programmes and activities of VTIs have gone far beyond the explicit contents of a mere teaching and transmission of knowledge and skills. Through their work these institutions have brought together and revalued the productive atmosphere of enterprises, the culture of work and the worthiness of production. Hence that, although perhaps without deliberately intending to do so, VT bodies picked up the gauntlet thrown down by Lipset, when he pleaded for a promotion of efforts to modernise the values, conduct and behaviour of men and women in an industrial society.

The programmes dispensed by VTIs are not confined to mere training for a work post. On the contrary, they facilitate an understanding of the meaning of work and the environment in which it takes place. They also help trainees to become aware of the values of productive work.

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\* Galeano Ramírez, A.-*Hacia una revolución educativa en Colombia*. Bogotá, Coguá, 1982, p. 33.

To put it briefly the programmes offered by VTIs are more than an efficient arrangement of the inputs making the teaching learning process of an occupation possible. This process does not merely boil down to an adequate harmonisation and combination of instructors, equipment, raw materials, technologies and teaching resources. The way in which these entities approached their activities made their courses capable of passing on to trainees the values of the labour world. The introduction of labour habits, behaviours and attitudes is much more important than the contents that appear in text books and curricular layed down according to technical profiles of work posts detected in firms and enterprises.

In their study of manpower in Brazil, Claudio de Moura Castro and Alberto de Mello e Souza say that the success of the SENAI programmes was in general attributed to the cognitive factors and manipulation abilities that students acquired in their courses. For these authors that explanation is not sufficient so that they add a non-cognitive dimension to account for such favourable results. They say the following: "In the methodical and superlative careful implementation of the tasks of the SENAI methodical series, a taste is developed for the trade being learnt as well as a feeling of dignity and professional pride."\*

It is not difficult to find evidence in support of this assertion. One instance of this is the occupational origin of instructors. Most institutions require as a pre-condition that instructors should have from three to five years' experience in the labour market. In general, before teaching his trade the instructor has practiced it in actual fact. As opposed to technical schools where teaching staff is very often recruited among graduates, VTIs have strictly appeared to a criterion of professional experience in firms and enterprises. Therefore, instructors bring along with them to the different entities not only their occupational qualifications but an embodiment that they pass in practice of the values of the productive environment where they came from. Obviously such values as quality, precision, timing, productivity, etc., are passed on transmitted differently by someone who has lived with them from someone else who has only read about them in text books.

The approaches adopted by these institutions from the very beginning were always stamped by some kind of alternation between centres and enterprises. That is to say, training is not confined to the centres or school units themselves, but from the very beginning, students had to carry out labour practices in real

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\* Castro, C. de Moura y Mello e Souza, A. de.- *Mão-de-obra industrial no Brasil: mobilidade, treinamento e produtividade*. Rio de Janeiro, IPEA/INPES, 1974, p. 406.

enterprises. As a norm, artificial or symbolic experiences of production were avoided. When VTIs decided to create their own "didactic enterprises" they did so sticking to the principle of reproducing the routines and requirements of firms and enterprises. Let us here have in mind that the first enterprises of this kind were set up in 1957 by the Brazilian SENAC at its Regional Minas Gerais Department. In Argentina from the factory-schools of CNAOP to the dual system now being implemented in CONET (sponsored by technical assistance supplied by the GTZ of the Federal Republic of Germany as in several other countries of the region), and in the most varied schemes devised by INA, SENA, INACAP, SENATI, INCE, SENAI and SENAC, young apprentices were given not only the knowledges, abilities and skills of a given occupation but were also acclimatised to the production and work environment as it occurs in everyday life.

Some examples may be quoted to illustrate this concern. In an official document published by SENA, laying its policies, strategies and programmes for a National Training Service,\* five basic lines of action are established for the entity. The first one says literally: "integration of SENA into a national open and democratic educational campaign as a function of the culture of productive work". SENA authorities say in the chapter explaining this policy: "As work is a fundamental dimension of man's life and VT is essentially education connected with work, SENA is bent on promoting an education based on a culture of productive work." And further on they add: "SENA wishes to express in an explicit manner that it ascribes an educational function to work."

In its National Plan for Action of SENAC), SENAC summarises the rationale governing the body and formulates action policies for the 1988/1990 period. For SENAC, from an educational point of view VT should guarantee not only the exercise of efficient work but also an overall education by providing trainees through the basic knowledge and the qualifications required, a dynamic and participative process developing their abilities and attitudes, ethical values and habits, which are necessary for a social and productive life, taking into account the interests and aspirations of the social sectors involved. Furthermore VT should be seen as part of a process of ongoing education and not just a casual educational accident, to speak in SENAC words. For that entity its courses and programmes are part of the training process that will gradually lead people to a permanent need for self-advancement both individually and professionally. Arivaldo Silveira Fontes, Director-General of the National Department of SENAI in a publication of the National Industries Confederation of Brazil said a few years ago among other things: "The revaluing

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\* SENA. *Políticas, estrategias y programas del Servicio Nacional de Aprendizaje*. Bogotá, 1983.



of work and employment as essential human activities promoting better adaptation of man to productive actions is the most conscious way and the most liberated approach."\* Also along these lines are the definitions of Macario Gomes Rosa, VT Director of the SENAI Minas Gerais. This former student and present official of SENAI, said at the 3rd. Annual Meeting of the SENAI Technical Area that "learning to work is not just being trained to reproduce a certain repertory of tasks; learning to work also implies the operational mastering of a certain trade, the appropriation of a technological knowledge and the real reelaboration of a culture for work."\*\*

By way of synthesis we may quote a document subscribed by the highest authorities of SENAI, SENAC, INA, CENAFOR, SENA and INCE, that is known as the Leticia Declaration (an encounter of VT bodies from Brazil, Colombia, Costa Rica, and Venezuela, held at Leticia, Colombia, from 25 to 27 April 1984). Among other definitions, these directors decided that VT should not be restricted to training for a work post. It should rather facilitate the understanding of the meaning of work and the environment where it takes place, contributing to an awareness and revaluing of work.

For all these reasons one of the successes achieved by VT bodies in Latin America is that of training students in a real production and work environment; through various mechanisms they avoided the centres adopting the standards of operation of conventional school units, the baccalaureats or technical schools. The patterns of conduct and the values governing these organisations and which in general are transmitted through all their programmes are those of the culture of production and work as lived in firms and enterprises. Their codes of conduct reflect the atmosphere of the labour market rather than the artificial world erected by professors, directors, and students in the schools of the regular education system.

VTIs endeavoured to provide operational and practical responses in this area and to a large extent and along several decades they managed this practical living and affective coordination among education, work and production. Perhaps this attainment has not been emphasised enough so far as it lacked the rethorical repercussions and statements of international meetings, academic speeches and even legislation concerning education. To sum up, the good intentions of ideologists and thinkers in the educational field, the polished and detailed studies and essays of pedagogs should be compared some time with the patient and tedious practice implemented by VTIs. The results of such a comparison might be surprising and lead to some encouraging findings.

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\* O futuro da formação profissional. *Industria e Produtividade*, v. 18, n. 210, oct. 1986, p. 26.

\*\* *SENAI em Ação*. v. 8, n. 46, mar.-abr. 1986, p. 4-5.

### **3. VTIs VIS-A-VIS TECHNICAL VOCATIONAL SCHOOLS**

One of the causes of concern that have emerged in the last decade among those in charge of the educational planning of countries of the region has been a possible duplication of efforts in the VT system and secondary education, more specifically in the area of technical-vocational education.

This concern has stemmed from different sources:

- The process of consolidation of the VT system trusting around VTIs in the most countries outside the sphere of regular education systems and the recognition of the scope of their contribution.
- An apparent duplication of educational tasks with regard to the training of human resources to labour markets. This could be interpreted as eventual competition for certain work posts between graduates from the VT systems, from technical schools or baccalaureats and careers' education schools.
- A preoccupation to make the best possible use of the dwindling financial resources that the State makes available for educational purposes.
- The virtual failure in most countries where the diversified secondary education was introduced, that is to say a careers' education, despite the great effort made to adopt this approach with a view to providing labour outlets for graduates.

The purpose of this analysis is to verify where this duplication effectively exists. In other words, whether instead of talking of an overlapping we should not rather think that it is a convergence or a complementarity of the different aspects of technical-vocational education and that VT in terms of the overall educational effort is just one more integrant to what is being done in the whole region. It would be useless to reduce the whole question to a purely political administrative analysis. It would be naïve to think that the overlap does not exist since VTIs generally operate under labour ministries and with a high degree of autonomy, whereas technical education and careers' education are under the jurisdiction of education ministries. Furthermore as we shall see below in recent years there has been an increasing convergence between both systems. The stage is being left behind when the coexistence of parallel systems was the norm and, among other things, VTIs were trying to legitimise their activities through official recognition of their programmes and certifications in terms of the years or levels of regular schooling. At present we are witnessing an incipient but very effective and promising cooperation between the development of joint activities and complementary action within

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the framework of what might be called the technical-vocational training of human resources which does not mean to say that those systems are identified or mymetised. Neither does it signify that either one may lose its specificity as its objectives, operation and resources, financial, human and technical resources.

The reflections that follow are ordered among two main lines. First of all, we shall review some aspects distinguishing the VT system from the technical-vocational education one; secondly, we shall expose some examples illustrating the development of a new *modus vivendi* between the two systems.

#### **a. Roots and heritage**

When VT emerged in Latin America, in Brazil and Argentina in the early 1940s the plan proposed by its promoters consisted of the creation of a training scheme clearly differentiated from what has been done so far in regular education. On the one hand, because the educational system and in particular, secondary education, were not in a position to give rapid response to the manpower demand that the industrialisation process that was beginning in those years, called for. And in the other hand, because secondary education has been conceived fundamentally as a transition period towards university studies. The latter had clear-cut social connotations. Secondary education was charged with a deep content of legitimacy and social prestige for upper and middle strata of society and it excluded the great majority of young people, mainly from lower middle class and working class. Therefore, VT systems were structured aiming at the attention of social sectors excluded from regular education and offering a labour outlet. VTIs started operating in general with apprenticeship schemes for young people (adolescents); their operational configuration is clearly stamped by a structure that exists as an alternative to secondary education school. The social origin of the population they look after, the design and equipment of their units, or centres, the technical teaching strategies they adopted, their teaching personnel (instructors), and their coordination with the labour market all show a concern to overcome and exceed the limits of a predominantly academic and encyclopedic education based on 19th century European ideas.

Secondary education approaches with a technical vocational content were also introduced in the mid forties, but in any case the main stress of secondary education was on baccalaureates, that is to say general secondary education, which accounted for nearly 70% of enrollments and put a stamp and a style of values at all levels. Technical vocational education in general had three aspects: an industrial aspect, an agricultural one and a commercial aspect. We might say that teaching training schools, insofar as curricular contents and

occupational outlets are concerned, were always a struggle between "bachillerato" and technical vocational education.

As opposed to vocational training, technical vocational education was also used, nearly from the start, as a mechanism for social promotion and the new channel of access to higher studies. This happened despite the fact that the regular education authorities had devised it originally as an alternative to traditional secondary education in order to provide human resources of intermediate level to labour markets.

This development of secondary education had its effects on the work of the VTIs. On the one hand, the main weight of action by VTIs, in the initial stages, was the "apprenticeship" mode for skilled worker jobs. As pointed out earlier, one of the aims of the creators of these institutions was precisely to recruit their clients among urban adolescents who were not looked after by the regular education system. The growth of enrollments in secondary education (during the nineteen sixties and seventies, for example, it was the educational level with the most rapid and spectacular growth in most countries of the region), was reflected in the enrolments at VTIs. Attention to the training of young people declined, and adult workers started to become the main target of the training action of VTIs. On the other hand, it is quite obvious that the growth of enrollments in secondary education, as from the late fifties, is explained by the fact that students attending those courses were not coming from the lower-middle and lower sectors. It is precisely thinking about them that new technical vocational approaches were adopted and schools were built on the most popular areas of cities. At the same time, night courses were qualified for workers.

As Rodrigo Vera Godoy says\* "secondary education then existing, from the point of view of the social sectors that benefited from it, has had an enormous expansion; it has consolidated its role as a transition to university studies and made it possible for a limited extent, the incorporation of qualified manpower into the labour market". The action of VTIs, on the contrary, was fundamentally focused on the attention of demands of skilled human resources rather than in the supply of conventional educational services.

#### **b. Curricular contents**

In comparing vocational training systems with technical vocational education in terms of curricular contents, there are two dimensions. On the one

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\* Vera Godoy, R.-*Disyuntivas de la educación media en América Latina*. Buenos Aires, UNESCO/CEPAL/PNUD, 1979, p. 10.

hand, how these contents are established and updated and on the other, the differential characteristics of each one.

As a rule, VTIs establish their curricular contents on the basis of occupational profiles derived from information about occupational analysis. It is an habitual practice that the formulation of programmes and their respective contents should depend on a careful study of the occupations that are going to be taught, the updating of contents is on the on going permanent process and it is done in various ways: through the reiteration of occupational analysis for example and internship periods for instructors and pedagogic designers in terms of enterprises. The consultant and assistant work that VTIs carry out in productive units also contribute to a permanent updating of the skills required, work processes as they change through technological innovations, new materials and so forth. As opposed to this, technical and vocational education laid down its curricular contents and programmes through processes based on an analysis of information coming from textbooks, manuals or the study of programmes introduced in other educational circles, either in the country or abroad. Once approved and consecrated, these programmes and their contents remained unaltered along the years; in some countries, technical vocational programmes have not been updated through decades.

The curricular contents and programmes of technical vocational education are very often burdened with some of the characteristics of general secondary education. For example, they embody an encyclopaedic approach to the teaching of sciences and technology: a highly structured focus that falls back a non-critical repetition of concepts by professors and the memorisation thereof by the students; this rigidity is also obvious in an absence of opportunities for incorporating different views, divergent suggestions, alternative roads. This is just the result of an atomised conception of reality, far removed from the world of work and production. In other words: there is an alarming gap between real every day practice and the processes of teaching/learning: the student is exposed to a number of empirical data and scientific and technological knowledge in a disconnected manner, artificially fragmented which prevent him from acquiring an overall dominion of the tasks for which he is being trained. As opposed to this, VTIs have generally chosen productive work as a cornerstone for their training programmes; to a large extent, through the curricular contents they impart in different training modes, they try to offer participants a whole range of knowledge and skills enabling them to grasp and understand things and to act creatively vis-a-vis the productive reality that they will have to face.

Workshop practices are a good example to visualize the difference between these two systems. In technical vocational teaching, these practices lose

importance every day; in many countries, the hours devoted to the development of skills and habilities have been cut back considerably, the values ascribed to the use and applicability of workshop practices are very often associated with craftsmanships, hobbies or even ornamental purposes. What can be seen with workshop practices in the courses dispensed by VTIs is exactly the contrary: workshops are the access around which scientific and technological knowledge revolve as well as other more general humanistic and civic aspects; the values pervading workshop practices in these institutions are related to industrial activities, they are eminently useful and remunerative and have an economic significance which is valid for the securing of remunerated work.

A comment on architectural lay-outs may help to understand fully this situation about workshop practices. Both in technical schools as in the establishments of secondary careers education, the workshop area is relegated to a second plane in relation to school rooms and laboratories. On the other hand, in training centres, workshops constitute the main crux, school rooms and laboratories are part of them or are integrated around them. To sum up, VTIs seem to stand a better times to achieve armonious structure of programmes and curricular contents to involve participants with adequate knowledge, habilities and skills.

### **c. Technical-pedagogical support**

Technical pedagogic aspects are one of the elements that most clearly reflect the differences between regular education in general and technical vocational teaching in particular, facing VT.

One of the main characteristics of VTIs of the region, is that all of them have ascribed a high priority to everything pertaining to methods, teaching staff, technical personnel and teaching materials. Practically all VTIs had separated planning aspects, operational aspects and technical teaching apaproaches; they all ascribe to the latter a fundamental goal for their institutional development.

In secondary education in general and also in technical vocational teaching, old methodologies of the teaching/learning process still subsist; although a veneer of modernity had been applied to some methods, it is easy to detect the persistence of certain features that even now are the definition of the methodologies adopted by regular education: namely magisterial presentations (with the professor/teacher expounding to the students); the predominant directives, sometimes authoritorian techniques (based on the passivity with which the students receive messages); the organization of everything around the school-room (the ritual of the school-

room, the blackboard, the desks). All in all a process confined to a limited physical space, clearly manipulated by the teaching authorities, with individuals (the students) lacking incentives to take an active role in the learning process and where extra school-room activities are merely an accessory or recreational (whether they be workshop practices, laboratories, internships or visits to enterprises and so forth).

However the way in which VTIs approach the teaching/learning process is rather difficult to fit into a single scheme. The wide range of methods employed, as opposed to regular education, starts by giving high priority to workshop practices, starting from that situation (where even the teacher/instructor do not only play a leading role but acts rather as a guide consultant) activities are organised in a radically different way: in the case of training at centres, school-rooms are sometimes used (very often confused with laboratory or a small library) but only to present and explain the scientific-technological components of productive processes; nevertheless in general, training at centres only accounts for part of the population attending the VTIs: in-plant training, distance training, production training, individual tuition and other alternatives clearly distincted from those that any observer can see in secondary schools of any kind. In connection with this operational flexibility, the role of the teacher and the use of teaching resources is also original. Thus, manuals are avoided in most VTIs: instead they have adopted methodical series or basic collections (that is to say collections of technical information sheets, operational sheets and supplementary information sheets); this practice is nearly as old as the institutions themselves.

The role of the teacher deserves special consideration. In regular education, a teacher is by definition a teacher; as opposed to this, in VTIs, a teacher or instructor is a qualified worker. The most notable aspect in the teaching staff of VTIs is that besides the requirements of abilities and skills of a specific nature (including technical-pedagogical skills) what is most valued is practical experience in productive and technological processes acquired in a professional life. In the last results, we might say that academic training and teaching qualifications are not of paramount importance in their recruiting process; for a VTI instructor, quality and level are determined by a productive life in enterprises supplemented through periods of work in workshops, laboratories, technical offices, etc. Furthermore, in regular education, the figure of the teacher is clearly recognised as a repeater of programmes; instead at VTIs specialisation courses have taken place starting from teaching practices. There is the figure of the teacher, but from that figure other occupations have derived: that of programmer, pedagogic designer, occupational analyst, specialist in the preparation of the teaching material and so forth. From a technical-pedagogical point of view, the following are distinctive features of VTIs: experimentation,



innovation and changes which have become routines incorporated into the training processes; training, specialization and updating of personnel are also a constant element in the development of human resources (that is to say teachers, directors and technicians).

#### **d. Organisational and administrative structures**

The organisation of the different components of technical vocational education systems and VT systems also have some differences which should be examined more closely.

From the point of view of the organisational and administrative structure, technical vocational education systems are very similar to the rest of secondary education. At the top of the ladder are the authorities of the respective Education ministries; as we go down the hierarchical structure, we may see, at all levels, public officials that have reached those positions after strenuous evidently bureaucratic careers; for instance, no level can be seen with the supervision control action by other agents that are not career officials. This kind of structure has another peculiarity: it is extremely rigid, centralizing and subject to rules and regulations; it ascribes to itself the highest rungs of their own system, the leadership and management of the whole teaching/learning process which considerably limit the freedom of action and obviously the creativeness of activities of a training kind at the individual school units.

In general, VTIs are quite centralised (SENAI and SENAC are exceptions in this respect); but in any case there is a fluency in the relationships among the different layers making up the structures; there are upper and downer channels for communications in all of them. The different independent units enjoy a high degree of autonomy, in any case, with regard to the every day action and operation, that is to say, in the implementation of training programmes.

The main difference with the organisational and administrative structure adopted by VTIs lies precisely in this absence of any kind of participation links with the social agents in technical vocational education systems. As pointed out above, technical vocational education does not envisage any mechanisms giving a hearing to interested parties, such as employers, workers, communities in general, parents and students, in particular. This lack of participation can be seen at all levels: from the upper levels to the operational ones. In that respect one of the significant contributions of VTIs to the whole educational effort is precisely this experience of participation that has stamped all activities; as it can be recalled, social agents have a role to play all along the process: either at the highest levels of the system, at local levels, in school units and even in different spheres of a technical teaching nature.

We might say that VTIs transpire all this through the representations of the different social agents: employers and workers organisations, unions of the VTIs, workers themselves, Labour, Education, Industry and Agriculture ministries and so forth. These possibilities that VTIs have through the organic participation of social interlocutors, ensure them better possibilities of responding to new needs and demands. So that in the case of VTIs, we may talk about an autonomy which is projected through operational flexibility; in contrast, the autonomy of the technical-vocational system of education limits its possibilities due to the rigidity of a bureaucratic and regulated system.

#### 4. NON-FORMAL EDUCATION AND VTIs\*

No analytical approach of VT and its specialised institutions can avoid consideration of the context in which they emerged and were later developed. Thus, it is illogical to think about the origin of institutionalised VT in Brazil and Argentina at the time of the Second World War, without an understanding of the concern of their respective governments to solve the problem of manpower training for a process of substitute industrialisation that was beginning in those years; as is well known, the process was repeated at Colombia and Venezuela towards the late fifties and at the Central American countries in the following decade.

In any case, the explanation might be over simplified, unless it is accompanied also by another number of considerations, specially, those relating to the possibilities and limitations offered in each of these countries by their respective educational systems, and in particular the educational efforts carried out outside these systems. Hence, the interest in analysing the achievements of VTIs within the framework of non-formal education efforts carried out in the last few decades in the Latinamerican region.

Our thesis in the present paper is that in all non-formal education initiatives in the last few decades in the Latinamerican region, the contribution by VTIs was one of the greatest valuable permanence and importance imaginable. This assumption is born out by checking the participation of training bodies in helping the different areas such as literacy campaigns, basic adult education, cultural and educational extension, community development, integrated rural development, popular education in general, etc.

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\* In this chapter we have used the definitions of Philip Coombs and Ahmed Manzoor on informal, non-formal and informal education (See the book of the authors mentioned above, *Attacking Rural Poverty: How Informal Education can Help*. Baltimore: Johns Hopkins University Press, 1974).

There is a certain degree of consensus to define non-formal education programmes as a number of actions of an extra curricular nature seeking to provide "specific learning experiences to certain specific population sectors". (La Belle, 1980, page 19). As this author says, these programmes "tend to reinforce the position of participants and to upgrade their status, either by widening their skills and knowledge or by modifying their attitude and basic values vis-a-vis work and life".\*

Our analysis will focus upon two phenomena of special interest, at least in connection with the training programmes dispensed by VTIs. In concrete terms, we should refer to adult education programmes and supplementary education programmes, trying to compare them to the achievements of VTIs in the Latinamerican region in that respect.

#### **a. The education of adults**

One of the first things that an analyst may be struck by in dealing with the problems of adults education is the fact that it is still not yet institutionalised in most countries of the region. This is indeed remarkable as these programmes have been under way for several decades, that they approach education of adult populations from several angles, such as literacy campaigns, popular education, community development, extension activities, etc. and that significant resources are being allocated to them.

Further evidence in this respect is the fact that very seldom is adult education organised around explicit policies and strategies formulated by Education ministries which in the last analysis are the ones in charge of this subject. This does not mean to say however that educational authorities do not recognise the importance of offering educational services to disadvantaged adult population in urban and rural areas, nor that they are unaware of the large effort undertaken in that field by official and non-governmental organisations. Quite the contrary, what we are trying to underscore is the constant difficulty that Education ministries have come up against to organise and systematise such initiatives on the basis of properly institutionalised and permanent bodies or units.

So far, adult education has been implemented in a casuistic and partial manner. In general, there are no diagnostic studies of target populations and their specific needs. In the same way as there is a lack of precision and definition of objectives, something similar happens to the means available: there is an

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\* La Belle, T.- *Educación no formal en América Latina*. s. e., 1980, p. 19.

inefficient use of resources coming from formal and non formal education systems, whether they be under the jurisdiction of Education ministries or other governmental or private departments.

Quite frequently these programmes lack technical pedagogic support structures; on the one hand, the progress made in the preparation of specific methodologies, the design of programmes, the production of teaching materials are not satisfactory taking into account the multiplicity of efforts deployed throughout the continent and the long several decades. In other words, there is a lack of units to specific research development and experimentation of teaching resources in this connection. On the other hand, most countries also lack regular programmes for the training of teachers, managers and technicians involved in these activities.

Quite a number of programmes aimed at adult populations have adopted proposals that in the last resort, call back on curricular contents of school room nature, disconnected from the every day problems of participants and their labour realities.

When we compare two similar experiences like those of adult education and vocational training (at least as far as the clientele itself is concerned) an attentive observer may find that the path followed and the achievements attained by VTIs are by no means negligible: they have managed to define their own space in the concert of national educational efforts, they have systematized and ordered their operations around an institutionalized and permanent structure and they have developed new and valid pedagogic strategies.

#### **b. Supplementary education**

At the beginning of the last decade, educational laws were passed in several countries of the region in order to introduce deep reforms in the respective educational systems. One of the aspects about which attention was centred was promoting the accrediting of schooling to young people and adults who have been unable to finish their studies at the corresponding age; another basic objective was the planned validation to the experience acquired by workers in the performance of their labour life.

Two examples are the General Education Law of Peru (enacted through Decree-Law 19326 of 1972) and the Law laying down guidelines for primary and secondary education in Brazil (Law 5692 of 11 August 1971). The former of these two legal instruments established in article 62 that "At all levels of the system, studies carried out outside educational centres of the country or abroad, will be recognised as well as rules implemented independently. Periodical tests

will be applied for overall evaluation of the students and certifications and degrees will be issued, making them equivalent with those obtained through regular educational channels". In the case of the Brazilian Law 5692, article 24 paragraph a, stated that "supplementary education shall have as an end to supplement regular schooling for adolescents and adults unable to have followed it or concluded it at the corresponding age".

In both cases the characteristics and situation of workers were taken into account as well as the need to recognise their social and labour experiences. In order to achieve such purposes, the creation of non-formal education processes was postulated and self tuition was encouraged; the goal was to attain accreditation of all such knowledge and abilities acquired through experience.

Subsequent developments were different in both countries; in Peru, results obtained were meager; according to available information although of a fragmentary and scattered nature, the effort proved to be rather fruitless. In general we might say that the educational authorities did not manage to set up adequate mechanisms and procedures to the recovery of the large disadvantaged sectors that this vindication effort was aimed at.

A recent study of supplementary education at secondary level in Brazil indicates that this scheme is very far from offering democratic services as well as opportunities are concerned; it seems to be a continuation of tests and exams that already existed before. In the period 1975-86, only about 120.000 graduates concluded secondary education through this educational approach.

In summary, the achievements of the initiatives launched by the Peruvian and Brazilian Education ministries, were not very positive; in neither case was it possible to open up an alternative road of an extra curricular nature enabling workers to obtain some type of recognition to the knowledge they have acquired through informal channels and in consequence, all efforts to reclaim large sectors that (for different reasons) had been excluded from the regular education system, came to nothing.

VTIs, for their part, tackled a more restricted population sector without any concern to awarding an "educational" validity to the knowledge and abilities acquired by the workers along their occupational life. INA, SENA, SENAI, SECAP, SNPP, among other VTIs, created occupational certification mechanisms with the view to recognising that knowledge and those labour abilities acquired through experience. For that purpose, they promoted the institutionalization of occupational certification, they set up specialised technical-administrative units, they developed methodologies and objective

assistant instruments to determine whether candidates had indeed acquired the qualifications required for the performance of the occupations that were being certified.

## **5. VTIs AND THE REGULAR EDUCATION SYSTEM: SOME CONVERGENCIES**

### **a. Acknowledgements and equivalencies**

Through many years, most of the efforts made by VTIs to secure some type of legitimization of their activities by the regular education system, focused fundamentally on the establishment of equivalencies or the formal recognition of the courses they imparted in terms of years or schooling levels.

The achievements in this area have not been very spectacular; there are few examples of agreements of this kind. The situation is due to a number of facts. On the one hand, bureaucratic difficulties have been generally proved to be insurmountable; on the other hand VTIs became discouraged and lost motivation to insist along these lines. But more important was the stress made by VTIs on their work with adult workers; this resulted in the preparation of plans, strategies and programmes aimed rather out to solving occupational qualification needs than the search for educational alternatives of a non-formal kind to reclaim those who were excluded from regular education. In the last analysis, workers go to VTIs looking for ends and means to obtain labour promotion rather than educational certificates.

In general, this battle about equivalencies has been confined to the area of apprenticeship students. INCE is one of the few institutions that has managed to achieve accreditation of apprentices by the regular education system. Decree 604 of 8 May 1980 established that studies under the National Apprenticeship Programme could be accredited as equivalent to those of Basic Education and Secondary careers education; resolution 298 of the Ministry of Education dated 6 September 1982, regulated the above decree, setting down norms for attaining such equivalencies, and indicated the supplementary subjects required of apprentices in order to reach the corresponding levels.\* This is even more striking when we analyse the cases of CONET and UTU, organisations where technical education and VT are imparted side by side. Even those two training bodies have not been able to smooth the way between vocational training and regular education; from an administrative and technical point of view, they constitute watertight compartments and participants of training courses know

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\* Acreditan los estudios de aprendizaje del INCE para la educación secundaria. *Boletín Cinterfor*, Montevideo, n. 81, ene.-mar. 1983, p. 91-95.

that there they will find no response if they aspire to higher levels of formal education; neither CONET nor UTU foresee any mechanism for the educational recovery of those who come to training courses; VT, as in all other countries, still is a parallel road to formal education.

The most far reaching instance of an agreement between a VTI and the Ministry of Education has taken place in Chile. In connection with education of adults, the INACAP programme known as "Basic Occupational Training" (COB) brings workers to a level equivalent to the eighth year of basic education; another programme, "Intermediate Education for Adults" (EMA), provides the equivalent of the fourth year of secondary education. INACAP's apprenticeship programme was assimilated to the technical-professional secondary education imparted by the Ministry of Education. We may say that INACAP implements VT activities as it is recognised as a technical executing agency (OTE) by SENCE; besides it dispenses technical education at intermediate level and specially at the post secondary level as well as technological education and higher technical education in its capacity as a professional institute under the supervision of the Ministry of Education. It should be underscored that participation of INACAP in this field should be seen within the framework of the process of modernisation and expansion of the Chilean educational system; INACAP was recognised as a professional institute in 1981 and as a technical training centre in 1982, through decrees issued by the Public Education Ministry. As a professional institute, INACAP is under the supervision of universities which examine, assess and supervise its plans and programmes.

In connection with technical education, arrangements are of different kinds. They are an effort to reach agreements and convergencies of a substantive nature with regard to the recognition of programmes imparted by VTIs. The problem does not centre exclusively around equivalencies and avoidance is sought of overlapping and duplication of initiatives to train intermediate level human resources required by the occupational market.

We should once again stress that these arrangements are neither spectacular nor very ambitious, but they do contribute to establish mechanisms favouring VTIs, ministries of Education, trainees and employers.

The technical courses dispensed by SENAI in more than twenty centres of Brazil, are recognised by the education councils of the respective states where such units are located; graduates from those courses are not only eligible for employment in industry but they can also have access to university studies; SENAI's technical courses are the equivalent of secondary education programmes in Brazil. This coordination between formal education and SENAI is implemented according to norms and procedures laid down by State

Education Councils; SENAI receives students who have completed their primary or elementary education and imparts its regular technical courses granting certificates; these certificates in turn are recognised by the abovementioned councils.

A different approach has been adopted in Peru. The Peruvian SENATI has requested at the Peruvian Education Ministry its recognition as a Higher Technological Institute; the motives underlying this request by SENATI are not related to the educational recognition of the diplomas it awards to its graduates but rather to the benefit of tax deductions that might enjoy if it were to be considered an institute of the kind mentioned above. SENATI authorities acknowledge the fact that obtaining this kind of advantage is not negligible but they are alarmed by a possible excessive interference in their work by the Ministry of Education, since any kind of intervention of this sort implies the risk of losing operational flexibility, which is a traditional feature of this institution. SENATI feels apprehensive of an exaggerated school-room approach in its programmes, an excessive rigidity and the overloading of curricular contents, as well as an eventual decrease of scientific and technological aspects in favour of higher priorities for humanistic subjects.

There are other experiences in the training of technicians where they are not necessarily granted equivalence by regular education. By its volume and scope, the most important of these experiences is that of the Colombian SENA: over 8.000 participants attend every year its courses for intermediate level technicians, technologists, and higher technicians, although when they graduate they do not always get degrees enabling them to proceed with university studies. In 1980, Law 80 was passed in Colombia regulating the formal education system; with regard to SENA, this legal instrument stipulates that the Colombian Institute for the Promotion of Higher Education (ICFES), should intervene in order to facilitate the transfer of certain SENA graduates to the higher educational system (for example intermediate level technicians wishing to be recognised as technologists or higher technicians). However, towards the end of 1988, out of the twenty seven specialisations imparted by SENA for intermediate level technicians and technologists, ICFES had only recognised four.

Concerning the level and quality of the training dispensed by SENA for technicians and technologists, two questions posed by Victor Manuel Gómez and Margarita Peña Borrero in an article on higher education in Colombia are symptomatic: these two authors ask "Which are the similarities and differences between the technical training programmes of SENA and those of technological education? Are these differences merely of a formal, juridical and burocratic nature or are they also qualitative in kind? Although in the form of a query they



are some way suggesting the following: Is it not possible that SENA may have a better and wider technical infrastructure (equipments, laboratories, workshops, experimental farms, etc.) to comply effectively with the objective of training for technological development which supposedly endows technological education with its professional and academic identity?"\*.

The links forged between VTIs and the regular education systems are not limited to operational agreements through recognition and accreditation of degrees in connection with elementary and secondary education. As we shall see in greater detail in other part of this report, also at the level of higher education, some VTIs have subscribed agreements to implement courses revalidated by universities, those at a pregraduate and at a postgraduate level. To quote quite a few, we may mention the experience in the training of textile engineers in Brazil, carried out jointly by SENAI and the State University of Rio de Janeiro or in Colombia by SENA together with the Bolivarian Pontifical University, or more recently between CONET and the Central University of the Province of Buenos Aires.

#### **b. Cooperation among systems**

Relations of VTIs and universities also follow along other paths: the exchange of professors and teachers; the mutual utilisation of equipment and laboratories; the undertaking of joint research and development projects; periods of practice of internship of university students at VTI facilities, etc.

Also along these lines of wide interagency cooperation, there is a large number of agreements and arrangements subscribed in most countries by VTIs and Education ministries; just as an example and avoiding to be exhausting, we may mention the ties between INFOTEP and the polytechnic schools dependent of the Ministry of Education of the Dominican Republic; also, the coming together of the Technical Educational Department of the Honduran Ministry of Education and INFOP with a view to the preparation of teaching material and the training and updating of teaching staff, the utilization of physical infrastructures, general grounding courses, etc. In Costa Rica there is a rich experience of coordination between INA, the Ministry of Public Education, universities (the National University and the State Distance University), apart from other governmental agencies of the sector. One of the many agreements who are to be noted, refers to the implementation of a project in connection with nautical and fishing specializations where besides INA and the Ministry, other participants are the University Colleges of Punta Arenas and the Regional Centre of Occidente (dependent of the University of Costa Rica).

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\* *Revista Latinoamericana de Estudios Educativos*, México, v. 17, n. 2, 1987, p. 64.

Finally, we might include the Formal and Non-formal Education Programme being carried out by the National Ministry of Education of Colombia within the context of an ongoing integral education programme, where SENA plays a leading role. This experience endeavours to coordinate curricular and extra curricular activities with non-formal education, using the school-room as a centre for the promotion of the schooling process on community development. SENA's contributions have been many: among other things, the application of the SENA methodology in the training for peasant participation; the adoption of methodologies based on ongoing self tuition at microtraining centres employing materials and strategies designed by SENA for distance training or else with theoretical and practical contributions of the so called "New School" in an effort to bring the community to the school, to make timetables and school calendars more flexible, etc.

It is remarkable to note that Education ministries are ascribing increasing responsibilities to VTIs in the modernisation processes at technical education systems. Examples in this respect come from Brazil and Colombia; and this is not accidental since VTIs of those two countries are those which scored the greater number of successes in the field, apart from having accumulated a long experience and know how through the years with regard to the training and development of human resources for the industrial sector.

In the mid 1980s, the Ministry of Education of Brazil set itself an ambitious "Programme for the Expansion and Upgrading of Technical Teaching" which was aimed at the creation and/or modernisation of two hundred industrial and agricultural schools throughout the country. In order to have an idea of the scope of this effort taken by the Brazilian Education Ministry, it is enough to quote a study on technical industrial education by Luiz Antonio Carvalho Franco. The author says the following: "Data from 1981, submitted below and referring to twenty Federal Technical Schools, give us a dimension of the phenomenon. The total of students is 55,219; the number of teachers is 3,564.\* From the point of view of our study, the novelty in this undertaking is the role that the Education Ministry has entrusted to SENAI to implement the project. Two aspects are going to be underlined. The first one refers to the goal ascribed to SENAI in the whole process of policies formulations, strategies and planning of the programme; as opposed to what happened in the previous decade in connection with the launching of the reform of secondary education (with the introduction of the careers education), this time SENAI has not been excluded. Furthermore it has been given a leading role in the conception and conduction of the programme; thus SENAI has been called to design the schools and their

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\* See Carvalho Franco, L.A.- *O ensino técnico industrial federal: das escolas de aprendizes artífices às atuais escolas técnicas federais*. São Paulo, CENAFOR, 1985, p. 35.

equipment, develop teaching methodologies and preparing teaching materials and training all kind of staff and personnel (directors, teachers, technicians, etc.).

The second aspect refers to the funds that the Education Ministry is transferring to SENAI for the organisation, at an initial stage, of eight technical courses in six of its regional departments. In October 1985, a technical cooperation agreement was subscribed between the National Department of SENAI and the Ministry, whereby the latter allocated resources to the regional departments of Bahia, Minas Gerais, Mato Grosso, Mato Grosso do Sul, Santa Catarina and Rio Grande do Sul in the areas of mechanical engineering, food production, electricity, footwear manufacturing, fisheries and electronics. For a second stage of the agreement, the setting up of another twenty eight technical courses has been envisaged in the areas of timber, chemical industries, welding and agroindustries.

We see then that SENAI is taking active part in a large programme sponsored by educational authorities (that is to say, the regular system of education); besides, an effort is being made to coordinate national activities in an area where the intellectual authority accumulated by a VTI is openly acknowledged and recognised.

With regard to Colombia, a fact has recently taken place that has unprecedented implications for the coordination of activities and responsibilities between the Ministry of National Education and SENA. Law 55 of 1985 makes it mandatory for SENA to transfer a substantial part of its resources to other public entities, in particular towards the financing of the vocational technical education dispensed by the Ministry itself. Although this initiative did not start either from SENA or the Ministry, (it was Parliament itself in Colombia that adopted a law), it is an attempt to reach the gap between the two systems of VT on the one hand and technical education on the other. This new legal instrument and the provisions taken regarding the transfer of resources are carried out through the National Council for Economic and Social Policies, and they reflect a serious effort to achieve a certain degree of coordination in plans and programme within the framework of a common planning policy for those formal and non-formal education systems.

In July 1985, an agreement was signed between SENA, and the National Education Ministry which brought into force the provisions of Law 55. The objectives of the agreement were, on the one hand, "to promote joint policies, plans and programmes for the development of technical education in accordance with the countries needs regarding the overall training of human resources for productive work and community participation". On the other "to

build together resources and experiences of SENA and the Nation - that is to say the Ministry of Education - for the benefit of education at schools and programmes for technical education" (Industrial Technical Institutes, Agricultural Technical Institutes, Agricultural and Livestock Institutes, Rural Development Centres, National Institutes for Secondary Careers Education (INEM) and adults education programmes, social promotion, internships of rural schools, teaching services centres, etc.).

During the first few years of enactment of Law 55, SENA allocated resources for the financing of technical education: equipment and modernisation of plants and some concrete activities for the training and updating of teachers of the technical and vocational education system. As this collaboration became closer it acquired a different character from the purely financial aspects: SENA increasingly took over greater responsibilities in the planning and management of schools and units belonging to the technical vocational education system. At present SENA not only transfers part of its budget to it but also its human and technical pedagogic resources necessary for the renewal of academic structures of the other system in Colombia. In the last few years SENA has started to supply technical, teaching, operational and personnel training support to the staff of the technical education system which is under the jurisdiction of the Ministry of Education. It also takes active part in the purchase and maintenance of machinery, equipment and furniture; in the preparation, production and acquisition of printing teaching material and audiovisual aids; in the design, review and adjustment of plans and programmes; in the adaptation and maintenance of facilities, etc. As from mid 1989, through special agreements, joined programmes will be launched in the areas of agriculture and livestock production, industrial production, commerce and services and social promotion. In the same way as SENA instructors will teach specialised subjects in the facilities and workshops of vocational and technical education institutes, professors and teachers from the later will impart scientific subjects at SENA centres and programmes, fundamentally physics, chemistry and mathematics.

This is not the moment to go into considerations about the risks, implications and prospects of an agreement of this kind, ranging from the repercussions that for its own tasks this disfinancing of SENA might have, to effects stemming from the potential problems of taking over a deteriorated system as far as its physical infrastructure was concerned with a technical and pedagogic lack of coordination and overloaded with a heavy burden from an administrative, financial and personnel point of view. We just wanted to mention here the acknowledgement and accolade that a VTI, SENA in this case, has received for its action, an accolade given by the government and society in general and by the Colombian Ministry of Education in particular.

### III

#### **ECONOMIC ADJUSTMENT AND PRODUCTIVE REORGANISATION: NEW CHALLENGES TO VTIs**

Since the end of the 1970s, and primarily since the beginning of the 1980s, most of the Latin American countries have been faced with a profound structural crisis arising out of the significant foreign debt accumulated as a result of the economic policy instruments adopted in connection with the oil crisis: the non-oil-producing countries had to cope with the steep rise in oil prices, while oil-producing countries made indiscriminate use of international credit, with a view to artificially sustaining the profitability of their economies.

This is not the place to go into great detail regarding a subject that has been extensively studied and debated in the region. Suffice it to mention this situation only insofar as it relates to the effects on production generated by the economic policy measures adopted to surmount the ensuing structural imbalances. The choice made by most of the countries, although with varying degrees of commitment, is geared to reactivating the economy by dealing with the challenges posed by growing globalisation of the economy. Hence several of them have been promoting industrial reconversion processes articulated around a greater opening up of national economies to world markets. This implies incentives for exports of products industrialised on the basis of transformation of traditional raw materials and inputs (primarily of a petroleum origin in some cases, and of agricultural origin in others).

The policies are based on a firm commitment to economic modernisation and are defined around two major axes: one, the rationalisation of the production apparatus, based on an improvement in levels of productivity, competitiveness and quality; the other, the start-up of processes of liberalisation of enterprise activity, and of reduction of State intervention in production.

Under the pressure of articulation with the world market through competitive insertion of industrial products manufactured in the region, the economies of the countries seek to identify and make use of the comparative advantages that will enable them to successfully place those products.

Thus the assistance required by some economic sectors and enterprises of various sizes is linked to the possibility of maintaining and improving their participation in both domestic and foreign markets. In the light of this new

situation, VTIs have begun to displace the axis of their attention. While this displacement can be seen in various areas, we should highlight at least two of them. In the first place, the object of attention is increasingly the production unit as a collective, instead of the individual worker. In the second place, the purpose of training is not only the instrumental training of workers (involving development of knowledge, abilities, skills, aptitudes and attitudes), but also everything related to strengthening a new culture of production and work based on increased levels of production, productivity, quality, efficiency, and costs. In brief, the willingness and ability to effectively contribute to ensuring the competitiveness of the goods and services produced by enterprises.

It is in this context of commercial liberalisation and economic deregulation that VTIs are now acting. They are faced with the challenge of addressing new and different demands for the training of human resources and of adopting programmes that respond to the demands of enterprises, who are called upon to play the decisive role in the process of economic restructuring. Skill requirements do not end with the merely instrumental and intellectual aspects, but instead must also aim at facilitating a leading role for the labour factor in the efforts geared to consolidating economic modernisation and increasing productivity, competitiveness and quality. For this reason various VTIs are seeking to incorporate in their programmes the emotional and ethical elements to provide for greater commitment by labour to its economic and productive insertion, thereby seeking to develop a work force with greater possibilities for personal and social fulfillment.

At the same time, enterprises are beginning to be recognised as the basic unit on which the new process of economic recovery rests: it is through the success and the results of the activities of enterprises that more and better goods and services will be offered for internal consumption and for international trade, that new jobs will be created, and resources and tax income will be generated for the financing of national development.

VTIs are seeking to establish - and in many cases to reestablish - more fluid and on-going relationships with enterprises, through a variety of mechanisms. Today, the VTI-enterprise relationship is no longer exclusively limited to determining personnel training needs in traditional terms; on the contrary, the actions undertaken by VTIs are more and more related to the global demands of enterprises in broader spheres of action: from training and development of human resources (at all hierarchical levels, particularly as far as small and medium-sized companies are concerned) to advisory work and technical, organisational, financial and commercial assistance, along with services involving research and development, production, industrial design, quality standards, guarantees, etc.

## **1. THE AVANTGARDE**

As a response to the process of economic restructuring to which the countries of the area are committed, two areas sprang in VTIs as new lines of action: on the one hand, the area related to technological development, and, on the other, the area related to organisational development. The renewal of the productive potential of enterprises rests on the scientific-technological innovations introduced, as well as the organisational reordering of the production units themselves. It is a question of contributing to efficient adoption by the enterprises of new technologies, promoting their profitability and establishing the organisational structures to meet the demands for new products in markets that are unstable, highly competitive, and constantly and quickly changing.

VTI projection toward enterprises is seen not only in the contents, modes and scopes of their action, but also in the context of the new values circulating in the process of economic reordering. Concretely, VTIs are elaborating and transmitting a series of values in their actions regarding the prioritisation of increased productivity, quality and attention to demand required by competitiveness.

VTIs are aware of the fact that if they fail to imaginatively adapt to the deep-seated economic, social and labour transformations quickly and as pertinently as possible, they will surely be left by the wayside in the process of productive reorganisation. This could even come to constitute a serious threat to the very existence of the region's VTIs. With yet uncertain steps, VTIs are exploring routes that boldly and ingeniously respond to the new and different demands deriving from the productive apparatus, thereby going well beyond their traditional role. What they are seeking is to generate new forms of action to address the reordering of production which has arisen out of the crisis, the scientific-technological revolution, and the globalisation of the economy. This attention is geared to a production process that is less concentrated around the big enterprises and increasingly fragmented in a complex continuum that goes from micro-enterprises to large units, and also includes small and medium-sized companies; a production process that is shifting away from a prevalence of "manual" jobs, toward more "intellectual" activities (computer operation, computerised production, the relevance given to organisational and management aspects, etc.); a "globalisation" of production through trade liberalisation, which implies surmounting the limits of local and immediate markets.

We find that various VTIs in the region - with different degrees of commitment and of definition - have begun to align their training function with a dynamising axis based on productivity, i.e., they are increasingly aware that

product quality is decisive for competitiveness and, ultimately, for economic recovery in the framework of a globalising economy. This has led them to explore lines of action that go well beyond their traditional training roles and which involve them in the provision of services other than the habitual ones. Such services include comprehensive advisory services to enterprises, technical assistance, technological support, research, development and dissemination of technologies, and even productive services connected with industrial design, improvement of production processes, functional organisation of work, quality control, and marketing, and emphasising trade ties with markets at the broadest of production circuits.

In this framework it is possible to venture the hypothesis that VTIs are defining their role with renewed clarity, in terms of the actual needs of enterprises, in the broadest sense: little by little they are becoming true "productivity centres" which offer enterprises a series of services related to increasing productivity by improving the "labour factor" as a whole, and not merely, like before, by improving the technical skills of workers. This implies that the flexibility that has historically characterised VTIs is being put to the test by the dynamism generated under the current circumstances by the production apparatus as a whole, and by its different units and sectors.

The change that we begin to perceive in VTIs can be seen in two basic strategies employed by some of the VTIs that have taken the lead in this sense: on the one hand, the opening up of new fields and approaches to training; on the other, the implementation of new and different non-training lines of work.

In the area of training per se, VTI behaviour is already significantly different from what it traditionally was. The way of organising and classifying training services, the priority clienteles served, the modes and means used, and the institutional and operational arrangements whereby they execute training programmes have varied substantially. To this end, VTIs in general, and each one in particular, have undertaken an enormous range of innovations. Nevertheless, within the broad spectrum of specialties, occupations, and occupational levels for which VTIs design and provide training programmes, we have sought to underscore the reformulated or innovative lines that are to some extent different from traditional VTI activities, and which strike one's attention because of the frequency with which they turn up in the course of analysing a broad group of VTIs in the region. This does not mean that they are the only lines or the main lines of training currently in effect, or that they have the same intensity or scope in all the VTIs. What is important is the degree to which these lines deviate from convention, and the perspectives for their expansion, in view of the current demands of the production apparatus.



The implementation of new lines of non-training activities is clearly novel among specialised institutions which were born, grew, and consolidated on the basis of a clear and precise goal: to provide VT to workers. Nevertheless, as we already indicated, VTIs increasingly think of themselves as support agencies for increasing production and productivity, through improvement of the human factor and its more favourable insertion in the production apparatus. In view of this it is not surprising that as a natural step in their evolution, during times of rapid technological change and reorganisation of production systems and processes, they have opted to move on to a new plane associating training with concomitant services, which, when combined and integrated with technical training of human resources, achieve a greater impact on the dynamisation of economic activities, with the related social effects.

The lines of work and forms of action of the VTIs chosen for the purposes of this analysis tend to clarify the role which, at present, and most probably for the near future, VTIs will increasingly be called upon to play. They highlight the significant effort VTIs are capable of deploying in terms of adaptability and readjustment.

This to some extent serves to undo certain myths that have long plagued VTIs. What was clearly visible at the time when VTIs reached full institutional consolidation, stayed in the public's eye, associated to the fields of activities then prevalent. What has remained and what has been changed over recent years leads us to an updated picture, which is very much different from that evoked by the VTI tradition known in Latin America.

Six trends stand out in the new institutional profile of VTIs:

- Pre-employment training is losing importance in relation to upgrading training for workers already linked to the job market.
- VTIs are expanding training to middle management, technicians and technologists, at higher levels than the traditional training provided to skilled and semi-skilled workers.
- Activities are increasingly organised by sectors, as a way of focusing in on the specifics of each area of economic activity.
- Training responsibilities are increasingly being transferred to enterprises, with the resultant change in VTI roles and functions.
- Small and mid-sized enterprises are increasingly the target of VTI attention.

- VTIs have embarked on the road to the provision of non-training services, thereby taking on new roles in terms of technological development and productivity of the production apparatus.

We shall now go on to analyse each of these trends, on the basis of the information gathered during this regional study.

## **2. LESS PRE-EMPLOYMENT TRAINING AND MORE UPGRADING TRAINING**

VTI involvement in pre-employment training is becoming increasingly less important (in absolute and relative terms) within the training efforts they undertake.

This is particularly striking in that the majority of the older VTIs had articulated their initial activities primarily around a set of delivery modes geared to people who had not yet joined the job market and who sought particular training in line with their job expectations or aspirations. VTIs were conceived of as schools for preparing labour, and they thus created initial training modes known as apprenticeship, qualification, retraining, accelerated vocational training, etc. In general, it could be said that such modes were geared to young people who turned to VTIs for training they could not receive in the regular education system.

Naturally, VTIs soon began to make use of the idle capacity that remained after the initial training courses, to offer training services to workers already in the job market who could use the facilities during evening hours. Thus there was the appearance of modes such as those falling under the heading of supplementary courses, such as specialisation, upgrading, updating, etc., generally geared to the active population, and a variety of courses designed to correct, refresh, complement, or perfect knowledge or skills, with a view to improving efficiency and productivity.

### **a. Statistical evidences**

Enrollment statistics by delivery modes at the VTIs included in this study show that, for the group of VTIs as a whole, 36.3% of students enrolled in basic training courses, and 53.9% in upgrading courses.\* The remaining 9.8% correspond to technical and vocational training courses undertaken by some of

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\* SENAR was excluded for not having its statistics discriminated by delivery modes according to the categories utilised in this analysis.

the VTIs. Graph III.1 shows the distribution of enrollment by delivery mode for nine VTIs. CONET and UTU were excluded since they distort the whole, because of the fact that they are almost exclusively involved in basic training, as they, unlike the typical Latin American VTIs, belong to the formal education system.

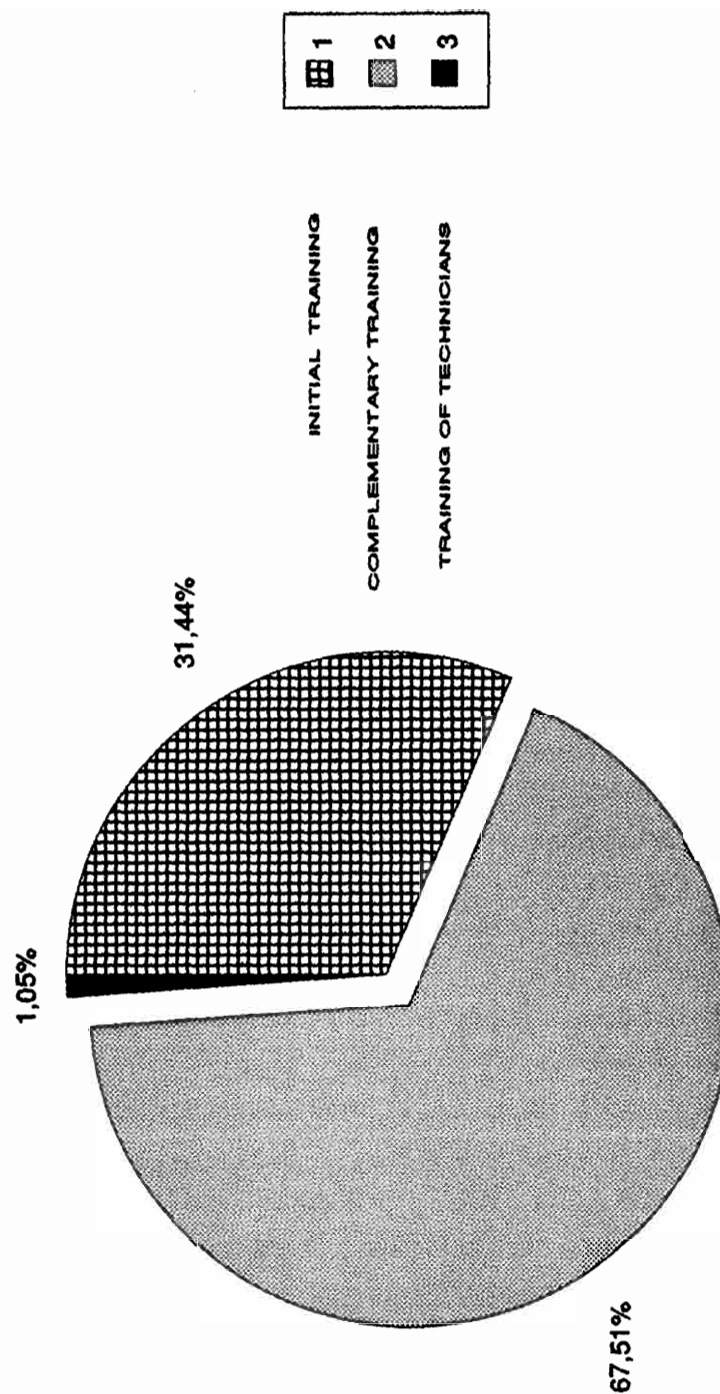
Of the nine VTIs considered, the only one that registers more than half of its enrollment to basic training is SENAC. It is followed by INA, where both modes - basic and upgrading training - are more or less even in terms of enrollment. At the remaining institutions there is a clear preponderance of enrollment in upgrading (see Graph III.2). The statistics for the years from 1980 to date for the same VTIs indicate that upgrading training has increased at the majority (INA and SECAP, 100%; SENATI, 80%; SENAC, 40%; SENA and SENAI, 15%).

The move towards training activities for workers already in service can be noted since the seventies. These courses seem to respond more rapidly and appropriately to the needs of the productive establishments, and their favourable repercussions on production and productivity can be seen almost immediately upon completion of the courses by the participants. In the future such courses will probably become increasingly important, including those provided by the institutions as well as those given by the enterprises themselves. The teaching approach that is spreading throughout VTIs makes it easier for workers to acquire training via this mode, progressively and in steps, over the course of their lives. Moreover, these courses offer a more concrete and rapid possibility for systematic updating in line with technological change. At the same time, given their very nature, they are the ones that imply less drop-out risks.

Upgrading courses in general are naturally shorter than basic training courses, particularly long-term apprenticeship programmes, specially designed for young people from 14 to 18. Among the seven institutions that provided information on the distribution of hours/course by delivery mode (CONET, SENAR, SENA, INA, INACAP, INFOTEP, and SENCICO), it can be seen that basic training courses, and apprenticeship courses in particular, take up a significantly higher proportion of hours/course in relation to enrollment covered. Thus, for example with 42% of its hours/course SENA covered 103,000 participants in basic training courses, of whom 19,389 were apprenticeship students. On the other hand, with 11% more hours/course, i.e., 53%, geared to upgrading courses, it covered almost triple the number of participants. With 70% of its hours/course INA covered 16,000 participants in basic training courses (1,225 in apprenticeship courses), while with less than half (30%) it trained 18,000 participants in upgrading courses. Despite the fact that

Graph III.1

DISTRIBUTION OF GLOBAL ENROLLMENT BY DELIVERY MODES IN NINE VTIs\* (1987)  
(percentages)

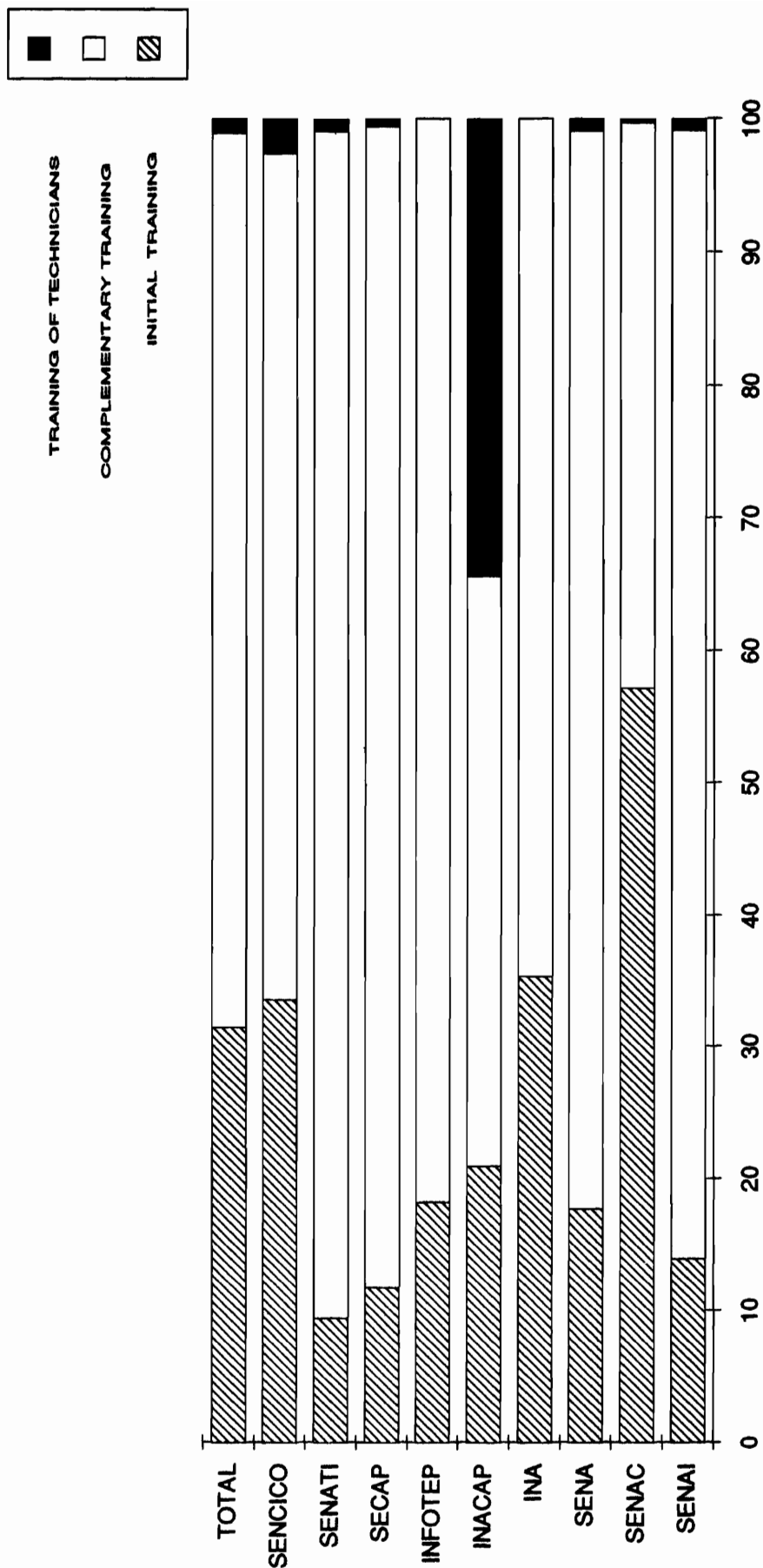


\* Includes: SENAC, SENAI, SENA, INA, INACAP, INFOTEP, SECAP, SENATI, SENCICO.

Source: Survey to VTIs. Regional study.

Graph III.2

DISTRIBUTION OF ENROLLMENT BY DELIVERY MODES FOR NINE VTIs(1987)  
(percentages)



Source: Survey to VTIs. Regional study.

different VTIs vary widely in terms of the average of duration in hours for each of the delivery modes, it is clear that the time is much shorter for upgrading courses. Consequently, the cost for these courses is generally significantly lower than for basic training, and the gap becomes wider in relation to apprenticeship courses.

#### **b. Crisis and renewal of apprenticeship**

Apprenticeship was the form of training by antonomasia. Long-standing VTIs such as SENAI, CNAOP, SENAC, SENA and INCE all started operating on the basis of apprenticeship. Save for the last one "apprenticeship" appears in the very name of the institutions; and among the objectives set out in the legal instruments establishing all of them, apprenticeship appears as the institutions' spinal cord.

In its form of application by VTIs in the region, apprenticeship is a systematic training mode, geared to adolescents between the ages of 14 and 18, for training as skilled workers in "universal" occupations, i.e., jobs having a common application in a broad range of enterprises. It is characterised by alternate periods of training at a centre (study stages) and in a company (productive stages). It includes technological and practical training directly related to an occupation and is delivered over long periods ranging from one to three years, depending on the complexity of the specialty. Basic schooling is a minimum prerequisite for this type of training, which is legally regulated by an "apprenticeship contract" establishing the employer's responsibility to pay portions of the minimum or legal wage to the apprentice, which increase as the training process progresses. Nevertheless, this legal requirement is not always fulfilled, and in fact many institutions provide apprenticeship without having such a formal contract on the part of the enterprises, but with the assurance that the apprentice will be taken on by the company during the productive stages of training.

Nearly all the VTIs implemented and still use the apprenticeship method. However, over the past ten years, the apprenticeship share in the global effort of these agencies shows a downward trend. In 1987 it was less than 4% of enrollment among all the institutions studied. There are three institutions that still give apprenticeship considerable importance: in 1987 SENAI had 60,434 enrollments, SENA: 19,389, and SENATI 4,171, respectively representing 12.1%, 3.6% and 9.4% of enrollment at each of these VTIs.

This fact is particularly interesting, as over the past twenty years or so, directors of training and researchers have been talking about the apprenticeship crisis. Questioning of apprenticeship as a suitable way of

attending to the needs of youth under the current circumstances in the region is based on various arguments. Thus, some maintain that it was the high cost of these courses that led some VTIs to review the priority they had been given so far. Others talk of the serious difficulty of linking apprenticeship as a delivery mode with the respective contract incorporated in labour legislations currently in force. It is also recognised that over the past decades, more educational opportunities have been opened up (under the regular system) for young people. Furthermore, it has also been seen that the high dropouts rates of apprentices at some institutions has a serious impact on the high cost of apprenticeship. Apprenticeship is an "expensive" way of training and this prevents a significant number of young people from becoming incorporated, and more so in view of the difficult prospects for employment they are offered. This has led many VTIs to decide on a redistribution of their resources towards forms of training that cover the needs of in-service workers.

In spite of these questionings and objections, some VTIs have tried to upgrade the quality of their apprenticeship programmes, lowering costs, making the courses shorter and apprenticeship more attractive to employers. Thus, SENAI's Regional Department in Sao Paulo - which has become the bastion of apprenticeship in the region - has initiated a series of changes leading to the establishment of three different apprenticeship modes. Their basic difference lies in the recognition of the educational levels by the regular education system, and in the various forms of operation for a better use of the installed capacity.

Another of the innovations introduced into apprenticeship has been brought in by German bilateral technical cooperation: the "dual system". This is at an experimental stage at several VTIs (SENATI, INTECAP, INFOTEP, CONET, SECAP, INFOP, SNPP, among others). Although the quantitative impact of this experience is still not always significant, various VTIs that have adopted it recognise - from different perspectives - its positive results. However, so far, results are inconclusive. Many institutions are still at the experimental stage of the dual system and are waiting for it to be evaluated with a view to its definite adoption or to a possible widening of its scope.

SENATI is one of the agencies that has stated its satisfaction with the incorporation of the dual system. The programme was started in 1979 and has been carried out more intensively since 1984. Growth of enrollment at SENATI in apprenticeship is mainly due to the adoption of the dual system, which in 1987 had around 3,000 participants enrolled (more than 75% of the total for this mode). The main difficulty resides in the fact that almost one fifth of the apprentices are not retained by the enterprises. In order to overcome this difficulty, joint programmes have been initiated with enterprises and the

Peruvian Industrial Bank, thus setting up a system of incentives to enable the apprentice to remain on a trial basis at the enterprise, once training is over.

In the case of CONET, the greatest contribution of dual apprenticeship resides in the fact that this is practically the only method of centre/enterprise alternation currently in force in the agency. One of the problems that has been detected is that this method has been incorporated into technical education and not into VT. This has probably had an impact on the fact that a considerable number of graduates from the dual system have the hope that they may continue their studies at a higher level. Thus they would be channelled towards an educational destination rather than towards the labour market, at a higher cost.

Other modifications in the apprenticeship mode that have been introduced over the past few years may be linked to practices to encourage absorption of youth into the labour market. In Chile, at a very recent date - May 1988 - the use of tax incentives has been expanded to enable enterprises to deduct the salaries of the apprentices they employ from their taxes. In Venezuela, in 1984 the government launched an ambitious programme known as "grant-salary", whereby special financing has been given to INCE to be used for the salaries of apprentices who are to be trained annually at the enterprises. Between 1986 and 1988 38,000 young people benefitted from this programme. INCE has responsibility for the supervision of the programmes to guarantee the quality of training and to avoid the grant-salary programme from becoming a mechanism merely providing subsidised manpower to the enterprises.

Summing up, it may be stated that apprenticeship is a delivery mode that has also shown great flexibility in the operation of VTIs, in spite of stationary situation in terms of coverage. Many VTIs tenaciously defend apprenticeship, basically for the following reasons: a. apprenticeship ensures an effective formula for integration and centre-enterprise linkage; b. apprenticeship restores the enterprise's infrastructure and capacity as a suitable training environment; c. apprenticeship makes it possible to share responsibilities among the VTIs, the enterprises and the apprentices, and d. apprenticeship serves as a permanent source of feedback for VTIs on enterprise needs. Thus VTIs have shown themselves to be sufficiently alert, so as to introduce modifications and changes to surmount the difficulties mentioned above.

### **c. Enterprises demand vis-a-vis social demand**

Concerning other forms of initial training, it should be noted that the most important one is that known as "qualification", given through short term courses, to young people and adults, as an initiation to a trade in occupations



semi-qualified of any economic sector. Nearly 60% of the enrollment at SENAC, by definition concentrated on commerce and services sector, is used this way. INA has about 50% of its enrollment in qualification, and is also one of the VTIs with the greatest proportion of its enrollment in tertiary sector occupations (33%).

Furthermore, VTIs characterised by giving more attention to the secondary sector (SENA, SENAI, SENATI, SECAP, INACAP, INFOTEP, among others) are those that have the lowest percentage of this type of initial training. In general, all of them absorb between 10 and 20% of their enrollment in such activities (only SENAI has a higher figure: 27%).

The trend that has been observed of offering more and more enrollment places at the VTIs to workers that are already in jobs, and therefore most probably adult workers, would consequently imply a reduction in educational alternatives offered to young people. Although statistical data are not available that would make it possible to extrapolate this trend to other VTIs in the other countries of the region, if a similar trend were being followed, it would imply that VTIs are progressively abandoning their initial role of training manpower for their first jobs. In this respect, there seems to be an increasing departure from activities guided by the social demand of those who seek training to enter the labour market. However, this would seem a valid strategy for survival, effectiveness and profitability, if it is considered that the decrease in job opportunities offers no guarantees that trained youth will effectively have a chance to make the most of the qualifications acquired, in a job directly linked with the training received.

As will be seen below, the VTIs seem to be deciding to use the skill requirements actually demanded by the jobs available in the enterprises as a primary indicator of demand. However, the question is to what extent is this a deliberate option with long-term projections in VTIs? From the external standpoint of the set of training options offered to young people in the global educational context, it is possible that the VTIs are moving towards a progressive loss of relative weight.

Whether this new situation of VTIs is right or not, really depends on the alternative options open to young people, as deployed by other training agencies, either in the regular system or by other public or private agencies involved in training for young people. In fact, the option followed by the VTIs is remarkably pragmatic, as, on the one hand, the expansion of educational systems presently offers greater possibilities for young people to continue onwards towards higher educational levels. Furthermore, the more technical jobs in the production apparatus require increasingly higher levels of general

education and consequently of formal education as a basis on which to build scientific and technological knowledge. Finally, young people from sectors of lesser resources, who drop out from school at an early age, are often directly inserted into labour activities, even though these may be the most precarious at informal levels of the economy. As a consequence from the starting point of the labour activity they carry out and the path they may follow within productive activities, they enter the ranks of people who are already linked to the labour market, and therefore become users of the VTIs under this new aspect.

It is highly probable that the VTIs will continue to maintain both the services of initial training and those of complementary training. Their respective weights may vary in accordance with the vicissitudes of economic activity and with the pressures eventually exerted by social demand. What seems clear towards the future is that basic training will be imparted to higher levels of occupational hierarchy and upgrading courses will be the vein of greater flexibility to adjust to changes arising in productive activity.

### **3. TRAINING UPPER LEVELS: MIDDLE-ECHELONS AND TECHNICIANS**

The training provided by VTIs is no longer limited to preparing workers to carry out skilled and semi-skilled jobs. On the contrary, over the past twenty years, VTIs of longstanding tradition have covered training of supervisors and technicians.

It is important to highlight this new field, insofar as it shows an increasing participation of VTIs in the short and medium term. This is currently happening and will certainly be stepped up in the future in various forms, involving not only the execution of programmes directly provided by the VTIs, but also support (organisational, technical-pedagogical, operational, planning, etc.) that the VTIs give to the regular educational system involved in technical training and medium level vocational or diversified training.

Over a long period of the history of VTIs, the ceiling they had established for themselves was that of workers at the bottom level of the job pyramid. In some cases (but in a sporadic and punctual fashion), first line supervisors and foremen.

This movement took on more relevance as from 1970, both at SENAI and at SENA, although the former launched a technical textile school in 1949 (Rio de Janeiro) and a similar one ten years later (Sao Paulo). This trend is observed later on in many of the VTIs, which are gradually entering the field of technical

training: INACAP, SENAC, INTECAP, SENATI, SECAP, SENCICO, INCE Construction and INAGRO, just to mention those for which data were obtained. Among the agencies analysed CONET and UTU would not be included in this aspect as they both cover -and always have covered- technical education as their main function.

#### **a. Reasons and conditions**

The motivation known by various VTIs to enter into this new field may be interpreted as a natural response to the training expectations of people who were already working and who required higher qualification levels to be able to move up in their enterprises, and as a way of providing continuity to apprenticeship training for those who want to continue towards upper training levels. For this reason, various VTIs stated that they were not really interested in a formal recognition by the national educational authorities, except in some cases for practical reasons to obtain certain operational and financial facilities (franchise and government guarantees, subsidies, etc.). It is the students themselves who are exerting pressure in favour of formal recognition, as they are interested in the value given to diplomas, a characteristic symptom of the prevailing educational "credentialism".

As will be seen below, there is a wide range of experience that has been accumulated in this field of technical training provided by VTIs, and some general traits are to be noted:

- VTIs participate in middle level training in an independent but complementary way to that of regular technical training provided in this area by the Ministries of Education. That is to say, they do not attempt to compete in an area which has traditionally been that of regular education. Incursions in this field have taken place as a result of a practical detection of unsatisfied needs for this type of manpower, which the enterprises started feeling. The need was detected for personnel who could participate with professional levels (engineers and managers) in a more efficient management of production processes and in the incorporation of new technologies acting as a link between these levels and the operational workers.

- The VTIs are not seen to be particularly anxious about achieving formal recognition of the training levels they are covering, or about establishing a system of equivalences with the regular system. INACAP is an exception, as it is officially an agency of this formal system. However, the reasons behind this case are different, as they are related to a complete reorganisation of technical education and VT in Chile. Also in Brazil SENAI and SENAC technical schools are recognised by the formal educational system.

- In order to undertake training of technicians and supervisors, VTIs have attempted to fill the gaps that are not covered by regular technical education systems. They have done so because they found that national, provincial, municipal and even private technical schools only covered a small portion of the demand for this type of personnel. Furthermore, the gap was mainly due to the lack of this personnel in specific branches of economic activity. When SENA and SENAI timidly started providing this type of courses, they did so because they saw that technical schools provided training in "universal" occupations and not in a series of specific areas required by the enterprises of certain economic branches (textile, leather and shoes, graphic arts, ready-made clothing, instrumentation, precision mechanics, etc.).

- So far, incursions at these levels have not - from the standpoint of enrollment - been spectacular. SENA had 5,180 students, and SENAI 8,218 in 1987. At all event, these courses absorb about 10% of the capacity of hours/course given by both institutions although the percentage of enrollment only represents 1.6% and 1% respectively. INACAP is an exception, as its enrollment in training of middle and upper level technicians is 13,157 students, that is, one third of their total enrollment figures.

- Longer standing VTIs are those that start out training technicians and supervisors; this would indicate that the agencies need a high level of institutional maturity, together with technical-operational consolidation and well-established acknowledgement in order to undertake this new type of activity.

- What is stated in the foregoing paragraph naturally is subject to availability of physical infrastructure (buildings, equipment, etc.) of some scope. Although SENAI has some schools that are exclusively devoted to technical education (other than those used for training and apprenticeship), VTIs generally use the same infrastructure, on the basis of units providing suitable and modern equipment.

- Technical education courses are usually given in the centres specialised by branch or sector of specific economic activity. Generally these centres are of a national scope and are recognised as centres of excellence in their coverage of the respective branches of specialisation. Nearly all these centres have received technical and financial support for their equipment and operation from bilateral and multilateral technical cooperation.

#### **b. Decided incursion**

SENAI was the first VTI to start this line of action in the region. Currently it is almost as well-known in the country for its technical schools as for its

traditional training action with the enterprises. The courses are given in over twenty school units and are formally recognised both for the middle level technicians, equivalent to the grade of secondary education, as a part of courses for auxiliary technicians placed at a somewhat lower level, and for the intensive technical courses at post-secondary education. All these levels consider alternating between SENAI schools (or other supervised agencies) and long periods of practice in enterprises, providing a distinctive and different nature from that of teaching given at regular technical schools.

INACAP (Chile) an old and traditional VTI, has become over the past years one of the country's most important technical education bodies. Following the Educational Reform in 1981, INACAP was accredited with the regular system as a Technical Training Centre (middle level) and as a Higher Vocational Institute (third level). Existing demand has led it to give greater relative weight to its technician courses over those aimed at occupational training courses. As stated earlier on, one third of the 1987 enrollment was absorbed by technician courses. It should be stressed that what is striking in an agency such as INACAP is that although in the past it had acted sporadically in the field of technical education, it now does so with official recognition as an upper level vocational institute. INACAP shows the enterprises and society that it has due support and the technical, human, physical, technical-pedagogical and technological solvency to cover not only needs at the level of workers, but also other layers of the occupational pyramid. It also goes to illustrate that INACAP can compete successfully with other public and private proposals. Furthermore, middle level and post-secondary technician training has become one of the major strategies that has enabled the institution to be self-financed as from the end of the seventies.

SENA has training courses for middle level technicians and also for post-secondary level technologists (in the field of building, land surveying and industrial maintenance). These courses last six semesters and involve an average of 660 hours per semester. Admission requisites are the completion of secondary education. SENA gives courses to upper level technicians at its Centre for Technological Development and Advanced Vocational Training. This is considered to be a pilot project, and has an integrated advisory committee, with membership from COLCIENCIAS, Institute for Technological Research and the University of Los Andes. The aim is to train analysts of technological processes and metrology and quality control technicians for the modern metal-mechanics industry. On the basis of the results obtained the idea is to widen the experience to include the Cali Industrial Centre and the Colombian-German Centre of Barranquilla.

A non-conventional way of training supervisors, unlinked to formal prior educational requisites, and without any pretensions of equivalence with the regular system, is the Programme for Industrial Masters, developed by SENATI with support from the German technical cooperation through GTZ, turned towards two areas: metal-mechanics and electro-techniques. The courses started in 1987, and so far three in the first two areas mentioned, and two in the second have been implemented. The training scheme for industrial masters has an entrance examination, a basic cycle lasting three months (168 hours), and a specific specialisation cycle lasting fourteen months (627 hours). Systematic training of master industrialists includes the development of theoretical (60%) and practical (40%) activities, at SENATI's classrooms, laboratories and workshops, at night school. In addition to specific matters in the area of metal-mechanics and electrotechniques, production and personnel management are also included. This scheme of master industrialists has also been adopted at SENAI, but mainly geared towards the training of first line supervisors.

Young institutions such as SENCICO have right from the start installed courses for technician training. Although the absolute number of graduates from this level of training is still small, it is 2.61% of this institution's enrollment. At SECAP, although technical training goes further back, it represents an equivalent of 0.6% of enrollment. But at both institutions, the proportion of hours/course used is well above this percentage.

Another channel related to the approach of VTIs to middle level technicians is linked with the role some governments are assigning to these agencies as to greater protagonism in the planning, organisation and conduction of the formal system's technical teaching. As examples, we should bear in mind two facts that have already been mentioned: following Law No. 55 (1985) in Colombia, it was agreed to assign SENA not only a contribution to financing industrial schools, but also to participate in the establishment of agreements with the National Ministry of Education for the joint execution of policies, plans and programmes for the development of technical education. At present, SENA together with the Ministry of Education prepares proposals for integrating technical education from both sources at national level.

In 1986, the government of Brazil launched the "Programme for Expansion and Improvement of Technical Education" with an aim to strengthening the network of federal technical schools in the country. To comply with this initiative, the government requested SENAI and SENAC to actively participate in these tasks, thus recognising the vast experience accumulated by both institutions in the field of training.

In this way, it may be seen that VTIs that for many years were catalogued as "second class" educational initiatives, over the years have come to be consulted on and sometimes decisive in important innovations or changes that must be introduced in the levels of technical teaching. It is acknowledged that they possess valuable and sometimes unique knowledge and experience, both in managing technical-pedagogical aspects of training/education on and for the job. And precisely both SENAI and SENA are being acknowledged as agencies that provide a guarantee and credibility in the eyes of the authorities and of society in general, enabling them to participate in the reformulation of the orientation of secondary technical education.

As a summary it may be stated that VTIs are today in a position to carry out technician and worker training at higher levels than those of skilled workers, and are highly recognised and welcome by the enterprises (as stated by the VTIs themselves and as proven by studies and opinion surveys on the subject), in spite of the fact that this is not a field of their strict competence. They have been able to do this without any major changes in their operational tradition or any additional infrastructure installations, but as a natural evolution of worker training that they had already been carrying out, using the idle capacity available. They have made the most of their workshops' essential modernisation of equipment and machinery, which involved training in technological production innovations, in order to incorporate laboratories and design and control workshops that would facilitate technical training.

### **c. Graduate and undergraduate performance**

Vertical expansion of VTI work has not been exhausted by its increasing participation in coverage of the middle levels of the occupational pyramid. For some years now, their participation is evident even in the training of human resources at a tertiary level, sometimes equivalent or comparable to university degrees.

The Technology Centre for the Chemical and Textile Industry (CETIQT) acting as one of SENAI's specialised centres at a national level, launched its first textile engineering course in 1987, lasting five years. This is the result of an agreement with the Federal University of Rio de Janeiro. The course is geared towards a market that has been compelled to expand and will probably involve 500 professional engineers through the end of the century.

At the level of post-graduate specialisation, that is to say following university training, mention may be made of the courses on soldering technology (lasting five months), given by the Technological Soldering Centre (SENAI-Regional Rio de Janeiro), for engineers graduating from the Federal

University of Rio de Janeiro. In the case of SENAC, the relation with the Federal University of Espiritu Santo has made it possible for them to organise six post-graduate courses in hotel administration, lasting eight months (1400 hours). In all these cases, the certificates awarded are signed by the universities and the VTIs.

As from 1989, SENAC also gave training courses at a tertiary or upper level, in the branch of hotel management, as Technical Operational Hotel Manager. The course, lasting two years, provides theoretical and practical knowledge of lodging, food and beverages, control, maintenance, and marketing and sales. The requisites to enroll in this course are complete secondary education and the approval of an entrance examination. The degree given is "Hotel Technologist". In order to receive the diploma it is essential to accomplish eight weeks practice at the Hotel-School of Aguas de San Pedro on full time basis, an operational in-service training lasting 200 hours in hotel enterprises at the end of the first year, and another of at least 200 hours in hotel or similar enterprises at the end of the second year.

In addition to its technician courses INACAP (Chile) has several professional university degree courses (of a post-secondary nature), as follows: administration of sylvo-agro-livestock farms, industrial mechanics, computer programming, pedagogics in basic teaching, and production and supply administration and bakery administration.

CONET also provides various courses at a third, non-university level. Specialisations comprise, among many others: orthosis and prothesis, cellulose and paper, air conditioning, electro medicine, concrete, highway machinery, antisismic structures, metalography, road works. Furthermore, CONET has a Higher Technical Teacher Institute, with the aim to train, and upgrade teaching staff for technical teaching.

In short, although figures for people trained at the level of supervisors and middle and upper level technicians are still modest at these VTIs, this form of training has far reaching consequences in view of the innovative nature of the services provided. It is evident that this new field of action has appeared and is closely related to enterprise needs, particularly those of the industrial sector, which seem to have found in VTIs a valid and reliable source of training for the new professional personnel they require. It is therefore very probable that this line of action will be increased in the future, and considerable resources of the VTIs will be used for this purpose.



#### 4. TRANSFER OF VT TO ENTERPRISES

There is a generalised conviction in the region that it is advisable to leave to the enterprises the responsibility for training their own workers, whenever they are able to do so. This conviction is general not only at the VTIs but also in the higher spheres of labour, educational and manpower development planning, and in the enterprises themselves. The reason behind this is the conviction that enterprises offer a naturally propitious environment for training and that technological specifications and fast moving changes in labour organisation and productive processes increasingly demand that training be in strict accordance with the way in which work is carried out in each enterprise. Furthermore, it is within the enterprises that the real deficiencies of training that impede or limit production and productivity growth, as well as a better organisation of labour processes, are felt.

We should add that this trend toward transferring greater responsibility to enterprises in the area of training and development of human resources also relates to the fact that the process of economic reactivation gives the lead to enterprises as the basic cell out of which the entire productive tissue of society is built. This fact has dual significance: on the one hand, enterprises have begun to be the focus of attention of VTI programmes; on the other, enterprises are seen as the natural context in which the productive and training processes unfold in an interrelated way. Moreover, some educational theories underscore the "training" value of the work experience; they attempt to recoup the pedagogical aspects implicit in production processes, and based on this "apprenticeship" they seek to formulate a new training methodology.\* Finally, the scarcity of resources at official institutions to address the growing and increasingly diversified demand for training makes clear the advisability of letting the enterprises do what they can for themselves, thereby freeing up VTI resources for addressing sectors that are not in a position to assume that responsibility themselves.

Over the past few years, efforts have been made to develop, establish and systematise enterprise training potential, through various measures that in some countries have involved an overall rearrangement of public and private responsibilities in the field of training.

##### a. Legal stimuli

In four countries of the region, the transfer of the responsibility for training to enterprises has taken shape through legal measures external to the VTIs

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\* Kuenzer, A.- *Pedagogia da fábrica*. Sao Paulo, Cortez, 1986. 203p.

themselves: Argentina, Brazil, Chile and Mexico. In the first three countries, approximately ten years ago, systems of tax incentives to training by enterprises were established. These incentives operate as tax rebates, recognising - within certain limitations - the enterprises' expenditure on training courses for their workers, that can be deducted from their tax obligations. The concrete mechanisms through which tax incentives operate will be examined in further detail in the chapter on financing in the second volume of this report. It is however interesting to note here that the establishment of these tax incentives implies a total change of approach concerning traditional ideas about the distribution of tasks and responsibilities among the State and enterprises to finance and operate VT.

The initial pattern in Latin American countries, generally shows that financial responsibility for national efforts in worker training is allocated to the enterprises. As has been said elsewhere, this operates in most of the countries through a compulsory contribution by the enterprise of a tax earmarked for the financing of specialised VT institutes. Implementation of tax incentives in the three countries mentioned above, has inverted this pattern. The State sacrifices part of its general tax revenue from the enterprises, as a refund geared to encouraging them, under their own initiative, to undertake the training of their workers. There are varying ceilings and specific mechanisms in these three countries, whereby the enterprises are enabled to deduct expenditure on training programmes from their tax obligations.

In Mexico, however, the transference of training responsibility from the State to the enterprises is done differently. According to the 1978 Constitution and the Federal Labour Law of that same year, enterprises are obliged to provide training to their workers, but in this case they are not authorised to deduct the cost from their taxes, but are entirely responsible for financing the training programmes provided, at their own expense.

Since the tax incentive system has been in force in Brazil and Chile, the number of enterprises using it has increased little by little, as have the frequency and intensity of the programmes given. However, in both countries, the proportion of enterprises using this benefit is still very limited, and at the same time, those who do use it only use a small part of the total amount they are entitled to use. It has not been possible to obtain data on the potential volume of resources that the State authorises enterprises to spend under this regimen of tax incentives for training. But it is known that there is still a wide margin available to the enterprises for this purpose. Studies carried out in Chile and Brazil on this subject, and the opinion of government officials, agree that there is a relative degree of passiveness on the part of the enterprises on the subject of training their workers, which is also explained by the complexity

of the mechanisms for tax reductions. In general, this is obtained after the courses have been carried out, and in the opinion of the enterprises, too many formalities are required prior to the approval of programmes under the system. In general it is the large, adequately structured enterprises that are in a position to provide and carry out training programmes in conformity with development and institutional expansion plans. The enterprises are required to have a certain discipline and organisation of time and processes to be able to allocate resources and appoint part of their workers to training programmes, without upsetting the normal operation of the plant. Therefore, most of them only turn to this mechanism when it is an expeditious and effective way of solving a lack of qualification blocking the production process.

In Chile, tax incentives are the most important means of public financing for VT. Unlike other countries in the region (for example, Brazil and Argentina), there is no parallel form of public financing of VTIs. The concern here is not with underscoring the financial aspects of the issue, but instead with highlighting this system which bases its operation on validation of the programmes provided, by the enterprises themselves. By making the production units responsible for execution of training by means of the tax incentive mechanism, what is sought is the adoption of criteria of efficiency and effectiveness as genuine indicators of the potential demand arising from within the enterprises. The Chilean system is built on a tripod consisting of the State (which establishes budget policy measures based on tax incentives), the enterprises (who establish demand), and Technical Execution Agencies, or OTE, (which operate as providers of training in a competitive situation for attracting the demand of enterprises).

In Chile, within the system of tax incentives in force since 1976, INACAP, following its loss of financing from public sources, offers training services to enterprises on a freely competitive basis, among over 600 technical executing agencies (OTE) accredited with the National Training and Employment Service (SENCE), the agency allocating and controlling the application of tax incentives. In this respect, practically all the training carried out by INACAP is done at the request of the enterprises, and very frequently is given in the latter's premises. INACAP also carries out active marketing of its services at enterprise level, endeavouring to attract the market, which it succeeds in doing as it systematically comes first in the ranking of OTE hired since the system of tax incentives was implemented. In 1986, over 10% of the resources used by enterprises on the basis of tax incentives was for contracts with INACAP.

In Brazil the system of tax incentives co-exists with funding based on a tax on the enterprises' payroll, for the use of institutions such as SENAI and SENAC and the funding of the general budget for SENAR. Thus, in addition

to the training possibilities offered by these VTIs, enterprises also have financial encouragement to carry out training directly. Although coverage by this new system reached the astonishing figure of 5,000 enrollments in 1988, a very low proportion of enterprises use it. It has also been seen that the enterprises that use this incentive are those that, with or without it, would probably continue to carry out training as previously. What should be noted is that, in Brazil, tax incentives have not lessened joint actions between VTIs and enterprises. Two observations confirm this: 1) According to the study\* by Grandra e Silva enterprises from the industrial sector prefer the method of exemption, withholding or collaboration agreements with SENAI, to which we will refer, rather than turning to tax incentives, basically because they are more flexible and because resources are withheld by the enterprises and thus guaranteed, instead of being subject to prior approval of the programmes and refunding a posteriori; 2) recently a legal modification has been approved, whereby small and medium-sized enterprises are authorised to establish contracts with SENAI and SENAC, for diagnosis, programming and execution of training services within the enterprises, charging these contracts against tax incentives.

In Argentina, issuance of the so-called tax credit is subject to CONET's regulations, and this institution is authorised to recognise credit certificates that the enterprises use to obtain tax deduction for expenditure incurred directly by training. Almost right from the start CONET, as a system inherited from the former CNAOP, legally recognised "factory and apprenticeship schools", that in fact were the enterprises own training centres. These centres received special treatment in rebates on the tax for technical education that the enterprises were obliged to pay at that time. As from 1980 when the system of tax incentives through tax credits was established, the enterprises continue to directly carry out training programmes that are authorised, approved and accredited by CONET, providing the tax credits that the enterprises can use to pay their taxes.

These general provisions establishing the fundamental principles of the enterprises' responsibility in the VT system, imply that enterprises may carry out these programmes directly or hire specialised agencies to do so, and in this context the traditional VTIs take on particular relevance. Thus, these arrangements affect in a decisive way the role that these VTIs fulfil in the new general framework. But even in countries that have not reached these organisational arrangements, increasing efforts may be noted on the part of VTIs to progressively transfer a greater direct responsibility for training to the enterprises.

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\* Silva, A.I. Grandra e.- *Os acordos SENAI/empresa, um incentivo a formação profissional*. Rio de Janeiro, SENAI, 1985.

## **b. Delegation to enterprises under formal agreements**

Only three of the region's VTIs have systematised mechanisms for delegation of programmes to the enterprises: SENAI, INCE and INTECAP. At the other VTIs, transference takes place on a fairly informal bases, through transitory agreements or conventions that do not respond to a common guideline and that are established on a varied basis with each one of the interested enterprises or groups of enterprises.

As for SENAI, its law of establishment already foresaw that larger sized enterprises, obliged to pay an additional share of their contribution to this VTI, could sign agreements with the latter for the partial withholding of up to 80% of their general contribution (1% of the payroll) and exemption from additional contributions (an additional 0.5% that enterprises with over 500 workers pay), insofar they use these resources to provide training programmes for their workers directly. The law limits this type of agreement to the major enterprises, that can be expected to have the capacity to undertake training programmes on their own account.

INCE incorporated this legal provision existing at SENAI and adapted it. In this way, the enterprises contributing to INCE, whatever their size, may deduct up to 60% of their contribution to this VTI for use in training programmes that they give directly or that are given by the sectoral institutes, that is, the specialised agencies grouping enterprises from a given sector or branch of activity and are financed by the same mechanism of deduction from the corresponding enterprises up to 60% of INCE's obligatory share.

The 1972 Organic Law of INTECAP establishes that the amount and payment of the tax that enterprises have to pay to this VTI may be reduced up to 80% if an enterprise or agency, through an agreement with the institute, carries out its own VT programmes. The amount of rebate is established in accordance with the number of workers that the enterprise can train with its own resources, provided that the programmes are approved and supervised by INTECAP.

Just as with INCE, SENAI has to approve the training plans of enterprises under these agreements. Supervision is much more direct at this Venezuelan institution, which controls programmes in a detailed way and awards the corresponding validation under the deduction agreement.

It is particularly interesting to examine in greater detail the mechanisms whereby deductions are made by SENAI and INCE, in view of the potential interest they have as an important mechanism for effective transfer of training

responsibilities from the VTIs to the enterprises. In order to appreciate the size of the training effort channelled through this delegation mechanism to be the enterprises by the respective VTIs, it is enough to consider that in 1987 SENAI registered "indirect" actions, that is to say, training actions carried out by the enterprises on the basis of exemption and retention agreements, having a volume of enrollment almost equal to that of its direct action: 466,501 and 509,278 enrollments respectively.

A similar situation occurs at INCE (Venezuela), showing for the same year 138.137 graduates from indirect or delegated action and 235.497 graduates from its own direct action programmes. This implies that indirect action has a relative weight of 37% in the total of graduates from that institution. Of these, almost 50% are trained in sectoral institutes, the remaining graduations registered for INCE's indirect actions, are graduates from programmes carried out by the enterprises themselves or through teaching agreements between enterprises and INCE. Unfortunately, this data is not available for the deductions authorised to enterprises in the case of INTECAP. However, the large number of delegated actions through this mechanism of deductions at SENAI and INCE, and its expansion over the past decade, leads us to explore in more detail their regulation, operation and implications.

At SENAI, the sustained growth of enrollment in indirect action programmes (delegated to the enterprises on the basis of the exemption and retention agreements), is responsible for a major part of the growth in the total enrollment of SENAI over the past years. In 1987, the results of indirect action exceeds by 46.8% the total enrollment of the preceding year. Between 1978 and 1982, 787,471 people were trained under these agreements, with a total of over 80 million hours/student and an average length of 102 hours per course. In 1982, the total number of participants, rising considerably with respect to the previous years, reached the figure of 219,925. The largest amount, 60% corresponded to training of skilled workers, followed by 15% in the management and administrative area, 13% supervisors, and 7% middle level technicians. That is to say, 80% of the participants carry out their duties in enterprise production areas. For 1982, which is the only year for which detailed data is available, it is seen that in spite of this high enrollment figure, there are few enterprises entitled to exemption or retention agreements that make use of it. Only 6.5% of the enterprises entitled to use this mechanism have done so.\*

What has been proven is that the enterprises covered by these agreements, put in, out of their own resources, five times more that the withholding for

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\* Silva e Grandra, op. cit.

contributions to SENAI, for programmes carried out under the above mentioned agreements; 16% of the expenses correspond to contributions to SENAI, and 84% is the direct contribution made by the enterprises themselves. This implies a remarkable way of widening VTI capacity, using the help of the enterprises. During 1987, SENAI made agreements of this type with 51 enterprises, distributed among eleven different branches of industry. Of these, 16 signed agreements for exemption and 49 signed agreements for partial withholding. The distribution of expenditures shows that in 1987 enterprises were taking on a greater proportion than that recently indicated for 1982. That is, they directly cover 92% of the costs, so that the contribution retained from SENAI is barely 8% of the resources mobilised for the training of workers under the abovementioned agreements.

In spite of the difficulties involved in implementing this type of agreement and the legal restrictions limiting it to large enterprises, SENAI is convinced that agreements with enterprises have an enormous potential and should be increasingly exploited. To this end, a series of modifications facilitating their application have been foreseen. Of course, over the past few years, SENAI has set up a new and more flexible type of agreement, that can be used by a greater number of enterprises, known as "terms of technical-financial collaboration", that would appear to be showing excellent results in this respect. In this case the percentages of withholding or refund are smaller, that is to say, they vary between 10 and 30%. In 1985 already, SENAI's Rio de Janeiro Regional Department had signed approximately 50 such terms of collaboration. In 1988, the Sao Paulo Regional Department had 95 of them in operation, including 102 enterprises. These new agreements that the VTI calls "acordinhos" offer enterprises the possibility of deducting up to 10% of the general SENAI contribution and are applied to the organisation and development of their staff training programmes, under the technical-pedagogical supervision of SENAI.

In the words of the Director of the Sao Paulo Regional Department, Professor Paulo Ernesto Tolle: "the recent emphasis on the institution's indirect action rests on the supposition that no VT agency can have the pretension of efficiently covering all the types of demand that arise on the labour market. The concrete expression of the relationship between the budget and the means to reach the desired objectives, are the agreements that SENAI Sao Paulo has signed with the enterprises, freeing them from the general contribution, with an aim to applying these resources to training courses and programmes for the workers of those same enterprises".

This statement is set within the framework of a policy of non-expansion of SENAI, that considers that greater effectiveness can be achieved with the use of available institutional resources, without widening the network of school



units to the point of making it unmanageable, "as it is practically impossible to supervise too large a number of schools, and, therefore, participation of industry in the training process should be encouraged. Within this framework, enterprises would maintain their own centres for the development of personnel and SENAI would be in charge of teacher training and preparation of teaching materials, as well as supervising and controlling the quality of teaching".\*

As to INCE, in 1979 when the legal basis for deductions established by the law creating this agency was regulated, the first 176 enterprises presented their training plans to their workers. Up to 1988, 223, 159 graduates had benefitted from training within these deduction agreements. The annual plans must be established as follows: 80% of the training must be geared towards workers at the basic level, 15% to the middle level, and 5% to the management levels. Unlike SENAI, INCE must give advance approval to the plans presented by the enterprises in order to authorise the corresponding deductions, made on an annual basis. According to INCE's formulation for 1989, this VTI "should be the major rector of VTI but its direct action should be mainly limited to basic training, to the preparation of programmes and in general to planning and to controlling execution. Training itself should be substantially transferred to the enterprises, through training agreements or through sectoral institutes set up jointly by enterprise associations or groups."\*\*

This same document goes on to state that it is in this way that optimum training will be ensured, adjusted to the enterprises' needs and placement of graduates in jobs will also be ensured. From these statements, it may clearly be deduced that INCE is willing to see increasing transfer of the responsibility for training to the enterprises, in all those fields in which there are comparative advantages. The abovementioned figures indicate that this trend is seen in the corresponding volume of enrollments.

### **c. Developing training capacity within enterprises**

In the case of VTIs that do not have formal mechanisms of this kind, transference to enterprises operates in various ways:

Very early on, these VTIs had established on-the-job training as an operational method that made it possible for them to extend their range of action much further than their own installations, and to benefit from the labour environment and the enterprises' natural capability to train its workers. The

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\* SENAI. *Sistema de cooperação SENAI/empresas para a formação profissional: uma escola SENAI em cada empresa*. São Paulo, 1988.

\*\* INCE. *Análisis de los principales aspectos que condicionan el óptimo desempeño del INCE*. Caracas, 1989. (mimeo)



first step was to transfer training programmes as offered by VTIs, to be given at the enterprises' premises, by VTI instructors who took along with them all the necessary technical and pedagogical material. The next step was to help the enterprises to make their own diagnosis of training needs; the VTI technicians, with the support of enterprise staff, designed ad hoc programmes for pre-determined groups of workers in accordance with the needs detected, and then gave the courses under the aegis of the enterprises.

This trend was improved and became more intensive, while the technological specifications of each enterprise made it much more efficient to undertake training using the work process in accordance with these specifications, as a particularly suitable training vehicle and environment for specialisation improvement and refresher courses for on-the-job workers in the strict sense of their needs.

At present, although practically all VTIs have stated that the training medium they propose using, par excellence, in the near future is on-the-job training, figures for enrollment in this type of programme are still very modest. In the ten VTIs for which information was obtained, the average was barely 7.3% of the enrollment in programmes given directly by VTIs in 1987, for on-the-job training.

In fact, in spite of the high rate of growth seen between 1982 and 1987 in enrollment in this type of on-the-job training (46% average expansion), its relative weight in the total enrollment in VTIs is fairly low. However, these figures do not adequately reflect the real volume of the transference of training programme execution from the VTIs to enterprises. Records of enrollments in this type of programme, save very rarely, are not taken into account when preparing VTI production statistics. However, it is known that there is increasing cooperation with enterprises, as well as various other programmes of multiplying impact that are not properly quantified.

At SENATI, current efforts are concentrated on building up Units for Training and Development within the enterprises. This is done by assigning VTI staff to the enterprises for a relatively long period, until the unit is set up and operating in an autonomous way, although with permanent technical and pedagogical assistance from SENATI. It is interesting to note that this VTI has trained its teaching staff to be real promoters who carry out "marketing" of on-the-job training. Although the experience is recent, SENATI considers that this line will have wide repercussions in the progressive transference to the enterprises of operational responsibility for training. So far, financial implications are not foreseen, although the enterprises receiving promoters of training units pay SENATI for this service.

SENA, INA and INCE maintain programmes geared to strengthening enterprise training units, which obliges them to undertake actions to motivate and provide demonstrations to the companies regarding the benefits of training. This strategy is frequently used to offer the product that VTIs are in a position to provide. But it has led them to detect new needs and, above all, to jointly deploy efforts for need detection and training plan establishment at each enterprise. This has implied the training of workers and, particularly, of supervisors and foremen at companies as "trainers" and permanent interlocutors with the respective VTIs.

It has nevertheless been difficult to achieve significant effects on the development of the autonomous capacity of enterprises in the training area. Firstly, because enterprises are not aware that their employees' lack of skills is a limiting factor for their own development. Secondly, because even when they do have this awareness, they do not know precisely what the deficiencies are, what solutions are available, and how to organise a gradual training process with a view to providing a development plan for the company. Finally, because the vast majority of enterprises are small and are constantly faced with financial instability, which keeps them from planning their operations and the human resources they will require.

Until recently, enterprise awareness towards training had been rather luke warm. During the times that changes were slower the availability of abundant manpower, and the existence of specialised training institutions preparing the human resources entering enterprises, and offering upgrading services throughout working life, had inhibited enterprise initiative in directly taking on worker training or investing any substantial resources in this activity. Certainly there has always been an unregistered volume of in-service training going on within the enterprises in a practically informal way. Very often this sort of training is suitable and sufficient to solve very specific problems of the workers' adaptation to the specific conditions of performance and to the requisites for practical knowledge and skills enabling them to carry out their jobs within the organisational framework of the enterprise.

When the enterprises understand that training is a necessary condition in order to raise productivity and profitability, it is probable that they will either provide the required training programmes directly, or hire external agents to do so. But most of the enterprises do not clearly identify this need, or they tend to minimise or defer its importance. It is the larger enterprises, and consequently those at a greater level of organisation, that show a capacity to take on training responsibilities. The studies on utilisation of tax incentives show that Chile as well as Argentina and Brazil have a concentration of users

in the larger enterprises in the most dynamic sectors, in the upper layers of the job hierarchy and in the most advanced zones or regions.

This goes to prove what VTIs had already experienced as to the difficulty of setting up on-the-job training programmes in small sized productive units, an issue that encouraged them to open up a new field of action with small and micro-enterprises which we shall refer to later on. In the meanwhile, it should be pointed out that one of the limitations to transference of training responsibilities to the enterprises is that of the scant capacity most of the enterprises in the countries of the region have to take it on, as they are, precisely, small and have an unsufficient degree of organisation, solidity and projection towards the future.

A solution that has been found to this problem, particularly in cases such as the Chilean and Mexican ones, where responsibility is entirely that of the enterprises -based on tax incentives and legal obligation, respectively- resides in grouping together small enterprises in the same branch in order to cover training of a greater number of workers jointly.

In Chile, the establishment of Intermediary Technical Organisms (OTIR) is provided by law, and so far five such agencies have been established and are operating efficiently in the areas of construction, metallurgy, factory promotion, trade and overland transportation. They do not always directly execute training programmes for their member enterprises but also hire third parties, and in both cases are empowered to charge the costs on a pro rata basis to the user enterprises, which in turn deduct them from their taxes, using tax incentives.

In the case of Mexico, the scheme of intermediary organisms grouping together enterprises from a given sector has led to the establishment of specialised training agencies in various sectors. These sectoral VTIs are not limited to covering small enterprises, but globally serve the respective economic sector, acting as a traditional VTI, but have less governmental interference than most similar agencies in the other countries of the region.

This aspect leads to one of the characteristics we should like to underscore in relation to the way in which VT is currently acting: the sectoral approach.

## **5. THE SECTORAL APPROACH**

The new order of the production apparatus and the growing specificity and diversification of sectors, branches and areas of economic activity had led VT to

be increasingly tackled from a sectoral approach. This approach takes on different expressions that range from institutional reorganisation on the basis of the various economic sectors, through growing internal segmentation of the VTIs to cover different branches of activity, to increasingly systematised incorporation of training components into development projects at varied degrees of specificity, but highlighting a given sector or branch of economic activity.

In the first option, institutional reorganisation trends vary, using as a point of reference the scenario of the VTI already existing in a respective country. The organisational chart of VT in Latin America shows that in various countries a sectoral approach was adopted right from the start, in the sense that institutions were established, centred on a particular sector of economic activity. While in Argentina, Bolivia, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panamá, Paraguay and Venezuela multisectoral VTIs were established, in other countries such as Brazil, Mexico and Peru, the outline of the VTI was linked to partial sectors of economic activity.

#### **a. VTIs sectoral demarcation**

In the case of Brazil, SENAI and SENAC were started with a sectoral but wide scope vocation; the former for the whole industrial sector, including manufacturing, building, communications, transport and fisheries, and the latter for commerce and service activities. Respectively, both left out important segments of the secondary and tertiary sectors, such as communications, energy, agro-industry and petrochemistry in the first case, and the wide banking and financial sector in the second. Lack of coverage of the primary sector was only solved in 1976 by the establishment of SENAR, created within the governmental apparatus that at that time had started a transference already foreseen in the Constitution towards administration and financing by the private sector, following the traditional style of SENAI and SENAC.

In Peru, SENATI is the first VTI of a sectoral nature, established in 1961, to which other VTIs were added for each of the sectors with varying coverage as to scope. SENATI itself has varied the scope of its coverage throughout its history. Thus, in 1974, it also covered training in the area of tourism through its organic link with the government through the Ministry of Industry and Tourism; later this branch separated to be covered by what is now CENFOTUR. SENCICO was in charge of VT for the building sector, whereas for the other sectors and branches of economic activity, a complex picture of agencies of various orders was established little by little, that in general covered training as another component of their sectoral activity. This was particularly

noteworthy in the case of the primary sector, where various institutions appeared, combining training with processes of rural development, forestry, agrarian reform, etc. Meanwhile, the Ministry of Labour and Social Promotion developed multisectoral VT action, although quantitatively its weight is not comparable to that of the sectoral institutions.

Mexico opted for a National Training System, covering the various on-the-job training actions. It operates through institutions by industrial branch. It should be taken into account that no official entity plays the executing role. As aforementioned, enterprises are responsible for VT and they may be grouped by sectors to organise a VTI that logically will be of sectoral nature. For this purpose, so far, such institutions have been established for the building industry (ICIC), the sugar industry (ICIA), the textile area (CATEX), graphic arts, bakery, shoe, editorial and chemico-pharmaceutical industries and for commercial activities. In a parallel way, a series of governmental institutions have taken on VT for the informal and rural sectors and training of State workers. Finally, agencies linked to workers organisations also participate, in particular the Mexican Workers Confederation (CTM) that has its Worker Education Institute, a union study and political training centre and the Union Centre for Higher Studies, where VT initiatives are considered.

However, in various countries the trend has not been stable. For example, SECAP set out with a multisectoral mandate, but its new operational law of 1978 restricts it to industrial, commercial and service activities, leaving out VT aimed at the agricultural and livestock sector, for which purpose the National Institute for Rural Training (INCCA) has been established, reporting to the Ministry of Agriculture. However, currently a change is noted towards SECAP opening up its services to the rural sector.

In Venezuela, since 1962 autonomous sectoral institutes have been set up as private civil associations, linked to INCE and to the corresponding industrial chambers or groups, and also including participation of governmental agencies related to the specific activity. This has seen the establishment of INCATEX (for the textile branch), INAPET (for petroleum and petrochemical training), INCATUR (tourism), INCAPEN (prison training), INAGRO (for the agriculture sector), INCE Construcción (for the building sector); INSBANCA (banking sector); INSPROSEG (insurance), and INCE Salud (health). Of these nine sectoral institutions, currently only four survive, corresponding to the textile, tourism, agriculture and building sectors. INCE has taken over training in the other specialised sectors, although a constant movement towards establishing new sectoral institutions is evident. Such is the case of the recently created INCE METALMINERO, that is currently being implemented for the mining industry.

In Chile the reorganisation of the VT scheme promoted the establishment of a series of private non-profit corporations officially set up as technical intermediary organisms (OTIR), that must ensure membership of at least 100 enterprises having a minimum total number of 5,000 workers in a sector or a region, in order to administer their resources in connection with tax rebates for training. So far, various of these corporations have been set up, and the strongest are linked to powerful enterprise organisations such as ASIVA (Valparaíso Industrialists Association), SOFOFA (Society for Factory Promotion), ASIMET (Association of Metallurgical Industrialists), CODESSER (Corporation for the Social Development of the Rural Sector), the Chilean Building Chamber, and others. These corporations are recognised by SENCE as OTIR and it is probable that a more complex picture of sectoral agencies covering the multiple branches of economic activity will appear progressively. In this way, the Chilean training system has given way to an intensive sectoralisation as well as regionalisation of training activities in that country.

VTIs set up in all the countries during the fifties and sixties, and even the majority of those that arose during the seventies, took on a multisectoral form. Thus, the possibility was opened up for a single agency to concentrate and, therefore, to distribute attention among the various sectors of economic activity, without any provision for compulsory allocation of resources for anyone of them.

Nevertheless, this decision was not free from struggles between the public sector and employers. The latter fought to have their contributions broken down by sector, in order to ensure proportionate retribution in services. In Colombia it became an issue of debate, with the ultimate triumph of the redistributive thesis, whereby the VTI collects all contributions indiscriminately and assigns them according to the needs found in each sector. Moreover, it was agreed to establish a relative proportionality by region (department) rather than by economic sectors. Each regional SENA would have for its budget 80% of the amount collected in the respective department, with 20% being retained by the National Directorate of the VTI for its own functioning and to establish an assistance fund for regions and economic sectors with insufficient budgets.

In the countries in which the figure of a large multisectoral VTI is maintained, the trend has been towards a progressive internal compartmentalisation that makes it possible to adjust more closely to the specific needs of each of the sectors.

This is seen in the formation of specialised divisions within VTIs, for addressing particular sectors: agriculture, industry, commerce, and services - as a minimum - and subdivisions by subsectors to reach more specific levels.

Finally it should be pointed out that the VTIs use, as a general rule, the figure of sectoral specialised centres, having national coverage, to attend to specific branches or items of activity of particular importance and significance to national economic activity, in a concentrated way. These centres focus on supply of technological research and development and other non-training services, as well as courses and programmes aimed at the sector. We shall refer to this aspect in greater detail further on. These sectoral centres are the ones that have started drifting towards what today are called "technological centres".

In various VTIs - even those having a wide sectoral coverage - outbreaks and pressure from subsectors is observed, in an attempt to achieve a more specialised structure of VTIs on the basis of their needs. There are even initiatives towards independence of some of these through the establishment of new VTIs with specific coverage outside the traditional ones.

These pressures have gotten to be strong on the Brazilian scenario, and are latent in various other countries. In Colombia, by virtue of a special arrangement of SENA with the Building Chamber, enterprise contribution to this sector, not only in terms of usual fees, but also of alternative payments for not taking on apprentices, goes to establish a Fund for the Building Industry (FIC) that can only be used for special programmes for these enterprises.

#### **b. The balance among sectors**

The increasing sectoralisation of VT is surely an irreversible trend, both within the VTIs - because of internal fractioning - or because of the establishment of alternative agencies.

The sector having shown the greatest interest and capacity for independence is the building sector. This is due to the fact that the very nature of building activities implies a different organisation of training activities and even makes it advisable to have a different way of collecting funds for this purpose.

In Mexico, Venezuela, Peru and Chile, the building industry has specialised training agencies. In the other countries, this item generally involves a special branch within the activities of VTIs with a wider coverage. But there are many sectors that are showing airs of independence. The VTIs react by defending their mandate and by negotiating special arrangements and differential attention with them. The basic argument is that as long as VTIs can move fairly freely among the various sectors of activity, it is able to follow and anticipate oscillations and ups and downs in the dynamics of a certain sector with greater

flexibility. The scheme of sectoral institutes having their own financing and physical, technical and pedagogical infrastructure, although presenting an advantage of adjusting very closely to the specifications of the sector, has the disadvantage of not being able to reconvert its action easily at times of a decrease in the single activity to which it is devoted.

The point of balance, certainly difficult to find, would be an adequate specialisation within the institutions having a wider scope or through affiliated sectoral institutes or agencies, so that it is possible to reallocate funds and efforts in accordance with the fluctuations of the different sectors in economic activity as a whole. This also implies, strong linkages of the VTIs with the unions and organisations from each sector, in order to keep up proper contacts, an agile follow-up of innovations and demands arising in the sector, and a well-prepared capacity for response to emerging needs. This is the usefulness shown by sectoral linkage Commissions and Committees that have become so strong and pertinent within VTIs in the whole region. However, under certain circumstances, some unions prefer independence from multisectoral VTIs and creating their own training bodies. In the solution of this type of argument lies the probable future of the institutional shape of VT in these countries.

So far, multisectoral VTIs, and more precisely those that cover all the sectors of economic activity, have managed to balance response among themselves. The industrial sector continues to carry the weight, as it is there that the greatest demands are made and where there is less alternative offer outside VTIs. In terms of enrollment, a progressive "terciarisation" of VTIs is to be seen, such as SENA and INA; on the contrary, in Peru, the tertiary sector has been left uncovered until very recently, when the Chamber of Commerce set up a Training Centre for Banks and Insurance at the end of 1988 in the private sector. In fact, SENAC, by its very nature, concentrates exclusively on the tertiary sector, but the law itself sets outside its scope the whole financial, banking and insurance sector, which in Brazil, as in other countries, has significant weight.

INACAP, which competes on the market, continues dedicating itself in a priority way to the secondary sector, both in terms of enrollment and in terms of hours/instructor. This is significant because it has been shown that offer by private training agencies is generally concentrated in the commercial and service sector where a less costly infrastructure is necessary and where programmes are much more homogeneous and therefore more profitable through scale economies.

In the primary sector, although training activity is essentially complex - more because of the multiple factors associated with success in the application



of training than because of the diversity of the technical content - there is a network of agencies that are not specifically for VT, but which incorporate it in their activities aimed at agricultural and livestock activities and rural activities in general, linked with the implementation of agrarian reform and/or colonisation processes, or of others related to economic and social development concentrated in rural areas.

In fact, the frontier between training and technical assistance or agricultural extension is fairly hazy, and to a certain extent this has lessened the possibility of VTIs participating in a field that is highly disputed by various public and private institutions. In this respect, the timid action of VTIs in the rural area during the first decades, but that as from the sixties onwards has become one of intense movement, should be noted. Broad governmental programmes for colonisation, agrarian reform, expansion of the agricultural frontier, indigenous development, and later agroindustry, have changed former concepts of agricultural and livestock training, which thus far had only been a transposition of training patterns in industry towards rural areas.

Agriculture and livestock training is conceived as rural training, understanding the community that lives in rural areas, as an integrated circuit for multiple activities that belong in themselves to different branches of economic activity and not exclusively to agriculture and livestock.

For example, agencies having a clearly rural vocation, such as SENAR, aim towards activities in the training of support services to agriculture and even to those connected to the well-being of rural populations, such as health, irrigation, small trade, rural services, etc. Initial emphasis placed on the training of salaried agricultural workers is turning to the training of autonomous workers and owners of small farms, as well as the inhabitants of small settlements that, in SENAR terminology, constitute rural-urban sectors. The current approach predominating in rural training is towards small production units, to which we shall refer in the following point of this report. However, training for the primary sector is still one of the most difficult areas for the VTIs to operate in.

It is not surprising that the VTIs should channel a comparatively greater effort towards the industrial sector, and that, within it, they should establish a fairly diversified range of subsectors and branches of activity, for which purpose they have a wide range of courses and programmes that, through contents with multiple combinations, tend to satisfy the specificity of the enormous range of occupations and jobs in the complex and diversified industrial sector. On examination of hour/instructor statistics, it may be observed that multisectoral institutions clearly favour the industrial sector to

which they devote an average of over 50% more of the total of hours/instructor. Of course, these courses are generally more complex and last longer.

There is a wide range of training specialisations, that cannot be directly assimilated to a given sector or branch of activity. Furthermore, the intensity given to each branch or occupation depends on different variables, among which mention should be made of the interest of each respective branch and its financial contribution to the institution. The range of courses offered by the institutions is enormous. For example, INA offers around 400 types of well-differentiated courses in the three sectors. SENA has even more. SENAI reports covering over 200 jobs (each one in turn involving a variety of types of courses), highlighting those that refer to universal trades, that is to say, those that are to be found in the job profiles of a great number of branches of activity of training courses. It should be taken into account that updatedness of pedagogical programme modules and the ease of using them to set up ad hoc courses, makes for many more options than those indicated. The number of courses that can be prepared very rapidly for specific purposes is almost infinite, by combining different components of basic curricular design.

The types of jobs that are covered by courses, seminars, job certifying, assistance and advice to enterprises, and other modalities of action, are permanently growing as new needs, new groups of providers of resources, new inter-institutional or enterprise agreements, or new sources of special funding arise. In sum, we see a general opening up of the spectrum covered by VTIs, particularly over the past decade. This has come hand in hand with a modernisation and renovation of curricular content, sometimes involving partialisation and disaggregation.

Various VTIs are introducing programmes in specific branches of activity that they had not originally covered, often related to technological development and appearance of new job profiles. In this respect, the remarkable effort that the VTIs have made over the past few years concerning training for different jobs linked to the computer sciences, should be stressed. In practice, informatics has a transversal application through all the branches of economic activity. Therefore, in spite of specialisations or diverse implications that computer science takes on in each of the institutions, the latter have found here a vein with enormous projection for plurisectoral intersections, and considerable scale economies in institutional action. SENAI, SENAC, CONET, INA, INACAP and SENA are perhaps the institutions that have followed the path of computer sciences most decidedly, and show various stages of development of this field of action.

### **c. Trends**

In accordance with the profile VTIs are shaping up, it is highly probable that sectoral specialisation will increasingly gain ground. Technological development itself is an irreversible force in this sense. Furthermore, the increasingly direct and close relationship with the enterprise sectors, whose common interest is centered on a given branch of activity, will force VTIs to project their response using an increasingly sectoral perspective. The broadness of the sectors varies enormously in each case. For this reason, the intensity, volume or importance of each branch of activity and the pressure exerted by the respective employers and workers organisations of each one will probably be determinant in the degree of specificity with which the VTIs approach it.

Here again two tendencies to a certain extent counterposing, are noticeable. The agencies most linked to the governments are more inclined to maintaining a multisectoral mandate that enables them to mobilise resources in a varying way among the various sectors. This also leaves more space of work with the less privileged sectors and populations, which otherwise find it difficult to be covered within the limited margins of a specific sector or branch of activity. On the contrary, the agencies that are the most linked to enterprise sectors will be propelled by the increasingly specific organisation of the different branches of activity, and above all in the secondary and tertiary sectors. Transference of training responsibilities to the enterprises in itself, to which we had referred in a preceding point in this chapter, will no doubt contribute to a growing sectoralisation of activities, insofar as the enterprises in a given branch will have to associate to seek out scale economies in the operation of training programmes for their workers.

## **6. CATERING FOR SMALL SCALE ENTERPRISES: MANAGERIAL TRAINING, TECHNOLOGY AND ASSOCIATION**

Most of the productive units in Latin America are to be found in a span ranging from middle to micro enterprises. Evidently, the first problem we come across in defining more specifically this wide range of production units is that so far there is no consensus as to the real meaning of middle, small and micro enterprises. In fact, criteria adopted in the various countries are basically geared by a quantitative approach, although it is recognised that this is very limited and that a combination of factors will have to be introduced, both of a qualitative and a quantitative nature, to be able to establish a proper enterprise classification. Without going into a theoretical and operational discussion, there does exist an intuitive and relatively generalised vision of what each of

these categories represents. Regarding VTIs, this lack of precision is a secondary difficulty, because of experience and practice they know the type of client they are catering for when carrying out direct actions aimed at these different categories of enterprises.

Because of their traditional vocation, VTIs have had a tendency to concentrate their attention on medium and large sized enterprises. In fact, their services were largely designed to cater for medium-sized enterprises, as the large ones, generally of multinational nature, often manage the subject of workers training on their own. At all events, the latter also make use -to a no small degree- of resources trained by VTIs. But it is historically the middle and even the small enterprises that have most made use of the initial and complementary training services provided by VTIs.

Since the sixties - but basically during the seventies - concern for specialised attention to medium and small enterprises gained strength at all the VTIs. Of course, the relative importance of these production units in overall economic activity, both in terms of numbers of enterprises and of workers involved, was joined to the fact that the greatest occupational training deficiencies were concentrated in these enterprises, which in turn were not in a position to resolve those difficulties themselves. Elsewhere in this report we have seen the difficulties middle and small sized enterprises have in getting to know their training needs, as well as the fact that they find it impossible to organise the programmes that are needed.

When they need new manpower, they want it to be ready and are not willing to wait while it is being trained. Furthermore, it has been seen that there is a systematic drainage towards the large sized industries, which take on already trained human resources - very often trained through experience - from the smaller enterprises.\* In this way, the latter are permanently affected by a lack of suitably trained manpower.

#### **a. Managerial training and technological transfer**

What is really new for VTIs regarding small and middle-sized enterprises (SME), takes place when the latter become fully aware that the needs they have detected far exceed those of mere technical training of their workers. In fact, their most urgent needs are related to the economic, financial, administrative, productive, technological and human resources management of these produc-

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\* Vidart Novo, G.- La pequeña industria y su papel en la formación de mano de obra para las unidades productivas mayores. *Boletín Cinterfor*, Montevideo, n. 83, jul.-set. 1983, p. 59-75.

tion units. The VTIs are obliged to open up their spectrum of services to respond adequately to this diversified set of deficiencies. Of course, not all of them can be resolved by the VTIs, which have found a broad and fertile space in which to strengthen training processes and contents.

Training in business management thus started appearing in the field of action of the institutions, at the same time as they became increasingly involved with the productive units' global concerns. It was seen that their urgent needs were related to their lack of adequate knowledge and skills that would enable them to manage administrative, production, marketing, credit, and sales matters, etc., involved in this type of organisation. Although large and medium-sized enterprises with a greater degree of functional structuring were solved within the enterprises themselves or with the help of private training agencies and specialised advisory services, small and micro enterprises were practically uncovered as to VT and integral technical assistance.

Little by little, the VTIs took this path, first of all through training contents added in a complementary way to other technical-production courses given to small and middle-sized enterprises; later on the persistent demand for managerial training and its application to a wide range of productive units made these programmes become independent and with a life of their own. Although emphasis was decidedly on managerial training programmes for small enterprises - and more recently for micro enterprises - this line started becoming diversified, and in some VTIs took on the nature of executive development programmes for middle sized, wider scope enterprises.

Practically all the VTIs in the region are paying particular attention to managerial training for middle, small and even micro-enterprises. SENA, SENATI, INACAP, and INA were the ones to start working in this area. Several of them relied on bilateral technical cooperation, given in particular by the government of the Federal Republic of Germany to national and subregional projects specifically aimed at consolidating suitable lines of attention to SMEs.

Of course, managerial training programmes were focused on the owners of small production units, which implied training people whose performance would have to be extremely polyvalent. They would have to act as managers or administrators, as manual workers, salespeople, etc. Therefore, the integratedness of these training programmes is a principle that is strongly defended by all the VTIs that cater for these clients.

In general, managerial training programmes aimed at micro and small enterprises have to contribute to increasing the enterprises' productivity levels, and at the same time to lessening problems arising from the units lack of capital

and deterioration of their network. This leads the programmes, thus structured, to give priority to solving the problems that the organisation of production, financing and marketing of their products presents.

Within its regular programming, INCE provides productivity workshops and seminars that are given to small and middle-sized enterprises throughout the country. They aim at increasing the sector's productivity through a rational use of the resources that are a part of the various productive processes. The courses last a total of 125 hours, distributed as follows: 50 hours in technology and 75 in practice. Each course comprises four modules: basic knowledge to establish a productivity programme, technical-organisation rationalisation, motivation and incentives; and analysis and measurement of productivity. Through the Office of Small Enterprises, INCE provides advisory and technical assistance in technological and marketing aspects, in order to accompany the productive units' consolidation process, following training.

SENATI has had very fruitful experience in the development of non-traditional programmes for small and medium-sized enterprises. Its actions involve various forms of attention, such as orientation, consultancies, advisory services, diagnosis, technical assistance and advice, both in enterprise management and in industrial production, as well as in training of human resources. SENATI has a consolidated Programme for Support to Small and Middle Sized Industrial Enterprises (IDAMPEI), which has been set up with the technical cooperation of the Federal Republic of Germany. At the direct request of the enterprises, SENATI provides technical services in technological information, small parts, machinery and tool design, parts and prototype manufacturing, and quality control (metrology, destructive mechanical testing, metalurgical-chemical analyses, and sand control are examples of the areas covered by quality control). It is thus that this VTI enters the field of non-training services provision, to which we shall refer in greater detail elsewhere in this report. Such services are complementary to the business management courses. The latter are varied: how to establish a small industrial enterprise, business management, managerial development, legal and tax aspects of business management, production planning and control, production administration, quality control management, productivity and performance, financial planning, administration of working capital, cost control, balance sheet analysis and interpretation, and many others. In addition to the regular courses, SENATI is carrying out distance training for small industrial enterprises, through a set of 24 self-training booklets, with individual and group backing by programme specialists. The 24 booklets develop progressively, with seven of them covering administration, another seven covering production, five on marketing, and five on accounting and costs.

One of the most successful managerial training programmes is the one that INACAP (Chile) has been running for many years now. This agency has a specific administrative unit known as the "Department for Executive Development" with the following functions: to propose seminars at executive level, to design and prepare the seminar programmes, propose rapporteurs, promote and administer execution of seminars, and to design and prepare teaching materials. Activities in this area have been carried out since 1979. Between 1979 and 1983 a total of 92 activities were implemented, attended by 322 participants for a total of 2,622 class hours. The average number of participants per activity was almost twenty, and the average length (hours/activity) thirty. In recent years these activities have grown considerably: during 1985/86, 108 activities were carried out, attended by 1,347 participants, and the total number of class hours was 3,597.

Another of INACAP's outstanding programmes, concerning the development of middle and small enterprises, is carried out in the rural area under the heading of the Technological Transfer Programme, financed by the Agricultural and Livestock Development Institute (INDAP), in which the VTI acts as a consultant. One of its main objectives is to promote the establishment of associative enterprises and agricultural, livestock, agro-industrial and handi-craft cooperatives, with the help of various institutions responsible for training, credit, technical assistance components, etc., encouraging the use of raw material produced in the area.

INACAP has covered development of the agricultural and livestock administration capacity of these productive units, as well as the transfer of technologies suited to their production levels. In 1986, the Programme enrolled 2,416 participants, and this figure rose to 4,506 in 1987, representing 17% of the total enrollment in INACAP's training programmes.

INTECAP also has a Small Enterprise Division, which works directly with the enterprises, providing them with short technical courses for small enterprise management on a national level, as well as technical assistance actions, aimed at small enterprises that are either already established or in the process of establishment.

Recently (1988) CONET launched its Centre for Support to Small and Medium Enterprises. The Centre is one of the results of an agreement for reciprocal cooperation between CONET and the General Economic Confederation of the Argentine Republic. One of its first actions was the elaboration of a course on business management that covered four areas of training: direction and administration, legal and social aspects, marketing and technological innovation. The first course was given to small and medium-sized enterprises



and to people with a capacity for managerial decisions in this type of enterprise. Over a hundred participants attended this course.

INA (Costa Rica) launched in 1977, its On-the-Job Training Department, a pilot plan to train owners and administrators of small enterprises, basically in the area of administration and production techniques. Over these ten years (1977/1986) over 5,000 people were trained. At present these courses are given by the small enterprise section of the Department for Technical Assistance to Enterprises. During 1987, around 1,000 participants attended these courses, in the two broad areas into which business management courses are divided. The first is administration (including courses on administration techniques, managerial administration, use of money and profitability, basic accounting, cost principles, marketing elements, financial administration and finances for small enterprises, and management of human resources). The second is linked to the production area (production administration, maintenance organisation, inventory control, organisation and production control, improvement of work methods, plant distribution, and manufacturing costs). The courses last an average of 36 hours, and are given in three night sessions of three hours each.

Another initiative of INA, undertaken with German technical cooperation, which later expanded towards the rest of the VTIs in the Central American Isthmus, concerns the Learning through Action (APA) method. Through this programme an attempt is made to achieve full and active participation of groups from the small and micro enterprises (both urban and rural), as to the diagnosis and solution of their problems. The dynamics of the teaching/learning process in the APA method is based on group resolution of concrete problems presented by the participants. Analysis and solution takes several sessions, based on the work of a "self-help" group with the support of an INA instructor.

Through its advisory programme to enterprises, SENA has for many years now been perfecting a methodology that seeks to involve the whole enterprise organisation, starting with the management. For this purpose, SENA distinguishes the medium and small formal sector enterprises from the micro-enterprises, to which it has been devoting an intensive programme since 1988. In the first case, this VTI stations a professional advisor in the enterprise, for a period varying from four to six weeks, to work with the staff, particularly at the direction and management levels. A diagnosis of the situation is prepared and a plan of action is established with the management, aimed at establishing the basis for an enterprise development process. The same advisor participates in the execution of the plan, working with special intensity in the enterprises' critical areas. SENA emphasises this programme's future-looking approach, as the results should be seen in a medium and long term development plan for the



enterprise, prepared by the management itself; its application and compliance will be subject to follow-up by SENA's advisory programme.

SENA deploys vast activities related to training in the area of management development. Two of the most original are the links with "Enterprise Laboratories" and with Distance Training. The Enterprise Laboratory is a SENA pilot project which has been operating in the Antioquia-Chocó region for nearly three years now. It endeavours to develop skills and transform general behaviour for decision-making, supported by an efficient management of the enterprise's internal and external information. The programme is aimed at managers, executives and enterprise owners having a high level of schooling, and 800 people are trained each year. Among the courses given, mention should be made of the seminar/workshops for managerial awareness of a conception of the enterprise based on information systems, and the training seminar for the purchase of hardware and software. The seminars are integrated in a multidisciplinary way (enterprise owners, systems analysts, quantitative analysts, etc.), and are organised around problem solving.

Within the framework of the Distance Training system, SENA has devoted considerable effort in covering management development courses. Among innovative experiences related to SENA's action with the enterprises, there is a set of actions involving micro-enterprises. Within these activities, up to 1987 a set of over forty booklets were designed in the area of business management, containing subjects in accounting, costs, marketing, staff administration, organisation, credits, finance and production. In addition to this printed material, there are also twenty-seven video-cassette programmes and five radio programmes as a complement to the booklets.

SENAI is an institution that is better known for its attention to larger enterprises, with which it maintains fluid contacts and which, in turn, are those who most often seek out their services. Nevertheless, enterprise classification by size in Brazil establishes that firms having from 100 to 499 workers are medium-sized, and that those having 500 workers or more are large enterprises. Thus, many of SENAI's programmes for small and medium-sized enterprises absorb a broad range of sizes of production units, although the small enterprises, i.e., with up to 99 workers, are gaining ground as a focus for SENAI attention. There is very little information available as to SENAI's actions for small and medium-sized enterprises on a national level. Information exists only regarding the Sao Paulo Regional Department, which put together a support team for small and medium-sized industries within its Division for Assistance to Enterprises and the Community. The attention strategy includes two stages. During the first stage a diagnosis is made with the groups of enterprises in the same area of activity or production. In the second stage,

SENAI provides individualised attention, in line with the specific needs of each establishment. Two major lines of action are available to small and medium-sized industries: human resource training and technological assistance for problems of a structural nature.

This type of programme has been instituted in all SENAI regional departments in Brazil, and is integrated with efforts by the government and private entities to broaden the economic space of the aforesaid enterprises.

Like SENAI, under the aegis of the National Confederation of Industry (CNI), there is also the Department of Assistance to Small and Medium-Sized Industries (DAMPI), which was created in 1972 and is maintained and administered by CNI. It is probable that SENAI has not undertaken more massive action with the small and medium-sized industries because of the existence of DAMPI as a parallel agency within CNI. Thus, DAMPI and SENAI divide the territory and at times work jointly on specific projects related to technology, management, and labour.

SENAI's action is centered on technological assistance to enterprises, carried out on a case by case basis, for the solution of problems presented by enterprise operators. That assistance is fairly specialised and diversified, but it is primarily concentrated in two areas: manufacturing methods and rationalisation of production. Moreover, SENAI distributes technical publications, offers study grants to enterprise operators and sponsors specific technological seminars for enterprises in the same branch of industry. According to the data available for 1982, of the 151 programmes undertaken, 70% were absorbed by small enterprises having up to 99 workers. In terms of branch of industrial activity, the clothing industry has had the greatest attention, involving nearly 70% of all activities undertaken in the same year.\* Small and medium-sized industries seek technological advisory services in the areas of rationalisation of production and manufacturing methods (46% of the hours for 1987). Other services frequently requested include tests, trials, and industrial work performed at the laboratories and workshops of the schools.

SENAC has always stressed work with small and medium-sized enterprises, which are the majority among its clients. In 1982 it initiated a pilot project for comprehensive support to small and medium-sized enterprises, which now includes special emphasis on micro-enterprises. It covers the training of labour as well as development of managerial skills for directors, with a view to fostering the growth and stabilisation of micro business units. Since 1983,

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\* Leite, E.M. and Caillods, F.- *Educação, treinamento e emprego na pequena empresa*. São Paulo, SENAI, 1985.

SENAC has had an Enterprise Development Programme (PRODEMP), which launched a special project called "Starting and managing small businesses", which is even to include installation in Sao Paulo of a video club for enterprise self-information, plus activities for technological dissemination and advisory services for small and micro-enterprises. SENAC also gives high priority to incorporation and use of informatics in enterprise management; along this line it has undertaken major experiences in advisory services and assistance, along with training.

#### **b. The opening to micro-enterprises: stressing association**

The dividing line between small enterprises and microenterprises is as unclear as that between the latter and the informal sector. In reality what we are dealing with is a continuum. Thus, when VTIs attempt to deal with one sector or level, they inevitably must also deal with the immediately lower and upper levels of enterprise structure. In this way, when they began working decisively with small enterprises they got in touch with the large fringe of micro-enterprises - having from one to ten workers - with very variable degrees of organisation, productivity and stability. It is not even possible to determine to what extent this new category of users is similar to small enterprises or more like production units in the informal sector. The progressive derivation of the VTIs toward micro-enterprises, starting from their experience with small enterprises, leads one to think that they approach them as formal production or service units. Nevertheless, once again, strategies are evolving rapidly and VTIs have identified and implemented precise forms of attention that take into account the specificity of microenterprises and their differences with small and medium-sized enterprises. Less clear is their separation from the strategies for intervention conceived for the informal sector, which we will take up in Chapter IV of this report.

Here we should highlight some VTI experiences in opening up to micro-enterprises, particularly given the emphasis they place on development of the productivity and competitiveness of these production units. In fact, the accent is on managerial development and technology transfer, at a scale in line with micro-enterprise possibilities, as in the case of small enterprises.

SENA is the institution that has the most consolidated experience in this area. It participates as technical secretariat for the Colombian government's Micro-enterprise Development Plan, under which it is responsible for all training components geared to micro-enterprises covered by the Plan. The emphasis of SENA's programmes is on technical, management and organisational aspects, and although the level of formality of the production units addressed is not defined precisely, most of the users could be included in the

category of informal sector micro-enterprises. This subject will therefore be taken up again in Chapter IV.

The training programme for the development of small rural enterprises (known in the region as CINTERFOR/PER Project)\*, is another example of the movement beyond the purely technical contents usually involved in training courses for micro-enterprises, this time in the rural context. The training process here is based on the mobilisation of the community organisation to formulate and execute productive projects. The technical training component is complemented by enterprise and organisational training. The role given to instructors and promoters is that of process facilitators and community motivators; the rural population itself progressively takes charge of the management of its own training, as well as of the production projects in which the technical training is inserted. Training forms part of the dynamics of the formulation and execution of the production projects. The role of the VTI is defined not so much in the direct training of the rural population, but in transferring to the local organisations the ability to manage associative production projects and to generate collective self-sufficiency.

This approach represents a significant step forward, involving two new types of target populations for VTI training programmes. On the one hand, there are the community leaders and multipliers, who take on the task of acting as trainers for their peers, once they have been trained by the VTI; on the other hand, there are the technicians and agents of various institutions who, together with the VTIs, participate in the comprehensive projects of which training forms part.

The regional project (PER) promoted by Cinterfor had the advantage of drawing the attention of the institutions to the problem of small enterprises and rural development, in the year 1984. While the methodology tested has not been strictly applied in all the countries, it has given rise to reassessment of the modes being used, underscoring the importance of inter-institutional coordination and participation of the rural population in the detection of its needs and the search for solutions to its problems. It is difficult to evaluate the success of the PER project, since it is not a question of mere statistics. What is clear, however, is that it has had varying and substantial impact on the development of the rural economy where it has been tried.

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\* The PER regional programme was promoted by CINTERFOR as from 1984 in 15 countries of the region, in the framework of a project financial by the European Economic Community (EEC) and supported by the International Centre for Advanced Technical and Vocational Training of the ILO, Turin.

INFOP is one of the institutions that has consolidated the PER in Honduras. It has shown positive results in three zones of the country, benefiting 39 communities. The training process is based on mobilisation of the beneficiaries for their own and community organisation, for the formulation and development of production projects. Within such projects, the training component is being offered based on the needs that the community itself and the participants have detected.

After several years of experience with comprehensive plans for the rural sector, and after PER experiences, INA reformulated them in the Programme for Advisory Services to the Rural Sector (PROASER). With certain adaptations in the PER, PROASER defines its area of action by comprehensive training of the population linked to small and medium size rural enterprises working in the area of agriculture, livestock, forestry, and agro-industry. The Programme is presented as a means for improving the economic and social conditions of the population, inserted in the perspective for overall development, and geared to generating or consolidating associative economic undertakings that promote the integration of small and medium scale producers.

At SENA, the Rural Grassroots Vocational Promotion (PPPR) programmes are the forerunners and, at the same time, the most expressive application of the PER approach, through what is called "training for rural participation" (CAPACA), which involves objectives related to enterprise organisation and associative self-management of small and micro producers. Such programmes frequently undertake action in coordination with social development agencies, so that their actions may contribute to improving the living conditions of the rural population through training for employment, generation of productive activities, increasing income, and solving basic needs (health, housing, education) in the framework of a philosophy of comprehensive rural development. A programme using the same approach is applied to urban zones, under the acronym of CIPACU. Although these programmes are fundamentally oriented towards social promotion, they attempt to do so starting from productive labour. Associative processes of micro-entrepreneurs - both rural and urban - are organised around productivity and profitability of their micro-scale production.

The involvement of community multipliers and of institutional agents is a support to productive projects and is fundamentally linked to comprehensive social development projects, and thus to areas such as self-building of housing and physical infrastructure or production facilities, maintenance and development of such infrastructure, provision of basic health services, and support to educational programmes such as those for literacy training.

Micro-enterprises have also been a focus of attention at SECAP since 1988, by virtue of the agreement SECAP signed with the Executory Unit of the National Micro-Enterprise Programme (UNEPROM), launched as a massive programme by the current government. It is a credit assistance programme for micro-enterprises, through solidary or associative groups, which has required the participation of SECAP as the axis for micro-enterprises training.

INA has joined a similar government programme for support to micro-enterprises in Costa Rica, and INCE is preparing to do the same in a massive plan launched by the Venezuela government for the same purpose.

VTI insertion in this complex field of action is undoubtedly favoured when they are called upon to execute a defined role within comprehensive plans launched from high spheres of government. It is in such cases that VTIs can act with the greatest guarantees of effectiveness, since they work together with a series of specialised institutions that complement their programmes in an articulated way, with a view to the overall development of microenterprises. Thus the individual effort by the VTI diminishes, and its role is more acute and clearly defined, being reinforced by the components contributed by the other agencies participating in the programme.

When VTIs do not have that multi-institutional political and operational framework, their efforts vis-a-vis enterprises can only be kept to modest volumes. Programme costs are high, particularly given the expense involved in identifying and mobilising disperse and scattered users, who are generally unmotivated and reticent when it comes to training. Thus we see the importance VTIs give to the organisation and association of micro-enterprise operators, to constitute an accessible collective. The cost of training per se is, however, reduced once an appropriate intervention strategy has been consolidated. Moreover, a small dose of training, assistance and/or technology transfer can imply significant improvements in micro-enterprise productivity and income.

Until now the VTIs most linked to governments have been the first called upon to participate in government programmes in support of micro-enterprises. It is therefore probable that such VTIs are more likely to have solid support - with the corresponding allocation of resources - for participating in comprehensive plans for development of the sector. This area is testing VTI capacity to contribute effectively to the consolidation and stabilisation of micro-enterprises and, above all, to the generation of new production units.

This area, which is heavily linked to the generation of employment, has received particular attention in VT contexts in recent times. Beyond the experiences we will analyse below in relation to the attention provided by these

VTIs to less-advantaged sectors, there is today the conviction that the processes of productive and administrative decentralisation, as well as the profound reorganisation that has started to take place in the production apparatus in the countries of the region, will be favourable to the micro-entrepreneur. The new composition of the economic system to a certain extent attenuates the old rigid distinction between employee and employer, worker and provider of services. Large enterprises are being broken down into small inter-related units, and the connections between them sometimes generate consortiums for dealing with chain production or high-volume production. This process of miniaturisation of production, while recent and incipient in the countries of the region, has begun to be a true trend. Thus, rather than decreasing, it is likely that small businesses will grow in number, requiring higher and higher technical and management skills in order to function in an integrated and successful way within the production system as a whole.

## **7. NEW ROLES IN TECHNOLOGY AND PRODUCTIVITY DEVELOPMENT**

One of the most outstanding features of the current profile of VTIs in the countries of Latin America is that they go far beyond a role strictly limited to training. As we have seen, the very approach, objectives, and fields of action that have been defined over the evolution of the concept and practice of VT gave rise to a marked change in the types of services offered by VTIs even within the specific sphere of training itself. But what perhaps definitely marks the turning point in the trajectory of these institutions is the qualitative jump they make when they become involved in a new sphere, such as the provision of non-training services, aimed to the development of technology and productivity.

### **a. Implementation of the new strategy**

Certainly there was no abrupt or precisely locatable rupture at a historical time, in the conventional patterns of action previously applied in the field of training. In fact, various VTIs, stimulated by on-going contact with enterprises, and by an increasingly global understanding of the factors necessary for improvement in standards of production, productivity, competitiveness, and profitability of production units, began, at first sporadically and later more systematically, to provide services which initially were conceived as collateral and associated with worker training. For this they used the infrastructure and the technical capacities they had invested in offering training services, insofar as they facilitated precise responses to direct and specific requirements of enterprises with which they were in closer contact.

This line of activities was undertaken by VTIs like SENAI, SENATI, SENA, SENAC, INACAP, and probably by others on whom no specific data is available. In fact, VTIs seem not to recognise in its magnitude the importance of this line of activity, or at least their reports do not systematically provide this information. In this study we found out about most of the experiences through direct exploration at the VTIs we had the occasion to visit for such purposes. Information was also obtained through pamphlets and publications in general geared to promotion at the enterprises, as well as from newspaper articles and diverse bulleting put out by the VTIs themselves or other external media.

Several of VTIs - initially in a rather casuistic way - became involved in jobs relating to production of components and spare parts for the production units so requesting, as well as in leasing machinery and equipment to such units, carrying out laboratory work, resolving technical and management problems faced by enterprises in the production process, etc. In most cases VTIs charge for these "extra" services, either in cash or in kind, or in exchange for materials, tools and equipment.

Provision of non-training services is rather recent: such functions began to become clear at SENAI in the mid 1970s. Until then, various institutions such as SENA and SENATI had been undertaking some experiences in this type of service, making use of free time and space left over from training activities, and in all cases subject to the possibilities and the interest of the operational units involved with the firms requesting such services.

When activities of this sort began, VTIs were taking a big step forward in terms of collaborating, via other channels that were complementary to manpower training, in improving levels of performance and productivity of production units, and in increasing the quality of the products, goods and services provided by them to the market.

Two major reasons came into play in the increasingly systematic structuring of this line of work within VTIs:

- On the one hand, VTIs had progressively been taking on a key role vis-a-vis small and mid-sized enterprises, which had become their majority clientele, as the large enterprises took greater initiatives and direct responsibility for the training of their workers. The segment of economic activity in the hands of small and mid-sized enterprises was not, and is not, merely the majority, but is also the segment that is most vulnerable to the economic crisis which has afflicted the countries of the region since the mid 1960s. On the other hand, it is precisely these enterprises, with a lesser degree of structuring, who are in the most difficult position for investing in broad-reaching training and develop-



ment programmes on their own, and who are in no position to do so from the point of view of their organisational capacity.

At the same time, it is the small and medium-sized companies that have been demonstrating greater dynamism in the process of economic restructuring, and which have constituted the embryos out of which productive recovery in more dynamic and priority sectors has begun to spring. They are, in the final analysis, the ones who have led the take-off of sectors now becoming involved in exports. It is clear that in the process of economic adjustment and productive reorganisation attention must be paid to the imperatives of flexibility, agility and timeliness of production geared to exports to the world market; and it is precisely the small and mid-sized companies with adequate technological performance and solid links to the market, who are in the best position to address the demand formulated by the transformation of production. It is these production units that will make it possible to mark new routes for reorganisation on the basis of small units articulated in highly flexible production circuits, chains and complexes.

In their daily contacts with such enterprises, VTIs recognised that their biggest problems went beyond simple availability of technically qualified labour, and that there were no agencies or services structured to meet the multiple needs of these production units. Thus we see the development of an "assistance" process, which over the course of time would diversify into various lines of provision of services. Assistance to enterprises, particularly small and mid-sized concerns, would take on a comprehensive, and therefore multi-dimensional, nature, thus becoming the embryo of non-traditional service activities, which little by little increased until covering quite a broad gamut, as they currently do.

- In the second place, the same economic crisis affected the VTIs themselves, who were faced with budget cuts and, consequently, were forced to explore new sources of financing, at the risk of having to cut back on the levels of activity they had already reached, or on staff and general expenditures. The provision of services, while relatively insignificant in quantitative terms at first, constituted an alternative for covering certain expenses and for productively using the available physical, technical and human capacities, which at times were under-utilised due to a saturation in the supply through traditional VTI courses.

Later, and to the extent that VTIs consolidated their position in the provision of services, a third reason came into play, which currently prevails over the search for alternative resources mentioned above: legitimacy and solvency vis-a-vis enterprises. The ability shown by VTIs in comprehensively addressing the problems of management and production of productive units

and in effectively contributing to surmounting the bottlenecks faced by them in a broad range of technical and technological areas, opened the doors for VTIs to renew their credentials in the eyes of the business sectors.

As a direct internal effect, VTIs were enhanced by a new area for updating and technological tuning in with the productive sphere, which again put them on the difficult course of keeping pace with the prevailing technological evolution. It should be noted that this new role is taken on by VTIs, in all cases, in close relationship with and as a complementary function of what they consider their chief goal: training. There are significant interrelationships between the two functions, which VTI executives put forth as a justification for having become involved in this new line of work. In this regard, several of the persons we interviewed cited factors such as this strategy being a way to foster the updating of VTI technical personnel, in that it provides for closer contact with the production sector, and its problems and difficulties. At the same time, it constitutes an efficient and natural way to absorb new technologies, and permits familiarisation with the reorganisation of production processes within enterprises.

In this way, the provision of services tends to encourage an improvement in the quality of teaching and in greater adaptation of training programmes to the real characteristics of the labour market.

Such an ideal integration of the two functions does not always work as fluidly as necessary in practice, since the conditions under which provision of services must take place often requires implementation of specific structures within training centres, creation of exclusive bodies for this type of service (such as laboratories, for example), and, in extreme cases, parallel administrations within a single unit for providing training on the one hand and provision of services on the other. In some situations, service activities are located in physical areas devoted exclusively to such purposes.

Nevertheless, this concern persists, and VTIs are seeking different ways to achieve an organic and constant link between the two functions, while in all cases considering that the provision of non-training services should be undertaken with a view to their having a direct effect on the updating and improvement of training programmes, and that their expansion should in no way compromise the goals of training, which, they affirm, constitute their *raison d'être*. In any case, opinions vary, even within the VTIs themselves, and there is no official institutional stand on the practical relationships between the two functions.

In the countries where this subject was studied, it was clear that practically all VTIs are already carrying out (or plan to do so shortly) activities that fall into the category of non-training services. An overall view of the range of services provided by institutions allows us to classify them into three types:

- **Enterprise consultancy services:** Such services include diagnosis and recommendations in all fields of enterprise management, covering aspects such as functional organisation of the enterprises, finance, marketing, administration, personnel training, costs, etc.

- **Technical assistance:** This includes collaboration and consultancies to enterprises in areas linked more directly to the production process, such as techniques for improving productivity, cost reduction, production improvement, lay-out of equipment and machinery, changes in the production process, development of new products, changes in existing products, and even the production of models and prototypes.

- **Technical work for production-support areas:** This category includes services such as quality control, product design, parts and tools, and expert jobs, through the use of equipment, instruments, machinery and laboratory facilities pertaining to the VTIs themselves.

- **Productive work:** This includes the preparation and production of parts and specialised work on machines, through the assignment or lease of equipment and machinery to enterprises.

- **Applied research:** This involves the study of methods and products that can be incorporated into the production process of the enterprises and which result in an improvement in the productivity of the respective production units.

- **Dissemination of technology:** This includes the transfer, to the respective production sectors, of information on innovations, techniques, new technologies, raw materials, tools, instruments and machinery, and new products and processes providing for technological updating of production units.

These diverse categories are addressed with different frequency and intensity by the VTIs. Some only undertake one, two, or three of them, being the most common ones consultancy services and technical assistance closely linked to training. At the other extreme, the least-offered service is applied research being the most distant from traditional functions of VTIs. On the other hand, in almost all the countries, specialised research and technological experimentation centres outside the VTIs have assumed this function.

Several VTIs have become involved in varied joint projects with such research centres and with universities and technological institutes, whose contents cover a wide range of objectives: universities and centres actively participate in VTI programmes for expansion/modernisation/introduction of innovations and operational and technical changes; VTIs, in turn, allow their laboratories and workshops to be used for practical work and exercises by students, teachers and researchers.

Just as telling is the enthusiasm of some VTIs to encourage the technological creativity. Thus, the case in Peru, where SENATI, along with the country's chief authority in science and technology (the National Council on Science and Technology) and the Industrial Bank of Peru, called on the manufacturing industry for a competition in the area of applied technology. Along this same line we should cite the National Creativity Competition for Teachers (CONCRID) launched by SENAI in 1984 and held annually since then. This competition, geared to stimulating the integration of training and technology, through teaching personnel, has given rise to new and significant technological inventions at SENAI itself.

#### **b. Research, development and dissemination of technologies**

Given the projections it has begun to take on, as well as the prospects being opened up in this area by the new routes being undertaken by some VTIs, fuller mention should be made here of the subject of research, development and dissemination of technology.

This is a still incipient field of action for VTIs. In any event, it must be recognised that work in this area is being given a prominent place in the new policies adopted by SENAI, SENA and INA, among others. Many of these initiatives are led by the VTIs themselves; in other cases, the VTIs sign agreements with scientific and technological research institutions, as well as with universities, for carrying them out. Here we should point out two important facts: in the first place, in recent times, scientific and technological research to adjust performance has come to constitute one of the priority needs of VTIs; in the second place, VTIs are seen as solvent partners, recognised by research and higher education institutions for the implementation of joint ventures.

VTI research and development activities are an integral part of broader packages of services to companies. We cite below some examples of these undertakings, with a view to illustrating these observations, rather than exhausting the list of different endeavours.

The broad spectrum of SENA activities for the provision of services includes advisory services and technical assistance to enterprises, work in production support areas and production work itself, development of applied research and dissemination of technical and technological information. The latter function has taken on considerable proportions at SENA, which has gone so far as to implement a line for technological dissemination at the level of a new training mode.

Based on the infrastructure existing at its sectoral training centres, SENA has begun to establish "technological service centres" in certain key areas of industrial development in Colombia. The purpose is to foster the modernisation of production processes in the respective economic sectors. These technological services, offered primarily to small and mid-sized companies, concentrate on information and technical assistance, personnel training, and research. The first efforts in this direction began in 1987, and to date they have been implemented in the dressmaking, food, construction and graphic arts sectors. SENA is currently strengthening the provision of services in the plastics sector; to do so, with the cooperation of the Federal Republic of Germany, it is developing a Latin American Plastics Centre in Cali. The origin of this Centre was the growing demand for assistance coming from enterprises involved in plastic products manufacturing, given the lack of technology, technical specialists and engineers specialising in plastic materials transformation processes.

The Centre for Technological Development/Technical Assistance to Industry (known as CDT/ASTIN) has been operating in Cali since 1974, with the purpose of supporting and developing actions implying the use of technologies based on design and manufacturing engineering, as well as business management in general. This programme, carried out jointly with the Colombian Metallurgical Federation (FEDEMETAL), acts in three areas: applied research and design, production, and technological information. In 1988 several projects worth mentioning were undertaken in agreement with Colombian universities, to wit: design and construction of a die for the study and analysis of wear in tools used for stamping, and recovery of same through use of special solders; design and construction of a bench dresser for machining inserts used in manufacturing molds and dies; design and construction of a device for measuring the cutting strength in drilling processes; design and construction of a die for analysis and study of fine-cut precision stamping technology.

SENA's Centro Colombo-Italiano, for the technification of the metalworking industry with the CAD/CAM system, promotes applied technological research: design and calculation of metalworking products; design, calculation

and construction of devices for production; analysis and design of metalworking processes; manufacture, assembly and testing of prototypes with machine tools, etc. Other programmes at this VTI that give special attention to scientific and technological research are the National Textile Programme (in Medellin), the Centre for Vocational Training and Technological Services for the Footwear Industry (Cúcuta), the Colombo-Canadian Wood Centre (Medellin), the Latin American Minor Species Center (Tuluá), the Metalworking Centre (Barranquilla), and the Agriculture and Livestock Centre (Buga).

SENAI has for some time now recognised that all efforts toward development of work force training to satisfy technological demands also require the development of a system emphasising technological research, technological assistance, provision of specific services, and development of own technology. To address this need, SENAI formulated a strategy based on three lines of action: first, it promoted a programme for modernisation of operating units, particularly those linked to fields involving greater technological progress, by means of the incorporation of technologically advanced machinery, equipment and instructional strategies; second, it broadened the technological base of the institution's technical schools, through the strengthening of research and development activities; and third, it created a set of technological centres which constitute specific units considered as spearheads for the development, absorption, adaptation and dissemination of technologies. At present, the creation of advanced sectoral nuclei constitutes one of SENAI's basic strategies; it has materialised in two ways: through the modernisation of existing units or through the creation of new special units with a solid technological structure. We will refer to this issue in the following point of this section.

Suffice it for now to mention that in the area of technological research the Precision Mechanics Centre (SENAI, Rio Grande do Sul Regional Department), under an agreement with the state university, has developed projects and prototypes for the metalworking and electrotechnical sectors, as well as in informatics. The Metalworking Technology Centre of the Rio de Janeiro Regional Department carries out projects for the production of parts, elaborates prototypes, and even undertakes series jobs. Similar examples of technological experimentation and research, laboratory services (quality control, standardisation, testing, measuring, etc.), technological dissemination, industrial design, advanced technical assistance, etc., have been undertaken at other SENAI centres (soldering in Rio de Janeiro, foundry in Minas Gerais, chemical and textile production in Rio de Janeiro, furniture in Rio Grande do Sul, leather, footwear and tanning in Rio Grande do Sul, construction technology in Brasilia, food and ground transportation in Rio de Janeiro, ceramics, graphic arts and precision mechanics in Sao Paulo, cellulose and paper in Santa Catarina, etc.).

One of the many examples that can be mentioned in terms of SENAI/University cooperation refers to the participation of SENAI's Taguatinga Vocational Training Centre (Brasilia, Federal District) in a project for studying glider technology applied to small vehicles (jointly with the School of Engineering of the University of Brasilia).

INA, on its part, is undertaking applied research and technical and technological dissemination actions within the broader framework of comprehensive services for enterprises, for example, in the area of technical assistance and advisory services.

In 1985 INA began executing an appropriate technology programme. Its purpose is to systematically disseminate, at national level, simple technologies that make it possible to increase the productivity of small and mid-sized producers. Such technologies refer to "solutions" characterised by use of local resources and which are understandable to and controllable by users.

The programme is supported on three lines of action: research and development of appropriate technology, technology transfer, and dissemination of technology. To comply with this programme, particularly as it relates to technological development, INA has signed agreements with the Ministry of Science and Technology, the National Scientific and Technological Research Council, the Technological Institute of Costa Rica, and Costa Rican universities and research centres.

Some of the endeavours undertaken in the 1985-86 period refer to the design and construction of prototypes, experimentation, evaluation and adjustment of prototypes for: a biodigester, a bale press (storage of fodder), a fodder thrasher, a bean thrasher, a corn and bean sewer, a fertilising spade, a hydraulic ram, a dual-effect windmill, solar dryers and heaters, and bamboo-cement floor construction technology. Programme interests have included the areas of building technology, solar energy, minihydraulics, small farm and industrial machinery, biodigesters and biomass energy, agricultural production and crop technologies, and wood production technology.

Finally, INA's experiences also include a solar energy project executed with the Scientific and Technological Research Council of Costa Rica and the Saint Louis Solar Energy Association of Colorado (United States), as well as a project for technical transfer in connection with the bamboo building system, sponsored by the University of Costa Rica.

### **c. The rise of technological centres**

VTI strategies for implementation of non-training service activities are highly varied. Nevertheless, a common denominator can be seen in the tendency towards organising such activities around certain areas or specific fields of productive activity, generally on the basis of specialised centres that have had the possibility of access to advanced equipment and laboratories, and of attaining technical excellence and sufficient autonomy in terms of financing and operations.

The trend among VTIs as regards the organisational form chosen as most appropriate for addressing the needs for training and overall assistance to enterprises in specific economic sectors is towards technological or specialised centres. For some years now, and partially in response to economic adjustment and production reorganisation policies, some VTIs in the region have been transforming their training centres into sites for development and radiation of technologies for the most dynamic or priority sectors of the economy.

What characterises these new operating units is that in addition to providing training programmes for young people and adults (apprenticeship, skill training, upgrading, etc.), they have begun to direct their attention toward middle level technical education, post-secondary, university and even post-graduate course. Along with this training dimension, these centres are the axes for launching a series of additional activities linked to development of productivity in enterprises; they are the site of ambitious programmes for comprehensive technical assistance, development of applied technology research, dissemination of technological information, etc. These centres, nuclei, and units have a great deal of managerial, administrative and financial autonomy, which allows them to act in an agile, flexible and dynamic way, and which enables them to address the demands posed over a broad spectrum of needs. Thus their organisational processes are often different from those habitually in place at multiple VTI centres.

As indicated at the outset of this chapter, the trend toward change in the focus of attention of VTIs is seen very clearly in the case of technological centres. In no way are we saying that the enterprise has replaced the worker as a target of their action; but there is in fact a new emphasis in VTI approaches. Workers continue to be the ones whose training needs are addressed directly, but that training takes place within the framework of broader programmes for dealing with the needs of enterprises, particularly small and medium-sized enterprises, who not only demand training for their workers, but also require assistance that will allow them to take off within the context of new economic policies involving a reordering of production and an opening up of markets.



Generally speaking, SENAI's technological centres and SENA's specialised centres for technological development cover training of workers and middle-level technicians, as well as technological updating and upgrading courses for professionals (be they university graduates or not) working in the sector. Their training functions also reach directing and managerial levels at small and mid-sized companies, in matters of finance, production, marketing, development of new products, prices, etc. As far as non-training services are concerned, most of these centres have the personnel, equipment, resources and professional solvency to provide assistance in the areas of standardisation, material testing (physical and chemical tests), applied research, project advisory services, development of new products, process engineering. In short, they offer a broad range of technological extension services.

The centres that have advanced most in this area have defined some major areas that are interconnected and mutually reinforce one another: applied scientific-technological research, standardisation and testing, technical assistance, marketing, and technological dissemination.

The technological centres generally have well-equipped laboratories, are involved in scientific and technological exchanges with similar centres in the same country and internationally, provide assistance to enterprises and government agencies, and are in a position to develop projects in collaboration with other agencies. Their laboratories experiment with and analyse all types of materials for the sector they address, develop programmes for preparation and review of technical standards, undertake applied research for launching new products, along with studies in labs and pilot plants with a view to finding appropriate solutions for industrial production problems.

Assistance to enterprises does not end with research and laboratory work. On the contrary, the technological centres also address questions related to rationalisation of production, manufacturing methods, preparation of work, productivity, quality, costs, diagnoses, etc.

An underlying fact in practically all the VTIs has been the decisive role played by international technical cooperation, through the provision of advanced technology equipment, training of personnel to fulfil duties in the new services, the presence of external consultants or specialists, bringing to the receiver countries the necessary know-how to enable this staff to carry out high level quality work such as is demanded by the productive sectors. In this respect, cooperation, and essentially bilateral cooperation, is clearly associated at present with a transfer of production technology, as opposed to the initial stages in which it was mainly turned to training technology.

Other examples make it possible to understand the dimension of the degree to which these new services have grown, associated with technical cooperation from various industrialised countries, which show a certain vocation for specialisation in specific areas of activity. Thus it is possible to observe a simultaneous effect on various countries of the region in the same area, associated to cooperation from the same source.

Regarding Brazil, SENAI has taken a lead in the region with the establishment of various technological centres, concentrating activities for service provision. Ten such centres have already been set up (although so far, only four have been given this title), covering the areas of tanning, leather and shoes, furniture, precision mechanics, foundry, textile/chemistry, metal mechanics, electricity/electronics, and recently transport and food. The strategy of establishing technological centres and the progressive transformation of specialised centres to fulfil new roles in the development of technology and productivity, has reached the level of an institutional policy to face the technological challenge. Equipment and technical capacity achieved by these centres is, to a great extent, supported by international technical cooperation from the most varied sources: Canada (furniture and wood), Federal Republic of Germany (precision mechanics and soldering), Japan (electronics and electricity), and combinations of French, Israeli, Swiss and German Democratic Republic cooperation with that of international agencies such as ILO, IBRD, UNIDO and North American and European universities for equipment and operation of various units and programmes where provision of services was later established.

We find a similar situation at SENATI. The Institute for Support to Medium-sized and Small Industrial Enterprises (IDAMPEI) was created with the cooperation of the Federal Republic of Germany. The main purpose of this programme is to support the development of small and mid-sized companies. In general terms, it offers not only training and advisory services in the fields of business management and industrial production, but also provides special services for design and technical drafting, development of prototypes, parts manufacturing, quality control, etc. Its technological services for industrial enterprises are geared to workshop services, industrial design and quality control. In the field of applied research, IDAMPEI has carried out a project for development of a tricycle taxi for three passengers, geared to the needs of a particular area of the country, and has developed a pedal-action thrasher for grain. Its leather and fur laboratory offers industry advisory services for performing physical-mechanical testing on hides.

The Leonardo Da Vinci Peruvian-Italian Vocational Training Institute has been in operation for only a few years. It was conceived for the field of machine tools with numeric control, and part of its action is geared to providing

support to enterprises adopting that technology. The originality of the institute lies, however, in having carried out over eighty jobs for Peruvian companies who paid out significant sums in the way of salaries, materials, tools, depreciation on machinery, and a certain margin of profit.

As mentioned above, various SENA centres specialising in key areas for Colombian industrial development have evolved toward "technological services centres" that promote modernisation of production processes in their respective sectors. The technological services offered primarily to small and mid-sized companies are: technical assistance and information, personnel training, and research, with the latter being understood as adjustment and adaptation of technologies. SENA has a series of these specialised national centres, most of which were developed with international technical cooperation. Examples of these specialised units are, among others, the Centre for Technological Development and Technical Assistance to Industry (ASTIN), created with the cooperation of the Federal Republic of Germany, which also supported the metalworking centre in Barranquilla. The furniture and wood centre in Medellín received technical and pedagogical cooperation from Canada, and the textile centre from the United Kingdom. The recently created industrial informatics centre was set up under a cooperation agreement with Italy. Other SENA specialised centres include the ones for graphic arts, textiles, dress-making, food industry, leather and footwear, construction and civil works, plastics and cork, hotels and tourism, nautical-fishing, and middle management. These have been set up with cooperation from the ILO, Holland, France, England, and others.

CONET (Argentina) has plans to set up very shortly four Specialised Sectoral Nuclei (NES). The first one, in the area of electronics, robotics and computation will be set up with Italian cooperation, providing equipment and technical assistance within a massive cooperation project known as the "Technological Club", involving various agencies, including CONET. The NES for the hotel and gastronomic area is being negotiated with the Kingdom of Spain. The graphic arts NES will also be set up with Italian cooperation and the optics NES is set in the framework of an exchange agreement with the German Democratic Republic.

And our list could go on. In fact, international cooperation has been decisive in helping these units to reach a level of equipment and operation that allows them to take on effective and recognised leadership in their respective countries in their specialisations. From then on, the natural consequence was to make the most of infrastructure and technical capacity of these centres to go beyond training, and to provide services that can be offered to the enterprises with a seal guaranteeing appropriate standards of quality; advanced and pure tech-

nology; precision and punctuality. Once this ground proved fertile, negotiations for technical assistance increasingly included objectives of service provision.

#### **d. Constants and projections**

Part of the strategy used by the various institutions that provide services is charging for the work done. Unlike training services, most assistance services are paid for by the enterprises. The costs are estimated differently, according to the case and the country: many VTIs charge only the cost of the man/hours, materials and equipment used; on other occasions, the centres calculate their costs according to current market values, with a view not only to establishing fair competition with providers of such services, but also of exploring the possibility of creating self-financed units. According to the circumstances, payment for services may be in money, or in raw materials, use of equipment, loans of professional staff, etc.

Generally speaking, all activities undertaken by technological centre personnel is geared to and used for training: the same technical and teaching personnel acts in the area of provision of services to enterprises, although it should be pointed out that some centres have established clear separations between one kind of activity and the other. Those who insist on the unity of training and assistance maintain the priority of workforce training at the centres. Those who prefer separation of the two operations do so for administrative reasons, the high cost of the equipment - both in production and in laboratory areas - and of the raw materials used, the scarcity of specialised professionals with the proper scientific, technological and professional training, etc.

Although the methods and amounts of payment vary from one VTI to another, and according to the services rendered, in general VTIs try to recover at least the direct costs they incur in. Given the nature of VTI financing, mainly with contributions by enterprises, the sale of services could be considered by the user enterprises as a surtax on their contributions. However, the VTIs justify this - and enterprises endorse such justification - because it constitutes a complementary line to training in a strict sense, and would not be included in the benefits guaranteed by the compulsory contribution, aimed at the maintenance of the conventional VTI services.

Recognition by enterprises of the right VTIs have to demand payment for these services, even at market prices, is an indication that the services are of value. Some VTIs, particularly when dealing with small enterprises, provide services free of charge or only demand payment for materials and for use of machines and instruments. Others demand the real cost of the services, but in general on a non-profit making basis and therefore at lower prices than those

of the market, at least until they gain prestige with the enterprises and are able to maintain a level of service contracts that does not exceed the volume they consider advisable to balance these functions with training.

During 1988 the Regional Department of Sao Paulo launched at some of its technical schools a Sector for Technological Support to Industries (under the acronym of SAT), directly based on an agreement with enterprises from the respective sectors, which also includes the forms and calculation of costs to be paid for such services by the enterprises. SATs will operate as poles for absorption, establishment, and transfer of new technologies, geared prioritarily to industry, but, insofar as possible, also to government agencies and teaching and research institutions. SATs' activities are geared to four basic aspects: product development, production process development, quality control, and dissemination of technological information. In January 1989 the first SATs were already functioning in SENAI schools for precision mechanics, graphic arts, and metallurgy. This system is to be installed in the Textiles and Plastics School in 1990.

This is one of the few attempts known so far to systematically establish a policy of charging for services. In fact, most VTIs do not have a special item to attract resources through this channel, probably because the scope of their services does not yet justify it.

Although information on this subject is not available for all the VTIs of the region, experience gained so far shows some traits that make it possible to venture various hypotheses concerning the implementation of a line of action for provision of services such as those described:

- The initiative of undertaking these functions would seem to be basically associated with intensive work on the part of the VTIs in the industrial sector. Institutions that are specifically aimed at industry, and even the multisectoral ones that give priority to the industrial sector, are those most inclined to establish this type of function, that in general arises and develops in relation to the various branches of industry and find there their widest area of expansion (SENAI, SENATI, SENA). Later on this type of service has been broadened to include agricultural and livestock activities, and even marketing and services, essentially in strategies for advisory services, technical assistance and technological dissemination (SENA, SENAC, INACAP, INA). In the case of applied research, wide-range programmes have started to appear in some agricultural and livestock activities, especially in VTIs such as SENA and INA.

- The VTIs that have most involvement of the employer sector in their management are those that become involved in a more massive and explicit way

in these non-conventional functions. As these functions are defined as services to enterprises, they find legitimacy and support in the enterprises, to the extent that they are willing to pay for these services, independently from their compulsory contribution to the respective VTI. On the other hand, when the government has taken over greater control of VTIs and when these are considered by the enterprises to be more associated to the State apparatus, they have greater difficulty in opening up a wide scope of non-conventional services, and above all in obtaining payment for these services. Most of the VTIs of this type emphasise provision of services to small enterprises in programmes that incorporate social policy elements, more directly related with training services.

- The VTIs having greatest prestige, weight and legitimacy in the productive sectors are those that are in the best position to implement lines of this type successfully. Moreover, they should have overcome a series of stages that not only implied having an installed capacity for the provision of services, but to justify their competence in this field, by a recognised image of technological "authority".

- Solid and modern infrastructure is required, essentially by enterprises hiring production tasks and technical support, but also in research and development of technologies, even though it may be unnecessary to become involved in frontier technologies. Moreover, services that are specially aimed at small and medium-sized enterprises pride themselves on adapting to appropriate and accessible levels of technology for the user units. As a matter of fact, the major enterprises are capable of carrying out on their own the services that medium and small enterprises have to hire externally, and therefore it is the latter that makes up the sector of the market towards which the VTIs mainly gear their services. Thus, more than great technological sophistication, what is required is solvency in the knowledge and management of technologies and criteria to be able to advise on the most appropriate technologies in each case. This indicates that at least, technological dissemination lines require only a light infrastructure and depend instead on technical capacity and agility, and high-level staff, which even a young VTI can develop very efficiently.

- A high degree of financial and operational autonomy favours the provision of this type of non-conventional service, not only on the global level of VTIs, but also in the very operational units that develop them. It is a fact that these services arise and flourish more easily in fairly autonomous operational units, which although having a national coverage are detached from central authority and operate as relatively independent agencies. Although these units' range of financial autonomy varies, it may be noted that in general they have a certain degree of discretion in the use of resources derived from the sale of services, and

that these resources are generally applied to the same operational unit instead of being channelled towards the institution's central account. This is also an encouragement for units that are either interested in seeking or forced to seek new or larger sources of funding.

- The step towards service provision is made possible through the influx of extra-budgetary resources that may be used for installation, equipment and operation of these units without detriment to their training functions, which will in no way be reduced, but on the contrary, strengthened by this new institutional role. Both for the investment required and for material operational expenditures and inputs, the VTIs reach agreements with employer trade associations, basically with sectoral and often local associations, that directly lend them equipment, raw material, tools and even laboratories or that support and promote donations by commercial firms that are interested in placing their goods on the market. In this respect, particular mention should be made of what has previously been pointed out concerning the unquestionable importance of bilateral and multilateral technical cooperation as a source of financial, physical, technical and human resources to give VTI operational units the necessary capacity to provide services.

- Administrative flexibility and particularly agile staff management is considered to be one of the factors for the successful provision of services by VTIs. They have deployed a great effort in training and retraining their staff, in order to take up this new commitment, demanding highly qualified technicians. They have sometimes been obliged to seek out strategies to escape from institutional constraints and to be able to hire specialised personnel responding to the new profiles, and even pay salaries outside the normal scales to respond to the demands set by the enterprise market for these services. These exceptions to traditional hiring and staff remuneration policies cause no few problems. According to indications, this is a provisional strategy while the new functions become consolidated within the agency and until it has staff duly trained for this purpose among its ranks.

To end this overview of the new roles of VTIs concerning provision of non-conventional support services to the development of technology and productivity, we should point out what appears as a future projection by the VTIs themselves. All seems to indicate that this new line of action is here to stay. A first indication is that although most of the VTIs stated that they had launched it to face budgetary constraints, once they had got over the worst part of the crisis, they not only kept it up, but broadened it.

Furthermore, the examination of the plans of various agencies indicates that in the future they intend to widen the network of units engaged in service



provision. They consider important allocations of resources from their budgets mainly from international technical cooperation, for units that are engaged not only in training but also in activities for the development of technology and productivity such as the ones described in this study.

In some cases these new actions are so institutionalised within the VTIs, through special agencies or programmes for their planning and implementation that it is unlikely that they will be either disactivated or that they will disappear.

What makes this line of action practically irreversible within VTIs is the welcome, acceptance and support found in the enterprise sector. We thus face a new assertion of legitimacy, that transcends even as far as spheres of high level decisions and control of science and technology. A case worth noting is that of SENAI's quality control laboratories, which have credentials from the National Metrology Institute (INMETRO), to provide technical awards to enterprises, certifying the quality of their products.

Ultimately, what supports the permanence and probable expansion of this line of action is the fact that VTIs increasingly centre their action on the enterprises' concrete and flagrant needs. If these needs go beyond those of training, the VTIs will try to cover them as far as they are able, as a complement to training. There seems to be a general conviction that, under the present circumstances, training on its own will not solve the problem of the labour factor in productive units, which is increasingly interrelated to technological, and production management and organisation problems. Furthermore, by becoming involved in these three fields in a simultaneous and interrelated way, a highly positive reciprocal influence is exerted on the improvement of the quality of each of these services offered by VTIs, with a comparatively more positive result in the overall productive apparatus.

It should also be remembered that, under present circumstances, VTIs wish to emphasise that their "clients" comprise a continuum of productive units, ranging from the largest and/or technologically more advanced to the smallest and most rudimentary. This whole range is the VTIs' present target. Therefore, accompanying this technological heterogeneity and inserting training into a wider solution is more effective and realistic, above all for small production units that are those that most require support from specialised institutions. This implies underscoring not only the dynamism and interconnections operating between the different types of support required by the enterprises, but also the diversity of organisational units that comprise the productive apparatus.



## IV

### VTIs AS INSTRUMENTS OF SOCIAL POLICY

There is a generalised consensus in contexts interested at VT and in the subjects of education and development in general, as to the interest of the VTI experiences with disadvantaged sectors. There is no doubt that these experiences have contributed great support in terms of apprenticeships and methodological developments, which are not only applicable to the specific field of disadvantaged groups, but have also catalysed and enriched the processes of innovation in "classical" VT.

This experience with disadvantaged populations is, however, relatively new, and its development has been marked by the uncertainty and conflicts typical of changes affecting areas that are highly sensitive, both internally and externally, at institutions. This has in some cases hindered the continuity that would have been necessary for the validation and perfecting of methods and strategies.

Moreover, the institutional systems for planning-evaluation and technical-pedagogical design were not prepared for the challenges of this experience, and in many cases the developments took place outside the systems, or were experiences that did not have sufficient continuity to achieve institutionalisation. As a result, much of the information on such experiences has not been recorded in the institutional information systems, or inclusion has only been possible by forcing the original categories of the systems, designed to respond to different phenomena. While some VTIs have begun to adopt their information systems in order to incorporate new modes of action and new VT target groups, the process is still too recent and limited.

We also find that some very important characteristics of the institutional culture at VTIs, such as pragmatism, a propensity to action, and a service mystique - which undoubtedly can be highly positive - on some occasions are expressed in less desirable attitudes, such as improvisation, voluntarism, and a certain neglect in drawing up theoretical and methodological frameworks for the innovations arising out of practice. Among other problems, this implies a certain carelessness in the definition of objectives, strategies, goals, target populations, etc., and an almost absolute lack of systematic designs for follow-up and evaluation.

All of this poses difficulties for observers of the phenomenon, who must base themselves almost exclusively on partial, heterogeneous information, essentially of the descriptive-qualitative type. An exhaustive effort for recovery and analysis of VTI experience in this field would imply the tasks of gathering, processing and analysing information, as well as establishing a theoretical framework, all of which were beyond the scope of this study. A valiative approach, moreover, would require experimental techniques and/or very elaborate case studies.

This chapter has two objectives: first, to propose some minimal theoretical and methodological criteria to approach the subject and permit a comprehensive and contextualised analysis, making it possible to place the process of the opening up of VTIs to disadvantaged groups or sectors in a broader framework of the process of institutional adjustment and adaptation to the changing demands of the economic and political-social environment; in the second place, to recover some of the most significant elements, from the strategic and methodological point of view, in the experiences that have been recorded, with a view to outlining a possible VT model for disadvantaged groups or sectors.

## **1. VTIs VIS-A-VIS DISADVANTAGED SECTORS**

The question of "disadvantaged social sectors" is an issue included in the general framework of thoughts on the policies and social effects of development. Thus, before embarking on VTI experience in dealing with disadvantaged sectors or groups, we should briefly comment on the general role that such institutions have played as an instrument of social policy in the development of Latin America.

In a broad sense, we will take the concept of social policy as the framework of overall strategies and decisions geared to guiding the effects of development so that its results are translated into the achievement of criteria of equity and social justice, as well as into actual improvements in the quality of life of the population, independent of the quantity of goods that are mobilised or increased in the process.

Social policy becomes instrumental when it acts as a tool of the operational, administrative and financial programming and evaluation systems geared to achieving social objectives in the overall planning of development. Its efficacy is expressed as its capacity to contribute to a reduction of social inequalities via the redistribution of resources and opportunities. That is to say, its ability to

transfer social resources to the most disadvantaged populations, and to strengthen their potential for participation, especially in the processes of production and distribution of wealth.

If the key to a social policy is its redistributive nature, it is clear that the mere existence and the form of financing of the vast majority of VTIs in Latin America, based on taxation of more developed business sectors and addressing most of their services to generally low-income sectors of the population, constitute - at least in principle - a significant mechanism for redistribution of income via taxes.

Naturally, a more precise appraisal of the impact of that redistribution, and its conditions, scope, mechanisms, and specific benefits, requires great critical spirit. By way of example, one would have to ask to what extent the financing provided by more developed enterprises is turned back to them in the form of increased productivity generated by VT of their workers, which is not always transferred in full to the remuneration for the work involved. It would also be necessary to study the weight of factors related to the socioeconomic origin of trainees, in measuring the impact of training, from the point of view of profitability of the educational effort.

It should also be kept in mind that redistribution can take place not only among social strata, but also among economic sectors, geographic regions, demographic groups, etc.

Despite the difficulties, however, in precisely assessing the degree of efficiency, efficacy and equity with which VT in Latin America has implemented its potential as an instrument of redistribution of social wealth, there are two fundamental facts which are basically beyond debate.

In the first place, VT is one of the forms of redistribution of income via work. This is very important, since it is generally accepted that employment and income, together with political participation, constitute the key to vertical mobility, and that, therefore, compatibilisation of effective improvements in productivity with quantitative and qualitative increases in employment is one of the essential priorities of any social policy.

In the second place, and no less important, is the fact that the user population of VT services has always been a "disadvantaged social sector", since for the most part it has come from lower income socioeconomic strata, for whom it is generally the only alternative for education and for improving the possibilities of job insertion.

It should be pointed out that disadvantage is a relative concept. One can be at a disadvantage in relation to other persons, or to another possible situation. For example: the classical VTI target population, despite its origin, has - as a group - the advantage of its current or potential insertion in formal sectors of the economy. This, in an economy structurally characterised by exclusion from formal employment of a very significant portion of the labour supply, is undoubtedly a privilege vis-a-vis which the excluded groups are in a situation of disadvantage.

To explain this it is necessary to remember that the initial model for VTIs in Latin America focused on the more structured business spheres, especially in the manufacturing, trade and services sectors, which are generally urban.

This characteristic of the initial model, still very markedly present at all the VTIs, is explained not only by the fact that it is the more modern medium-sized and large enterprises that finance the institutions and who are interested in having the supply of services benefit their own workers, but also because those enterprises, particularly in the secondary sector, constitute the archetype of the modernising-industrial model that set the trend for development of the region in recent decades, and for whom VTIs were created.

The role of VTIs in this scenario consisted of preparing and facilitating the employment insertion of all the labour force that would be demanded by the process of growth and modernisation of the production apparatus, a process that was expected to be uninterrupted, accelerated and harmonic, absorbing all available labour, and integrating it in developed forms of work relationships.

This development model, with its assumptions of linear product growth, full employment and gradual and increasing elimination of poverty, has come to a crisis, as we all know. Today we find that Latin American development, despite the evident advances in growth, modernisation and socioeconomic integration, has not managed to surpass a stage whose basic characteristic is the perpetuation and recomposition of poverty, combining old and new forms of social inequality and exclusion, which place large groups of the population at a disadvantage. Suffice it to note how only a minority of the economically active population is today involved in formal and modern mechanisms of employment and production. This constitutes a specific form of exclusion for the remaining majority, which implies other exclusions throughout the entire institutional context linked to formal employment, such as social security and VT systems.

The development model crisis thus also implied a crisis in the initial VTI model, which put to the test their ability to adapt to change and to develop

innovative approaches to new social realities, in what has been called the process of opening up of VTIs\*. Among the different dimensions of that process, which covers practically all facets of their institutional organisation, their role, their social interlocutors, their processes and their methods, this chapter will concentrate on their opening up to disadvantaged sectors, especially those that had been excluded by the initial model.

The opening up of VTIs to "disadvantaged groups" has been the product of various findings:

Some are economic findings, one of the most significant of which is the recognition that informal sectors of the economy are not merely backward sectors destined to disappear more or less quickly in the modernisation process, but instead that they are structural components in the economic configuration of Latin American countries, inter-dependent with the remaining elements, and significant in terms of volume and social function.

Others are of a sociopolitical sort, such as the pressure exerted by disadvantaged sectors to gain access to VTI services, and the corresponding pressures from the government level, in the form of priority social programs, which has led to generalised consolidation of VTIs as fundamental entities in institutional systems for implementation of social policies in the countries of the region.

These facts, together with the general confidence in the financial and organisational soundness of the VTIs, explain the fact that these institutions, by their own initiative or external pressure, are addressing a ever-broader range of disadvantaged groups.

VTI decisions regarding attention to these groups are not always the product of systematic planning, management and evaluation processes. The definition and characterisation of target groups mixes technical factors with elements of political or social pressure, philanthropy, sentimentalism, institutional pride, etc., which - together with the necessary differences in national situations - gives rise to a regional catalogue of fairly unrelated programmes which are difficult to classify and analyse on a comparative basis.

Part of the problem lies in the fact that the definition and characterisation of disadvantaged groups implies methodological problems subject to diverse theoretical standpoints, as well as to political manipulations, trends, and

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\* The broad spectrum of this opening up is dealt with in Ducci, M.A.- *Vocational training: an open way*. Montevideo, Cinterfor, 1983. 102p. (Studies and monographs, 61)

euphemism. This leads to an indiscriminate use of analytical categories that are not homogeneous or interchangeable: poverty, marginality, unemployment, informality, basic needs, low income, low productivity, physical limitation, cultural disadvantage, etc., which are concepts that are inter-mixed fairly freely in the policy and programme formulations of VTIs in reference to attention to disadvantaged groups or sectors.

In order to facilitate the presentation and analysis of VTI experiences in addressing disadvantaged groups or sectors, we will attempt a typification of the latter. To start, we find three major categories of population:

- Populations whose situation of disadvantage is explained by their link to economic and/or job market sectors subject to structural conditions of poverty and exclusion (informal urban sector, peasant farmer economies, open unemployment, very low-skilled workforce, etc.)
- Populations whose situation of disadvantage is expressed in conditions of poverty and exclusion explained by reasons of a social type and a structural nature: marginality, critical poverty, sex or ethnic discrimination, etc.
- Populations whose disadvantage is explained by specific or situational reasons, such as in the case of the physically handicapped, inmates, victims of natural or social catastrophes, etc.

These categories are not mutually exclusive. In fact, large sectors of the population belonging to socially or culturally disadvantaged groups form part - largely due to that very reason - to disadvantaged economic or labour sectors. Moreover, the various subcategories are also not mutually exclusive. Suffice it to take the case of women who are also part of the indigenous population: the two characteristics not only result in situations of disadvantage, but also mutually reinforce one another.

Furthermore, this is not an exhaustive list of disadvantaged groups or sectors. We have included those indicated more or less frequently as target populations by VTIs.

## TYPIFICATION OF DISADVANTAGED SECTORS OR GROUPS ADDRESSED BY VTIs IN LATIN AMERICA

a. Sectors or groups at a disadvantage due to the structure of economic system and	<ol style="list-style-type: none"> <li>1. Open unemployment</li> <li>2. Informal urban sector</li> <li>3. Micro and small enterprises in the formal sector</li> <li>4. Traditional rural sector (peasant farmer economy, small farms, small unstructured rural enterprises)</li> <li>5. Floating agricultural proletariat (migrant harvesters, day labourers)</li> </ol>	
b. Social sectors or groups at a disadvantage due to socio-structural, sociodemographic or ethnocultural position.	<ol style="list-style-type: none"> <li>1. Sectors or groups at a disadvantage due to the structure of the social organisation:</li> <li>2. Disadvantaged groups defined by sociodemographic categories:</li> <li>3. Groups at a disadvantage due to ethnocultural reasons:</li> </ol>	<ul style="list-style-type: none"> <li>- Marginal urban and rural populations</li> <li>- Populations in a situation of critical poverty</li> <li>- "Needy" populations</li> <li>- Women</li> <li>- Young people</li> <li>- Elderly</li> <li>- Children (when they work)</li> <li>- Indigenous populations</li> <li>- Black populations</li> </ul>
c. Groups at a disadvantage due to other specific or situational reasons.	<ol style="list-style-type: none"> <li>1. Groups at a disadvantage due to physical or mental limitations:</li> <li>2. Groups at a disadvantage due to social behaviour</li> <li>3. Groups at a disadvantage due to social or natural disasters</li> </ol>	<ul style="list-style-type: none"> <li>- Physically limited</li> <li>- Limited in mental development</li> <li>- Drug addicts</li> <li>- Inmates</li> <li>- Victims of war or political or social violence</li> <li>- Victims of natural catastrophes</li> <li>- Victims of environmental degradation or pollution</li> </ul>

This simplified typification will be used in the remainder of this text to organise the references to disadvantaged groups addressed by VTIs.

## **2. STRATEGIES DEVELOPED**

This section attempts to systematise the general experience of the region's VTIs analysed for this study, in connection with each of the disadvantaged groups or sectors identified above.

We have chosen those that would seem to be the most relevant, interesting or successful, and have attempted to determine their strategies for intervention and their methodological approaches, when not explicitly provided in the information available. As we have said, VTIs do not always clearly define their objectives or the specific targets of their programmes for disadvantaged groups or sectors. In cases where definitions are not provided, it has been necessary to interpret them, running the respective risks.

In any event, it is not a discussion of individual cases that has been emphasised, but instead the extraction of trends that the different cases would seem to show, in terms of strategies and methodologies.

- a. Programmes addressed to sectors or groups who are at a disadvantage due to the structure of the economic system and the job market**

- 1. Programmes addressed to populations in a situation of open unemployment***

In the diagnoses made by VTIs regarding the causes and manifestations of unemployment, it is generally recognised that this phenomenon is essentially produced by structural causes, which can only be significantly affected by development policies and large-scale medium and long term macroeconomic measures, which in turn must give shape to the role and the strategies of VT.

Nevertheless, in the absence of such a political and macroeconomic framework, social and political pressures frequently push VTIs to participate in general plans and emergency programmes to fight unemployment, under which they are called upon to establish specific programmes or projects to address the population in a situation of open unemployment.

VTI programmes geared to combatting open unemployment are generally approached using the following overall strategies:

- The first acts directly on labour supply, by means of accelerated vocational skill training for the unemployed. The goal is to improve their probability of obtaining employment, generally complementing the action with placement



services. The experiences of this sort have generally not produced spectacular results, since they do not address the problem where it truly lies, which is in the inability of the production system to expand its demand.

- The second is related to special employment plans, which propose lines of action such as stepping up investments in public works, and on occasion VTIs are asked for accelerated skill-training programmes for the labour to be employed. This is not often the case, however, since most of the labour required for this type of work is in low-skill or unskilled occupations, thereby making VT irrelevant.

There is one type of programme which to a certain extent assimilates this strategy, which we will take up again later in this paper, and which is striking in terms of its potential in several areas. It is the type of experience that has been spearheaded by SENA and other Colombian institutions, which is geared to promoting and supporting the creation of "cooperative micro-enterprises for public works". Such efforts bring together groups of unemployed or under-employed workers to provide the State with relatively simple services, such as cleaning and basic upkeep of roads and highways, maintenance of green areas, etc. The role of VT is here basically organisational, as support for management.

- The third general strategy is geared to supporting independent self-employment or the creation of enterprises by the unemployed. Two types of enterprises are generally proposed: individually owned micro-enterprises and associative enterprises.

The specific strategy of promoting associative enterprises, within the context of objectives of generating new employment, is concentrated on *labour* associations, i.e., enterprises in which members directly and collectively produce goods or services, and which are jointly owned and managed. These associative enterprises are different from others that are made up of small independent producers who associate in order to collectively negotiate services complementing production: marketing, storage, transportation, etc. The latter type of associative enterprise is frequently linked to strategies geared to supporting the informal urban sector or the traditional rural sector.

Various VTIs report programmes having the objective of creating associative enterprises of the labour sort, as a means of generating new employment for the unemployed. They are generally very specific, small-scale efforts, a fact which perhaps reflects the recognition of the difficulty of the task, which must surmount, in addition to the technical and economic challenges inherent to any process of creation of enterprises, the cultural and social

challenges inherent to the target population's marginal and precarious situation. Such challenges are seen in tendencies toward individualism and instability, which conspire against the enterprise's needs for cooperation and solidity.

Consequently, VTIs gear this strategy preferentially toward groups of young people or of women recently entering the job market. They tend to delegate the role of primary promoter of this type of enterprise to specialised agencies, generally of a nongovernmental sort.

Another specific strategy is the creation of individual micro-enterprises or self-employed jobs, for which VTIs complement technical training with management training and advisory processes. These programmes tend to be supported by operating structures, such as INA's Public Workshops, or SENA's Grassroots Vocational Promotion (PPP) workshops, which permit training-production processes in which participants can achieve a foundation of experience and savings for subsequent undertakings as self-employed producers.

In general there is considerable interest in approaches of this sort, which seems to be based on positive experiences, achieved when the essential access to credit and technical assistance, etc., has been provided within an appropriate framework of inter-institutional coordination.

Nevertheless, the limitations of this strategy are not always taken into account, when it is applied to populations having a low cultural level, in training processes that barely provide for a semi-skilled level. Under such conditions it is difficult to generate micro-enterprises having the technological and managerial capacity necessary for interacting in dynamic markets and for achieving levels of productivity and competitiveness that ensure their impact in terms of stable employment generating sufficient income.

Most micro-enterprises and self-employed production units generated by programmes aimed at marginal populations tend to have very low levels of productivity, which barely provide subsistence income for the new producers, who in practice come to form part of -and compete with- the existing informal urban sector.

- A fourth general strategy is geared to coping with the potential unemployment of graduates of conventional VT courses (skilled workers, middle level technicians), and even of professionals who have graduated from higher education. These programmes have been in vogue recently, due to the

generalised concern regarding the phenomenon of unemployment of qualified manpower, which has emerged as the educational systems of the region have achieved significant expansions, while its production systems have stagnated.

VTIs, who have significant experience with the difficult task of trying to generate employment through training, are increasingly concerned with dealing with the phenomenon before it happens. Thus the training contents of all their programmes include elements to develop business management skills and techniques, in order to stimulate the participants' ability to generate their own businesses. As a complement, they establish support programmes for graduates showing an interest in and an ability for creating enterprises, with the support of credit and technical assistance entities. Experiences of this sort have been reported by SENAI, SENATI, SENA, INA and, in general, all the institutions of the region.

The contents and requirements, as well as the potentials and limitations of this strategy are basically the same as those geared to currently unemployed marginal populations. The difference is that, in principle, there should be far less cultural and technological limitations here for future new business operators.

## ***2. Programmes geared to the Informal Urban Sector (IUS)***

Since the beginning of the 1970s the concept of the Informal Urban Sector (IUS) has come to be seen, in contexts linked to development plans and policies, as a theoretical expression of the empirical phenomenon constituted by frequent and varied forms of employment and production units found in the cities of developing countries and which are not in line with the standards and behaviour of "formal" production and employment, but which are also not merely residual manifestations of archaic economies destined to disappear with the advance of the modernisation and growth processes, as was long thought.

The appearance of the IUS concept had a positive influence on the process of opening up VTIs toward disadvantaged sectors: it provided theoretical and methodological categories that made it possible to focus the role of VT in non-formal contexts, without having to turn to categories of a sociological or anthropological sort, which up until that time, had been more widely used in the theories of marginality prevailing in the literature on underdevelopment.

The IUS concept is a practical one, and its use has become generalised, despite the fact that it has given rise to heated debates, primarily because of a certain theoretical ambiguity. Initially there were problems because in some contexts it was used interchangeably with the concepts of poverty and marginality, which are different analytical categories, even if they are more or

less superimposed in their empirical expression. Other problems relate to the epistemological validity of the "formal-nonformal" dichotomy, and the difficulties of making the concept operable using empirical variables and precise parameters.

Nevertheless, for practical purposes, especially for those called upon to design or operate development strategies related to processes in the spheres of work and production - as is the case of VT - the IUS concept was a useful contribution. Its empirical characterisation applies analytical instruments such as typologies of production units, or occupational categories, which are much more in line with the methodological instruments of the VTIs.

Within the analysis of the IUS as a set of production units, it is possible to identify the target population of vocational training programmes as all those who are self-employed or who work in small production units characterised by an almost total unavailability of capital, application of very simple or rudimentary technology, and a small number of workers with a generally very low educational level. Their organisational structure - if they have one - is elementary, with little division of labour. Salaries in such production units are generally lower than those in formal enterprises, social security is virtually nonexistent, and employment is highly unstable.

In the analysis of the IUS from the perspective of job markets, the target population of VT includes individuals in certain occupational categories: self-employed workers or small business operator in informal production units, salaried workers in informal production units, unremunerated family workers, domestic service, etc.

VTIs do not always use the aforesaid categories accurately in defining the target population or the strategies for action in the IUS. There is instead a certain looseness in the use of the concept, which itself is subject to ambiguities when attempts are made to specify the parameters for the definition of objectives, base lines and criteria for evaluation.

Moreover, it must be remembered that the IUS is a heterogeneous reality, where there is a coexistence of merely subsistence level occupations and productive activities, with others that have a certain development potential given their specific form of articulation with markets, and their particular combination of production factors.

A typical problem of this sort arises in the concept of micro-enterprises. On the one hand, it is clear that one of the manifestations of the IUS are small informal production units, which given their size can be validly called micro-

enterprises. But there are approaches that define the micro-enterprise by ignoring its contextualisation in the IUS, and define it essentially on the basis of intrinsic characteristics (size, technological level, level of production and organisational development, etc.).

From both perspectives there tends to be a differentiation of at least two major types of micro-enterprises: those having a minimal level of development and providing only a subsistence function for their workers, and those having a developable potential, a capacity for accrual.

In the first case, that of subsistence-level micro-enterprises, there is no doubt that they pertain to the IUS, no matter how they are defined. But in the second case, that of developable micro-enterprises, they are in a border area with small formal enterprises. When a programme is defined to address micro-enterprises, the type of micro-enterprises at which it is targeted, and the development policy encompassing the action undertaken by the VTI are not always sufficiently clear or explicit.

Such difficulties with the definition of the target population become more complex when we take into account that there are various political and programme approaches within which the various IUS programmes are included, and that they can all use the same definition of the target population, such as the micro-enterprise. We should note the following alternatives:

- Programmes of an essentially assistance-type nature, whose objectives do not presuppose the economic viability (self-support, permanence, projection capacity) of the economic units addressed, or extensive impacts from the action, and which are satisfied with obtaining more or less verifiable, more or less stable, and more or less specific achievements in solving particular problems and in improving the actual living conditions among population groups who are of institutional political interest.

- Programmes that clearly and explicitly indicate that their objective is to work in support of or promoting subsistence micro-enterprises.

- Programmes that are basically committed to developable micro-enterprises.

- Programmes whose main objective is the fight against unemployment and whose strategy includes - sometimes in a rather anarchical way - components for the creation of new enterprises (be they formal or informal), with components for dealing with already existing informal production units.

- Programmes that emphasise the generation of new enterprises of an associative or cooperative sort, within a concept of self-managing enterprise development, formulated either as a complement or an alternative to the prevailing capitalist system.

- Programmes that implicitly or explicitly propose, as the motor behind their interest in supporting micro-enterprises, or the IUS, the development of the entrepreneurial spirit in private initiatives.

If these diverse alternative approaches are combined with those arising out of the heterogeneity of the informal sector, and their diverse theoretical interpretations; and if all of the foregoing possibilities are confronted with the diverse operating capacities that can be found at different VTIs for addressing the IUS (which is affected by reasons depending on their degree of commitment to disadvantaged sectors, the existence of specialised operating structures, etc.), as a result we will find that in practice VTIs have developed a whole range of programmes for addressing the IUS.

Following we attempt to define and explain the major categories into which most individual cases can fit. Three broad types of strategies can be seen:

i. Strategies geared to stabilizing employment and to improving, even if only modestly, the production and working conditions, and the income, of populations linked to the IUS in their subsistence activities.

Such populations - as a whole - are lacking in the internal resources and/or the external articulation necessary for reaching more dynamic growth and development potentials.

Typically these strategies cover groups such as street vendors, domestic service, and self-employed workers in very low productivity activities.

Some of the specific programmes within these strategies are: INA's Public Workshops and SENA's PPPU, insofar as they act as "banks" of services and resources through which informal producers and workers can gain access to basic services for training, technical assistance, use of equipment and tools, etc., as well as indirect access to soft lines of credit.

Also included under this strategy are the SENATI and INFOTEP actions in conjunction with private foundations, in training and advisory services to "Solidary Groups". These these groups made up of four to five self-employed informal workers, who receive a small loan for which they are jointly liable and

which rotates among the members, providing them with working capital. The role of training in such cases consists of organisational training and advisory services, instruction in credit management mechanisms, elementary sales techniques, product handling, etc.

Finally, this strategy includes all training services using actions that are mobile or are carried out in community facilities, of the sort offered under the Occupational Qualification Programme of INCE, PIPMO of SENAI, the PPPU of SENA, the mobile actions of INA, etc. Because of their very open nature of these services, they are accessible to individuals with very low educational levels, without job experience, who - after accelerated training at semi-skilled levels - frequently do not gain access to formal employment and end up "doing what they can" in informal subsistence activities. This phenomenon is especially common among "marginal" groups of young people and women.

ii. Strategies geared primarily to facilitating the transfer of labour from the IUS to the formal sector.

The strategies in this category are targeted particularly at workers with a relatively better level of basic education, job skills and experience, for whom spaces for insertion in the formal production structure have been identified or are expected to be generated. The move into the formal sector can take place in two ways: through their association as salaried employees in formal enterprises; or through their organisation and formalisation in order to place the goods and services they produce, in a more structured and stable way, in the formal sector.

VTIs generally mix this type of objective with those covered by the foregoing strategy for improvement of employment in the informal sector, in their open programmes of mobile actions or public workshops. This is due not only to omissions in the definition of the strategy and its target population, but also to the fact that in practice it is impossible to foresee, with an open training supply, what the profile of enrollees may be and -much less- what their destination in the job market may be.

Specific programmes exist, however, which do precisely define the transfer process: they are the ones based on the economic or trade organisation of self-employed informal workers, especially in the services area. For example, the organisation of cooperatives among domestic service employees, electrical appliance repairers, plumbers, etc., which are essentially geared to modernizing and organising the rendering of the services, thereby broadening their market share and thus providing better working conditions for their members.

Programmes of this sort have been undertaken with a greater or lesser degree of coverage by almost all VTIs, particularly those who are more committed to addressing disadvantaged sectors and who have specialised, even if asystematic, operating structures. There are often no follow-up studies or evaluations of the real coverage and impact of such programmes.

iii. Strategies geared to consolidation, modernisation and expansion of IUS activities with developable potential.

These strategies cover support to production units in the informal sector that show developable potential. They generally make reference to informal micro-enterprises, in order to differentiate them from formal micro-enterprises, which are very small production units in terms of the number of employees, but which operate at clearly up-to-date levels of technology, capital and modernisation. The latter, for the purposes of this study, have been grouped together with small companies in the formal sector, to which we referred in foregoing chapters.

Informal micro-enterprises with developable potential are different from subsistence micro-enterprises in that they involve a certain level of capital in the form of fixed assets, a level of productivity that makes it possible for them to compete with formal sector enterprises, an ability to generate surpluses and to retain part of same in their operations in the same market, and a capacity to accumulate capital through reinvestment, which can be aimed at incorporating technology and/or the generation of new jobs.

We have already indicated that VTIs tend not to be very precise in their definition of target populations when they report on support programmes for micro-enterprises. This would seem to suggest that the heading covers a mixture of informal subsistence micro-enterprises, informal developable micro-enterprises, and formal micro-enterprises; and it would thus be very difficult to classify each programme in one of those categories.

Nevertheless, it is possible to identify two large trends in support strategies for informal developable micro-enterprises: on the one, there are the approaches that address such enterprises individually, with objectives involving the internal strengthening of each such enterprise, tending to consolidate and develop it as a small formal enterprise. On the other hand, there are the approaches that address them as a sector, emphasising not only their internal reinforcement, but also their external strengthening, and their commercial and economic organisation, with a view to improving their overall position in the socioeconomic and sociopolitical system.



Most micro-enterprise support programmes reported by the VTIS fall within the first category, which, moreover, has become generalised in many countries, promoted and supported by non-governmental organisations with a private enterprise base. These programmes almost always stress their role in defense of and as promoter for private entrepreneurial activity.

The operating model for this strategy is fairly standardised and consists of a management techniques training component, which is provided through a sequence of short courses or seminars; an individual credit component; and an administrative and technical assistance component to accompany the development of the micro-enterprise.

SENAI, SENATI, INACAP, SENA, INA, INFOTEP, INTECAP, etc., report this type of programmes, generally handled through their enterprise advisory services and not through their training programmes. They are very limited coverage efforts, which (except in the case of SENA) are included without discrimination in the overall reports on coverage of small and mid-size enterprises. They are almost always undertaken under cooperation agreements with non-governmental organisations, with centres specialising in support to small enterprises, and/or with commercial or development banks.

Some of these experiences have had special characteristics that warrant mentioning. For example, INA has incorporated the application of action learning methodologies and group self-diagnosis (the METAPLAN technique) promoted by the ILO. SENA has applied open and distance training strategies, with self-training cards distributed by correspondence as a teaching medium, supported by a network of tutors, group sessions and audiovisual materials. Brazil created a plan for support to micro and small enterprises, prepared by the Manpower Secretariat of the Ministry of Labour, to be executed between 1977 and 1980 through Centro Brasileiro de Apoio a Pequena e Media Empresa (CEBRAE), with the support of SENAI, SENAC and SENAR. There is no information on the results of this plan, but it is interesting to note that it included training components not only for the micro-enterprise operator, but also for micro-enterprise workers, who are generally overlooked in this type of programme.

The second trend in VTI strategies for developable informal enterprises deals with such enterprises as a sector, on the basis of a point of view that emphasises the market as a limiting or dynamising factor for micro-enterprises, beyond their internal strengthening. This approach points out the importance of taking into account the articulations and reciprocal relations between the formal sector and the informal sector as a framework for defining development strategies that achieve significant impact.

This strategy is represented fundamentally by SENA in a massive programme for support to associations of micro-enterprises, operated by its PPPU with the support of its Open and Distance Training System. The methodology starts with an organisational task by means of participatory self-diagnostic processes carried out by groups of micro-enterprise operators based on sector or region. This stage gives rise to micro-enterprise associations of a sectoral or regional sort, which then draw up development projects, in all cases seeing the market situation as basic and thus prioritising collective activities for procurement of raw materials, marketing, exerting trade pressure, etc. These activities lead to the identification of specific training needs.

The training programmes under this approach thus include organisational, management and technological contents, structured in training and advisory processes.

Clearly an approach of this sort implies an extremely committed institutional position, with social development policies that exceed the traditional scope of VT. A comparison between this approach to micro-enterprises and that reported by SENAI, where there are doubts even as to the legitimacy of the advisory function as a VT task, gives us a clear idea of the broad range of responses and concerns that have arisen in connection with the Informal Urban Sector at Latin American VTIs.

### ***3. Programmes aimed at formal micro and small enterprises***

Most Latin American VTIs have advisory programmes for enterprises which initially were geared to establishing beach heads within the industrial relations area of enterprises, in order to coordinate the rendering of training services for personnel.

These programmes slowly expanded their actions to cover the provision of advisory services in the different areas of management and, in some cases, the provision of technological services, and have tended to become comprehensive advisory and multiple service programmes for enterprises. At the same time, they concentrated their action on the small and medium-sized enterprises group, as an expression of the institutional and general development policies that prioritise this level of enterprise, focusing their services on systematic processes of management training to small and mid-size enterprise operators.

In recent years, as the micro-enterprise issue gained attention, these programmes have tried to incorporate the concept in the definition of their target populations, with all the problems referred to above in relation to the

informal urban sector. But we can suppose, given the general vocation and tradition, that when these types of programmes include micro-enterprises, they are basically talking about very small formal enterprises, or the more developed strata of informal micro-enterprises, i.e., those that actually border on the formal sector.

This discussion may seem somewhat gratuitous, since what tends to happen is that VTIs involve micro, small and medium-sized enterprises in joint programmes, and it is thus very difficult to pinpoint the actual magnitude of the effort addressed to micro and small enterprises. Moreover, if we take into account that the global coverages of such programmes are rather limited, we must realise that the scope of their attention to disadvantaged sectors is very small.

Qualitatively, however, experience has shown some interesting results. A broad range of strategies have been defined and validated, which enrich the possibilities of VTI action in relation to micro and small enterprises.

One of the most fruitful fields is the development of inter-institutional cooperation arrangements with financial entities (supervised lines of credit, guarantee funds, etc.), and with organisations specialising in the provision of comprehensive services to small enterprises. Some of these are associated with VTIs, as in the case of the DAMPI agencies in the SENAI system, the IDAMPEI in the SENATI system, etc.

In several countries, when there is no specialised institution to act as the axis for inter-institutional coordination of support to small and mid-sized enterprises, VTIs have taken the lead in these processes. The perhaps most innovative initiative on this subject in the region has been the Micro-enterprises Programme which as of 1988 became a flagship programme of SENA, when the VTI was made responsible for coordinating the execution of a National Plan for Development of Micro-enterprises, which originated at the National Government Planning Office of Colombia. Since 1984 SENA had already been participating in the first National Plan for Development of Micro-enterprises, and through 1987 it had trained a total of 15,000 micro-enterprise operators, out of a total of 39,000 trained by a group of over twenty governmental and non-governmental agencies involved in the Plan. In 1987 SENA did significant work in training and technical, business and organisational advisory services to micro-enterprise operators and workers. 3,172 micro-enterprises were advised and 30 associations of micro-enterprises were promoted. The programmes covered economic, accounting and administrative subjects, as well as technical specialties (cabinet making,

carpentry, and mechanics), making use of distance training pamphlets, videos and radio programmes.

In the area of training and advisory methodologies, there has been development of group self-diagnosis techniques which use as reference material the experiences of the participants themselves, which permit a collective action learning process. This has led to a surmounting of the phase in which management training programmes and contents tended to be mechanical transcriptions of academic programmes and materials.

Some VTIs have managed to create specialised centres or programmes to offer technical assistance to small and mid-sized enterprises in production areas, since it seems to have been clearly proven that it is very difficult to mobilise training centres for open and flexible technical assistance processes, while, on the other hand, it would seem to be easier to organise training processes around technical assistance.

SENAI thus offers assistance in process and product design, in materials testing and quality control, etc. SENA has its Programme for Technical Assistance to Industry (ASTIN), specialising in metalworking technologies, etc. Nevertheless, there are doubts as to the access micro and small enterprises have to these services. Similar situations are seen with the introduction of informatics as a support tool for micro and small enterprises, through the creation of Project Banks, Technological Information Centres, etc., as SENA has done for application in the construction sector.

VTIs have recently been very much interested in establishing services for enterprise creators, in a strategy geared to promoting the entrepreneurial spirit and the generation of employment. These programmes include technical, legal, administrative and technological assistance, and are complemented with lines of credit and/or specialised guarantee funds. They are generally designed keeping in mind the phenomenon of "professional unemployment", faced by individuals who have received professional training at university, middle technician, or skilled worker level.

The technical-pedagogical structure of these services is organised around a process of identification and formulation of a specific business project, which is carried out individually in real conditions and is supported by courses, workshops and seminars, and which should ideally have financing possibilities. This might be followed by a process of technical assistance and advisory services regarding the installation, start-up and operation of the new company. The results of the SENA and SENAI pilot experiences have yet to be published, but

we should note that today there is a generalised awareness at VTIs regarding the need for all their programmes to include contents and events geared to stimulating the entrepreneurial spirit and to providing training in management techniques.

#### ***4. Programmes geared to the traditional rural sector***

On the whole, Latin American VTIs provide very little attention for the rural sector (the primary sector represented a little over 10% of VTI enrollment in 1986). This situation is explained in part by the predominantly industrial and urban origin of the concept of vocational training and its institutional apparatus, and in part by the fact that specialised rural development institutions (for agrarian reform, technology transfer, comprehensive rural development programmes, etc.) tend to be the ones to cover training to rural dwellers.

In any event, regardless of the intensity of the attention provided by VTIs to the rural sector, that attention has gone through a process which is similar to that undergone in the manufacturing and urban tertiary sectors: after an initial concentration on the needs of modern agro-industrial enterprises, or of commercial livestock raising and agriculture, attention is now also provided for disadvantaged sectors, i.e., to traditional peasant economies, to small, unstructured rural enterprises, and to salaried labour without permanent employment, which tends to be employed seasonally as harvesters, frequently migrating over the course of the year according to the crop cycles in different areas of the country.

From another point of view, the evolution of VTI strategies in this sector can be expressed as a surmounting of the concept of purely technological agricultural training, and a move toward the concept of rural development, which also involves extraction, manufacturing, trade and service activities carried out in rural areas, as well as their social and economic contexts.

Only a few VTIs have developed special operating structures for dealing with disadvantaged sectors of the population and the rural economy. The most conspicuous have been SENA, through its Rural Grassroots Vocational Promotion Programmes (PPPR), INCE, through its Occupational Qualification Programme (PHO), INFOP, through mobile actions, and INA, through its rural Public Workshops and its PROASER programme. SENAR is a special case, given its specialisation in the overall rural sector, including both advanced and disadvantaged groups.

SENA's intervention in disadvantaged rural sectors, which was initially defined more from the perspective of an operating mode -its PPP or mobile actions- than from a characterisation of its target population, gradually became concentrated in a rural development strategy focusing on peasant economies or mini-landowner sectors. This process was stimulated by SENA's participation in the inter-institutional scheme of the national policy for Comprehensive Rural Development (DRI), in which, by government decision, it assumed specific responsibilities in its grassroots organisation as well as in technical and management training components.

A general objective of Colombian comprehensive rural development policy is the development of small peasant producers, by means of modernisation of their business management and incorporation of technology, in order to improve their levels of productivity and profitability, with the hopes of improving their income and their living conditions while at the same time increasing and rationalising production and distribution of food products to urban markets.

In this approach there are many analogies with strategies for the informal urban sector. In the first place, there is a recognition of the close linkage between peasant economies and urban and rural modern production systems, not only in terms of the product market, but also the labour market, insofar as the peasant sector generates a labour surplus which acts as a reserve for the seasonal needs of commercial agriculture, livestock raising, and agro-industry.

The technical training given by the PPP programmes thus is not only expected to be functional for the development needs of the peasant production unit, but also should improve the skill level of the labour eventually employed by modern enterprises in the sector.

But the fundamental interest relates to small producers as rural micro-enterprises: entrepreneurial advisory services and training must contribute to the development of their management ability, while technical assistance (which in this case is provided by other specialised entities) should improve their production technology.

Given that - as in the case of urban micro-enterprises - there is a recognition of the coexistence of different levels and potentials for development in rural production units, the action provided for under the Comprehensive Rural Development plan - here carried out by SENA - is concentrated on the strata that seem to be in the best position to profitably incorporate training, technical assistance, credit, and other inputs.

Nevertheless, even the relatively more developed strata in the rural economy share, with the whole, a disadvantaged structural situation which imposes almost insurmountable limits on the absorption of development services and on their competitive articulation in markets for goods, services and capital, particularly on an individual basis. In this light, the rural development strategy prioritises the organisation of producers as a starting point, both in order to increase their participation in development processes, and to strengthen the productivity and profitability of their economic activity.

Thus, SENA's training strategy for the rural sector includes, as in the case of the IUS, three components: training for organisation, for management, and for production. The first one, however, is always the starting point, since it makes it possible, through collective self-diagnosis processes leading to micro-regional and sectorial development plans, to identify specific needs for technical training, as well as to promote projects whose management demands provide specific reference elements for enterprise training.

The development projects prepared by the peasant groups do not only address the area of production, but also incorporate lines of action geared to improving living conditions in aspects such as housing, public services, etc. This also poses training demands for self-building and maintenance of housing, production facilities, local electrical energy distribution networks, small aqueducts and sewerage systems, etc., which broadens the possibilities for VTI action, making it possible to offer training and technical assistance services in connection with real production processes of interest to the community.

An innovative element characteristic of the SENA strategy is the selection and training of rural youths who then act as training multipliers and facilitators for participation among other community groups.

The technical-pedagogical processes involve action learning, and are organised into courses, seminars, educational tours, etc., supported by audiovisual media and self-training correspondence materials. The technological packages incorporated are discussed with the rural dwellers, providing for an analysis of their implications in terms of cost-effectiveness, and the risks involved in implementation.

Mass application of this strategy, under the heading of Training for Peasant Farmer Participation (CAPACA), promoted interesting processes of organisation and participation which even reached levels where SENA and organised peasant groups cooperated in building "Community Training Centres", simple facilities constructed on community land, geared to serving as

the logistical base and centre for teaching resources for the training processes and local and regional development projects. These community centres are expected to be managed - as they are in many cases - by the organised communities themselves.

This strategy, with the necessary adjustments, is applied by SENA to other institutional contexts apart from the Comprehensive Rural Development plan. For example, SENA works together with the Agrarian Reform Institute in training farmers who have been awarded land, either on an individual or a cooperative basis; and with regional development corporations in addressing the needs of settlers along agricultural borders in peripheral regions, etc.

SENA's experience was one of the basic references for the regional project on training for small enterprises in the unstructured rural sector (PER) undertaken by CINTERFOR at the beginning of the 1980s, and which stimulated the interest of various VTIs in addressing the rural sector with comprehensive development approaches, through schemes for inter-institutional coordination and broad community participation.

INA's action in addressing disadvantaged rural sectors has been relatively timid: three Rural Public Workshops have been established, and this strategy has apparently not had the same success as in its urban application. Aimed at small rural enterprises, the Rural Sector Advisory Programme (PROASER) took up various elements from the CINTERFOR/PER project, such as an orientation toward the fostering of economic associative forms to promote the integration of small producers, comprehensive training, work involving self-diagnosis processes and development projects, along with inter-institutional coordination.

In Honduras, INFOP has also incorporated the basic elements of the PER methodology, apparently with significant success, and other strategies aimed at specific groups have been articulated around it, such as the Project for Individual Training to Rural Enterprises (CIER), aimed at relatively more structured small rural enterprises, and the Action Learning Programme, for the same group.

The INFOTEP experience, in the Dominican Republic, has shown that implementation of this strategy requires a very clearly defined policy of rural development and of inter-institutional coordination. On the basis of the Cinterfor/PER project, INFOTEP tried to apply this methodology and failed, due to the fact that it did not attain to mobilise the support of other rural development institutions.



One of the advantages of this strategy is that it makes it possible to place training in the context of local, micro-regional, regional and sectoral development projects, around which it is easy to articulate a broad range of specific training actions and attention to specific groups, such as women and young people. We will discuss some of the latter later in this report.

#### ***5. Programmes aimed at the floating agricultural population (seasonal harvesters, migrants, etc.)***

In general, the Latin American rural sector faces two phenomena that constitute structural limitations on development, and which explain the very high incidence of poverty in the sector: the concentration of land ownership, and the gradual decomposition of peasant farmer subsistence economies. Both phenomena cause a constant expulsion of the work force, which in turn is reflected in high permanent or seasonal unemployment rates.

Chronic unemployment is a factor that generates rural-urban migration, and which explains the formation of very numerous groups of agricultural proletarians who enter the market during harvest periods and take refuge in the peasant farmer economy in the interim, or who migrate from one region of the country to another, according to crop cycles.

No VTI has on-going or specific programmes aimed at these population groups, but several have had more or less limited experiences, such as in the cases of SENA, INA and SENAR.

Two broad approaches can be found in the attention to these groups, when specific programmes are developed for them. One, seen from the perspective of the interests of agro-livestock or agro-industrial enterprises that hire seasonally, is where VTIs are asked to provide intensive training action to seasonal workers, for transferring certain practices incorporating new technologies, for training in animal or plant health techniques, etc. The other, seen from the perspective of the interests of workers, seeks to contribute to improving their living conditions by means of a coordinated supply of health services, training, recreation, etc., and/or facilitating their transfer to more structured labour markets, through training and organisation.

In practice, the first approach arises only in certain cases, for example, for the first big harvests of newly introduced plants, or when a plague is imminent, as was the case in several countries with coffee plant rot. The second approach is not very common, given its high costs and complexity of operation. Consequently, this group is rather unprotected and, in fact, it is assumed that it is indirectly served by the various programmes offered in areas of rural poverty.

- b. Programmes aimed at sectors or groups at a disadvantage because of their sociostructural, sociodemographic or ethnocultural position**

***1. Programmes aimed at sectors or groups at a disadvantage because of the structure of social organisation***

This category includes programmes that characterise their target population as groups that are "marginal", "needy", or in a situation of "critical poverty".

VTIs generally define their target populations in these terms when they want to underscore their "social commitment", or when they agree to participate in comprehensive programmes whose general objective is the struggle against marginality or critical poverty. They are programmes that characterise their target population in terms of socioeconomic, cultural, physical and - particularly - territorial variables. They tend to group service components into three types: basic social services, organisational and community participation promotion services, and employment and income generation services. VTIs are naturally inserted in this latter package.

But the identification of the target population on the basis of social, cultural or territorial variables, which is functional for the other components of a comprehensive social programme, is not so much so for VT. In fact, within a "marginated" urban zone, or an area where there is a lack of basic social services or a prevalence of critical poverty, there are individuals who -as workforce- may be linked to formal employment, to the informal urban sector, or who may be in a situation of open unemployment. Naturally, indiscriminate application of strategies for involvement in vocational training to groups whose requirements are so different, results in inefficiencies in the delivery of services and difficulties in assessing impact.

In this line of analysis, it would be advisable, after identifying the general target population of social development policies or projects aimed at groups who are needy, marginal or in critical poverty and in which the component of VT is to be inserted, for VTIs to undertake a more precise characterisation of their specific target population, using variables more in line with the nature of their action, such as workforce categories (unemployed, employed in the informal urban sector, etc.), or occupational categories (independent workers, unremunerated family workers, operators of informal micro-enterprises, etc.), or production unit categories (subsistence, developable informal micro-enterprises, etc.).

On the basis of that characterisation it would be possible to more clearly define the objectives and the scope of VTI intervention, their specific operating and technical-pedagogical models, etc., which would also make it possible to identify clear parameters for follow-up and assessment of impact.

Unfortunately, this is not the usual case. In fact, VTIs apply very specific programmes under the general heading of "social programmes", but they are not careful enough about clearly indicating their scopes and limitations. Thus, in practice they often involve populations which are not always the ones for which the particular programmes were designed.

The specific programmes more generally developed by the VTIs within these "social" contexts are: mobile actions for accelerated vocational qualification, public workshops, development of micro-enterprises, creation of micro-enterprises or associative enterprises, etc. For the purposes of this study, and consequently in the light of the argument set forth above, each of these modes of intervention is analysed in the corresponding sections according to the typification of disadvantaged groups or sectors adopted.

There are, however, two types of programmes usually carried out by VTIs in the framework of policies and plans aimed at marginal or needy populations, which because of their specificity warrant mention in this section of our study. They are the self-building programmes for housing and community facilities carried out by various VTIs, and the training programme for community participation, carried out by SENA.

#### **i. Self-building programmes for housing**

The self-building strategy has been adopted by VTIs as a natural development of the decision to bring training in construction jobs to populations in marginal areas. In such situations it seems obvious - as it is generally, but particularly in this case - that it is foolish to waste materials and building processes in teaching demonstrations, when they could be applied to erecting real works that would be useful for course participants and their communities.

A range of variants arise out of this decision: programmes in which VTIs supply training materials for self-building, programmes in which the materials are to be provided by users, or others in which there is a combination of both sources depending on specific situations; from very small-scale programmes (a rural school, a few dwellings), to medium and large scale programmes (neighbourhoods having 200 dwellings, with urban-development works and community equipment); from programmes reduced to strictly production

processes, to programmes incorporating community mobilisation and organisation, etc.

SENA is the VTI that has done the most with this strategy. Its self-building support programme has been in existence for quite some time now, and it provides broad coverage. It is articulated with the processes of community organisation and support to the informal urban sector and the traditional rural sector carried out by the VTI, as well as with its open and distance training system, which provides it with audiovisual teaching materials and complete series of self-training booklets.

Along with its technical-pedagogical support and its operating capacity, a key factor in explaining the development of SENA's self-building programme is its integration with comprehensive processes of mobilisation, community organisation, and development of local or micro-regional projects, which is possible due to its articulation in a package of services constituted by the grassroots vocational promotion and open and distance training modes.

Thus, in urban zones training in self-building can be applied to the production of housing, of smaller urban development works, of community facilities, etc., and in this way be expanded into the sphere of training for management and protection of the urban habitat. At the same time, it can give rise to processes for generation of micro-enterprises and associative enterprises, supported by the training-production basis of self-building projects and the management experience they involve.

Likewise, in rural areas self-building includes housing, but also goes beyond it, covering production facilities, minor works for land and water protection and management, etc., and thus expands into training processes in environmental management and protection, technification of production practices, etc.

Self-building programmes have been carried out by SENCICO, INA, INCE Construcción, INFOP, etc. They are generally less developed than the SENA experience, but fall - with different slants - within equivalent approaches and have similar projections.

In an earlier section we mentioned the doubts expressed by some people at VTIs regarding the legitimacy of providing advisory services to micro-enterprises as vocational training *stricto sensu*. We also discussed the question of whether the training provided through self-building projects has the necessary requirements to ensure a certifiable and homogeneous skill level among project participants. The most skeptical commentators say that in

practice the instructor tends to become a "work master", thereby fulfilling more of an executive than a training role.

The danger undoubtedly exists, but it is not unavoidable. As in so many other situations of this type, the solution may lie in a clear identification of specific target populations, in a definition of differentiated roles within the self-building process, and in the definition of specific training objectives.

Thus we can identify at least three types of participants in self-building projects, with differentiated roles and training objectives.

- The first are students in systematic learning processes at schools or fixed centres, who participate in self-building projects in a triple role: carrying out practice that affirms their previous training, supporting the instructor as teaching monitors, and contributing to their overall training by performing a social service.

- The second are the members of the community group who, given their prior practical experience in construction, or their interest in joining that labour activity on a permanent basis, use participation in the programme as a "bridge" to more systematic training processes, where they can fill out the training acquired during self-building.

- Finally, there are the members of the community group who participate in self-building with the sole purpose of obtaining a product that will contribute to improving their living conditions. In addition to becoming involved in a mobilisation and solidary management experience with a great educational value in and of itself, and to having the opportunity to acquire certain basic skills in the tasks directly or indirectly linked to self-building, participants have the opportunity to become involved in other subsidiary or complementary processes, such as the creation of micro-enterprises, promotion of environmental protection groups, etc.

## **ii. Grassroots organisation training programmes**

The training and community organisation programmes carried out by SENA within the scope of its grassroots vocational promotion programmes, as executor of specific components of governmental plans for social development (such as the Comprehensive Rural Development Plan and the Plan for Eradication of Abject Poverty), in themselves constitute a specific strategy, not only because of their size and coverage, which are very significant, but also because of their meaning, insofar as they have encouraged a very intense

articulation of VT with broad socioeconomic and sociopolitical processes, to such an extent that in some cases one might argue whether or not it is still VT.

In fact, two basic determinants have been pointed out in this opening up process: in the first place, participatory and integrating methodologies, which seek to place training in the context of development processes that give it meaning and projection, and in the second place, government demands for it to assume responsibility for the community organisation component in certain social development programmes.

Thus, in the Comprehensive Rural Development Programme, aimed at the traditional rural sector, SENA is responsible for promoting peasant farmer participation in the neighbourhood, municipal and district committees, etc., through to national level.

This promotional task implies organisational training whose contents include subjects of a socioeconomic and sociopolitical nature, social mobilisation and organisation techniques, etc., which are exotic as compared to the traditional technical contents of VT, but which SENA has managed to articulate coherently by having community self-diagnoses focus on an analysis of subjects related to production and employment, leading to development plans in which specific objectives are designed for technical and entrepreneurial training.

There have been similar experiences, perhaps somewhat less clear in their articulation between the processes of community organisation and identification of objectives for technical and management training, in some urban programmes, such as those for support to the informal urban sector and to the processes of self-management of low-income housing.

The most recent application of this model was made in the framework of SENA's participation in the government plan for the fight against abject poverty. Under the plan, in addition to its more traditional functions of technical and administrative training within the components for generation of employment and income and improvement of human settlements, it has been assigned a new role: mobilisation and organisation of "Neighbourhood Associations", which are grassroots community groups whose fundamental mission, structuring the participation of the community in processes for decentralisation of the political-administrative system, no longer has a direct relationship with the spheres of production and labour that constitute the normal context of VT.

## **2. Programmes aimed at population groups or sectors defined by sociodemographic categories (women, young people, old people)**

VTI action in relation to these population groups can be seen from two perspectives: a general one, which looks at the levels of overall participation of each group within the institutional coverages and the existence or nonexistence of effective policies geared to increasing that participation, and a second, specific one, concerned with the existence of programmes especially aimed at those populations.

Moreover, we should not lose sight of the fact that the sociodemographic groups that face exclusion on the basis of sex or age, such as women and young people, suffer the problem more acutely when they pertain to similarly disadvantaged socioeconomic strata. For this reason - from the point of view of a comprehensive social policy - it should not suffice to verify overall levels of participation or the existence of specific programmes. Instead, attention should be given as well to the socioeconomic origin of the population assisted by the activity.

Naturally, there is another level of analysis, consisting of the verification of the effective impact of training on levels of employment, income and well-being of the population addressed, but, as we have said, there is almost no information of this sort available to provide for such an approach in this study.

### **i. Programmes for women**

The data on participation of women in total VTI enrollment, according to Cinterfor's annual statistics, show a generally fairly high level: approximately 42% for thirteen institutions in 1987, with a slightly increasing trend over the past few years.

If we compare the rate of women's participation in Latin American VTI enrollment with the rates of participation of women in the workforce in the region, which ranges from 30 to 40%, we can initially conclude that vocational training behaves positively in terms of the access it offers women in their supply of services. Its performance, however, is not of particular impact if we compare it with other forms of education: the participation of women in overall enrollment for formal education in the Latin American and Caribbean region ranges from 48 to 60%, according to the country and the level of education.

The overall figure is less impressive still if it is analysed by economic sector. What we find is a significant presence of women in the enrollment for the trade

and services sector, which merely reflects the general trend for women's participation in labour markets. Rates for participation in the primary and tertiary sectors are very low, again reflecting the behavior of the labour market.

Around the mid 1970s, especially since the International Year of Women in 1975, VTIs have been linked to the surge of policies and programmes geared to promoting the participation of women, in a regional effort promoted by CINTERFOR. Nevertheless, today there is only one VTI that maintains an institutional programme especially addressed to that population: INA of Costa Rica, which, moreover, has the highest indices of female participation in total enrollment (except for SENAC of Brazil, which specialises in the tertiary sector), which shows that it has applied a systematic policy along this line.

Notwithstanding the importance of policies aimed at increasing women's access to vocational training programmes, it is clear that the achievements made in this field are only partial, unless they are later reflected in a quantitative and qualitative improvement of women's labour insertion.

Increasing the rates of women's participation in the workforce is a desirable objective from the point of view of modernisation of the social roles of women in our societies; but it is not enough, since, apart from it arising spontaneously and independently from the supply of vocational training, the job market tends to reproduce discriminatory cultural stereotypes ("female" occupations, greater value given to male work, etc.) which are later reflected in employment rates and levels of remuneration that are consistently lower for women than for men.

This is especially acute in the case of women from low-income sectors of the population, who are at a double disadvantage because of their sex, their cultural limitations, and because of the burden of other social roles which for them cannot be delegated, such as household work, which condemn them to labour situations of over-exploitation, under-remuneration and informality.

VTIs, as in the case of INA, have sought to improve women's insertion in the job market by means of programmes promoting individual micro-enterprises or associative enterprises for women, especially women from low-income sectors, coming out of training programmes. One specific strategy, generally included in programmes addressing disadvantaged sectors as a whole, promotes micro-enterprises or enterprises made up of women who are already linked to the workforce. Another strategy, more linked to traditional training programmes, like apprenticeship, seeks to prepare young women to establish themselves as independent workers, or as micro-enterprise operators, or in self-managed associative enterprises.



These efforts would appear not to have achieved very significant results, but have added to the difficulties and demands inherent to the task of creating any enterprise, the restriction of doing so only with women. This implies problems in terms of the attitudinal and cultural limitations with which women come to the programmes, and of the hostile attitude of the family and social contexts, which conspires against the possibility of achieving the levels of productivity and profitability that would be necessary for generating stable employment and a satisfactory income.

As a consequence of the above, women's enterprises frequently end up in subsistence level activities, with scant possibilities for development, and reproducing, in spite of themselves, the discriminatory patterns they sought to combat.

This would seem to indicate that, instead of seeking to create exclusively "female" enterprises, a more appropriate strategy would be to increase the participation of women in the micro-enterprises or associative enterprises promoted as a general strategy for dealing with disadvantaged sectors, and whose profile is not determined primarily by the sex of its members, but instead by the technical-economic variables on which their viability in the market truly depends.

## ii. Programmes for young people

Despite the fact that from the outset Latin American VTIs have given great importance to the training of young people, especially through their "flagship" programme, apprenticeship, we have seen in previous chapters that today they are predominantly entities for the training of adults. It should be kept in mind, however, that the relationship between young people and adults addressed is less unbalanced than the figures suggest, due to the fact that statistical categories can be misleading, by hiding the fact that the training modes presumed to be aimed specifically at adults, in practice are aimed instead at the population already linked to the workforce, regardless of age. Unfortunately, there is no information broken down by age groups regarding the enrollment in these training modes to support this statement, but there is broad evidence to that effect.

Especially in programmes aimed at disadvantaged populations, VTIs generally show particular interest in addressing groups who are doubly affected by exclusion phenomena, such as young people and women. We can cite as examples the cases of INCE's Skill Qualification Programme, SENA's PPP, or INA's public workshops, which are massive in coverage, without age

restrictions for access, and where young people not only show very high enrollment, but are also given special priority, or even, as in the case of SENA's strategies for community participation training, where they perform leading roles in community mobilisation and in the pedagogical relationship itself.

Moreover, almost all the VTIs are carrying out special programmes aimed at disadvantaged youths. Some of the most generalised, or interesting, models are as follows:

- Programmes for skill initiation or qualification as a complement to formal schooling, aimed at offering improved alternatives for workforce insertion of marginal young populations, such as SENAI's Youth Vocational Initiation Programme (PIPMO), and INCE's Skill Qualification Programme (PHO) in conjunction with the Fundación Fe y Alegría.

- Programmes involving young people in the final stages of their process of vocational training, as assistants in activities for support of micro-enterprises, with a view to their acquiring a better perception of the real working world, develop entrepreneurial interest and initiative, and/or obtain job offers from the enterprises with which they come into contact. SENATI has reported cases of this type, but similar experiences, more or less specific, are known to exist at various VTIs.

- Programmes geared to promoting the creation of micro-enterprises or associative enterprises by young graduates of different vocational training modes. This has been one of the most attention-drawing subjects in recent times, as a response to the difficulties young graduates have in finding jobs. Generally these programmes are complemented by pedagogical strategies that seek to introduce, in the training programmes, processes and contents that stimulate initiative and entrepreneurial ability, along with inter-institutional systems that offer credit resources and technical assistance.

- Programmes training young people from disadvantaged communities or population groups, to act as mobilisers of organisation and development processes, and as auxiliary trainers or multipliers for VTI instructors. This type of programme, with a high participatory content and an express interest in the training of new leaders for community development, has been undertaken by SENA in its Training Programmes for Peasant Farmer Participation, Community Participation, etc., aimed at the informal urban sector and the traditional rural sector and administered by the Grassroots Vocational Promotion mode (mobile actions). Applications also exist in the open and distance training mode, at SENA as well.

There have been no reports of systematic evaluations of any of the aforesaid types of programmes especially aimed at disadvantaged youths. Nevertheless, a general assessment of their limitations and potentials, based on the experience at different VTIs, is not very different from the conclusions set forth above regarding the strategies aimed generally at populations in a situation of open unemployment, at the informal urban sector, or at the traditional rural sector.

### **iii. Programmes for old people and for children who work**

Some VTIs, such as INA and SENA, have had experiences with programmes for "senior citizens", generally in the context of agreements with social security institutions seeking to offer retired workers the means to supplement their income, or to involve themselves in useful activities to ease the feeling of abandonment and alienation that tends to affect retirees.

While such programmes have tended to be occasional and small-scale, they have allowed the VTIs involved to obtain basic experiences on a subject that is likely to become increasingly current in the future. The initial conclusions refer to the difficulty of achieving clear levels of commitment and persistence when the work is concentrated only on old people, and would seem to recommend an approach concentrating on cases where there is true economic need, and where there is integration in family and community contexts and processes providing emotional support and operational and income supplements for the activity of the elderly.

As regards children who work, an especially delicate subject from the point of view of ethics and social sensitivity, but which corresponds to real and frequent situations among disadvantaged groups or sectors, there are cases like those of SENA and SENAI, VTIs that have been called upon to cooperate with national policies for child workers. For the first one the institution's role has been geared to involving adult members of the family group in training and development programmes that improve income and reduce the pressure on children's work.

### **3. Programmes aimed at groups at a disadvantage due to ethno-cultural reasons**

Attention to minorities, or to groups at a disadvantage for ethnic or cultural reasons, such as the nuclei of surviving indigenous populations still not definitively affected by race mixing processes, or the nuclei of black populations in societies where they are a minority, is generally considered to be an exclusive subject of specialised institutions (indigenous institutions, etc.), which offer

comprehensive services including vocational education and technical assistance with the appropriate contents and/or languages for the specific group.

This does not mean that Latin American VTIs have completely omitted attention to these groups. In countries where there are large indigenous or black groups incorporated in processes of race mixture and peasant farming, or rural-urban migration and presence in the informal urban sector, they are covered by the overall programmes aimed at these broad disadvantaged groups or sectors. Unfortunately, there are no statistics breaking down these variables, and the analysis can thus only go this far.

Some VTIs, like SENA, have developed specific programmes for certain ethnic-cultural groups considered to be of special national interest for reasons of national sovereignty, such as the Guajiro indians, or the predominantly black, English-speaking inhabitants of the archipelago of San Andrés. In these cases, vocational training management includes mechanisms for involving representatives of the target populations, associating native instructors, and training programmes and teaching materials are produced in the respective language and/or with the pertinent cultural references.

It is interesting to note that in SENA's open and distance training programme a whole series of training programmes and materials have been produced in English and are now used as the basis for a regional horizontal cooperation project with VTIs in the English-speaking Caribbean, with CINTERFOR support.

**c. Programmes aimed at groups at a disadvantage for other specific or situational reasons**

***1. Programmes aimed at groups at a disadvantage due to physical or mental limitations***

All the VTIs report actions aimed at individuals having physical or mental limitations, although at very specific, almost insignificant levels, and generally in close coordination with centres specialising in rehabilitation or vocational promotion of such populations.

Coverages are probably a bit higher than reported, since there are no specialised statistical records, and reports thus depend on the personal knowledge of the informers. This, however, does not change the profile of a very low presence of this population in VTI programmes, or the fact that there tend not to be specific programmes addressed to this population.

The first factor explaining this situation is the difficulties for physical access by the population to the facilities where vocational training is given. The second, explained in part by the foregoing factor, is that there are specialised institutions, which, however, tend to offer very questionable levels of training, with very few occupational options, despite the fact that they tend to receive technical-pedagogical assistance from VTIs.

Progressively greater pressure can be expected for VTIs to broaden their direct coverage of these types of populations, since, through their own organisations and support entities, they are increasing social awareness of their needs and potentials, especially in the labour area. It would seem that the course to follow, in view of this situation, is a combination of increasing direct access of these populations to regular vocational training facilities, and establishment of clear policies and channels for coordination with specialised organisations and agencies.

SENA's case seems interesting along this line. It has slowly but surely created a technical unit in charge of external coordination and interlocution, for events such as "Abylimpic", as well as the internal promotion and coordination to respond to the demands it receives in this area.

## ***2. Programmes aimed at groups at a disadvantage as a result of deviations in social behaviour***

The considerations in relation to the foregoing category are almost equally true for this one, which fundamentally includes processes aimed at rehabilitation of drug addicts and prison inmates. Here, however, there are special difficulties. In the case of drug addicts, the fact is that for them work is essentially a therapeutic resource rather than an occupational option. In the case of inmates, there is the fact that the prison environment, in most cases, is so over-crowded and so physically and morally deteriorated, that the rehabilitation possibilities of training lose most of their effectiveness.

Nevertheless, social and political pressures tend to keep VTIs involved in these types of programmes. In view of this situation, institutions tend to apply a strategy of "negotiating" minimum conditions for selecting participants (favouring those who appear to be closer to real possibilities for job insertion), and for training facilities (appropriate workshops, security, stability of groups, isolation from conflict situations, etc.).

This is the generalised opinion in the reports on this subject by Latin American VTIs that have had relatively significant and lengthy programmes for inmates. Such are the cases of INA, INCE and SENA.

### ***3. Programmes aimed at groups at a disadvantage due to social or natural disasters***

With the increase of the prestige and commitment of VTIs as entities participating in social development policies and programmes, there has been an increase in the demand for them to contribute to dealing with catastrophic situations of different sorts.

In some cases, it is a question of assisting in processes of rehabilitation and/or relocation of populations affected by wars or by phenomena of political or social violence of different types. INA has reported experiences in assisting political or war refugees, and SENA in cocaine-substitution processes for farmers, etc.

In other cases, they are called upon to respond to processes of socioeconomic rehabilitation after natural disasters, such as earthquakes, floods, fires. SENCICO, INTECAP and SENA have had major experiences. SENA, particularly, has developed rehabilitation models around vocational training, based on community self-building and rebuilding of housing and public facilities, and creation and rehabilitation of micro-enterprises and associative enterprises.

These models, developed particularly after the earthquake that devastated the Cauca region and after the eruption of the Arenas volcano, both during the first half of the 1980s, have advanced to the point where they are no longer aimed exclusively at dealing with the consequences of this type of event, but also have given rise to training packages for preventing and managing disasters, involving the question of environmental protection and recovery, a factor which is very much linked to various types of "natural" disasters, such as the floods whose effects are worsened by deforestation, or the droughts, due to the depletion of sources of water.

SENA's experiences in disaster prevention and management are one of the most interesting areas for validating approaches that seek to place vocational training in a much more comprehensive context than that of the traditional enterprise. They bring together processes of organisational, technological and management training to deal with labour/production, social and environmental problems in a creative and dynamic way. These processes have at this point been tried in a variety of real-life situations.

### 3. METHODOLOGICAL DECANTING OF EXPERIENCE

The previous sections of this chapter should have provided enough evidence to appreciate the wealth of experience that Latin American VTIs have gained from their close connection with less privileged groups or sectors, and their enormous potential as an effective instrument of social policies geared towards furthering redistribution processes in the labour-productive sphere, having great chances of impact on the employment-income binomial in an intensely participative manner.

But, just as a lot has been learnt about strategies and methods of intervention in this field, it has also been learnt that the path is full of pitfalls and difficulties and that the process of approaching this situation is arduous; that it may give rise to stress, conflicts and institutional uncertainty, where problems of identity, priority, equity, allocation of resources, efficiency and effectiveness are all questioned.

In this section an attempt will be made to decant some of the lessons learnt, the conclusions arrived at in a collective learning process, to a great extent undertaken through trial and error, that is an expression of the VTIs' creativity and dynamism. It has been costly in efforts, frustrations, errors, on occasions in waste. However, the process has the virtue of learning in action. (Not by chance the same teaching principle as that of VT).

The conclusions set out herebelow do not attempt to provide a listing of univocal and infallible recipes for all the issues that arise around the subject of VT for less privileged groups or sectors, but perhaps will prove useful as a set of reference criteria for policy, administration and programme decision-making in this field, and as raw material for the construction of suitable methodological models contributing towards the global process of VT renovation and expansion.

First of all, some ideas are presented herewith concerning basic criteria as a framework for methodological discussions. At the end of the section, a proposal for methodological systematisation of VT is made, geared towards less privileged groups.

#### a. Some criteria taken from experience

##### *1. This is a serious matter ("...not merely social dues...")*

The first lesson to be learnt from the experience of Latin American VTIs in the attention of less privileged groups or sectors, is that - although obvious should it be - this is an issue that should be taken very seriously.

Serious are the economic, social and political demands that this subject of less privileged groups gives rise to in VT, because they are an expression of structural features and long lasting processes within Latin American societies and are not marginal or situational phenomena that can be ignored or given superficial attention.

Serious is the potential of social development latent in the less privileged sectors, not only in their capacity to overcome their own limitations, but also to impact decisively on the building of alternative development models, able to surmount the limitations and deformations of models presently in use. And, serious is the capacity of VT to contribute towards triggering and channelling this potential.

Serious are the institutional implications of a commitment with less privileged sectors or groups, going further than political declarations and marginal programmes. The interests of groups traditionally accepted as the legitimate beneficiaries of VTIs are affected, the network of institutional interlocution becomes more complex and difficult, tensions arise inside organisations, and the very role and identity they had traditionally been assigned are questioned.

Serious are the demands of theoretical, methodological, operational and administrative construction posed by attention to less privileged sectors or groups, if a supply of services fulfilling all the criteria of relevance, rationality, efficiency, and effectiveness is to be structured.

All the above comprises a sufficiently serious matter as to demand clear and timely definitions as to objectives, intensity, duration and scope of the institutional commitment to the issue of less privileged groups or sectors. Definitions of the risks and stress that the institutions are willing to undergo in changing their status quo, and definitions of the size of the financial, operative and methodological effort they are willing to make.

Certainly, it is not always possible to have the political autonomy, the financial resources and the technical elements with which to anticipate, plan and develop decisions such as this in an orderly logical manner, without interference; and for this reason great doses of creativity, flexibility and perseverance will have to be applied.

It is also true that if this anticipation is forfeited and a purely reactive attitude is assumed, it will lead to randomness, dispersion and discontinuity of actions, resulting in institutional inefficiency and wear, not only undermining



the effectiveness of the efforts made, but impairing the reputation of possible actions in a field having so many demands and possibilities for VT.

***2. The balance between the principle of reality and the desire to serve  
(...between romanticism and pragmatism...)***

The high reputation of VTIs in their respective countries, their strength and financial autonomy, the general acceptance of VT among lower-income sectors, the service mystique surrounding VTI staff, their active operational capacity, are factors - among others - that explain the pressure exerted on them to widen their coverage and fields of action, to take on new functions in the national plans and policies for social development, and, on occasions, to substitute other specialised institutions that are not quite so reliable.

These same factors, and this same effect of a feeling of pressure, have given rise, within the VTIs, to a feeling of social commitment and a great degree of confidence in the capacity for institutional response that is sometimes over-estimated, leading to volunteerism or quixotic attitudes. Among all these opportunities there is always the possibility of penetration of less noble interests, of political or personal ilk.

And here therefore comes to play the need to be aware, to maintain the delicate balance between enthusiasm and realism, between extreme romanticism and pragmatism, between the impulse of service and the need for reflection, analysis and self-control. Not all the demands made on VTIs in favour of less privileged groups is possible, or suitable, or relevant, or sufficient, and there must be a minimum of criteria for the examination of alternatives and selection of options, and to establish an order of priority.

***3. Understanding the true situation (...There is nothing as practical  
as a good theory...)***

The so-called less privileged groups or sectors are part of a complex and many-sided social situation, and they themselves are complex and heterogeneous in their external manifestations and in their less visible determinations. It is not possible to attempt undertaking any action with them on the basis of simplistic or prejudiced conceptions, or categories of analysis developed for other, apparently similar, situations.

Understanding the nature and the historical, social, economic and cultural determinations that explain this social situation, and finding the process and critical points of its structure and operation, where VT has a better opportunity of achieving a significant impact, are essential in order to formulate suitable

strategies and methodologies. It is unnecessary, and certainly unadvisable, that VTIs should become research institutes or institutes of erudite academic discussion, but it is essential to establish a minimum capacity for consultation and interlocution with specialised centres able to provide these elements. This implies overcoming a certain empirical squeamishness that mystifies practice and is contemptuous of theory, often felt in VTIs.

***4. Appraisal of the potential and the limitations of VT***  
***("...VT is not a universal remedy...")***

VT, together with other forms of education, shares enormous potentialities: it generates and transmits values, knowledge, skills; it builds a social identity, develops personality; provides instruments for the development of culture and productive forces. But it is not self-determined or self-sufficient: its potential is realised insofar as the other factors within the context assist in its fulfillment.

If this is true for all types of education, it is more so for VT, committed as it is to definite and immediate objectives in the world of labour and production, not only at the level of apprenticeships (visibly not enough to justify it socially, particularly when dealing with less privileged groups or sectors), but also at the level of improvement in employment and in the incomes of the target population.

Of course, VT ideally should respond to the demands of a developed productive apparatus. This will require trained human resources to whom it would offer job opportunities that are well-remunerated, both materially and spiritually. However, within our societies there is an informal sector, a traditional rural sector, chronic unemployment, precisely because the productive apparatus does not offer these opportunities to the whole population.

Therefore, it is expected that VT will take on a more active role, geared towards improving performance and the results of productive activities of those workers who have established their own informal job or who subsist in traditional production methods. It should be of support to those who are committed to the creation of new productive units in which to employ their work capacity and generate jobs and income.

Now, the establishment of new enterprises, the improvement of productivity and profitability of a set of informal production units, etc., are not objectives which may be attained by VT in itself. This will require complementary inputs such as credits, technical assistance, infrastructures supporting marketing, legal assistance, organisational assistance, etc. Not

only does it require them, but their provision must come in "packages" of integrated services, suited to the specific characteristics of the various groups or sectors. That is to say, that they fit into clearly defined intervention strategies.

If these conditions are not fulfilled, VT runs the risk of losing efficiency, effectiveness and, even, relevance. It is at this point that isolated, massive and open supply of accelerated semiqualfication becomes validly questionable, as to its cost/benefit, and exposed to esterile teaching processes, such as standardisation and routine.

There are many demonstration experiences or pilot projects in which the VTIs have managed to attract "special" credit resources, for marketing support, etc., generally within the framework of international technical cooperation programmes, and which have shown the capacity of VT to enrich, transform and effectively assist in reaching the broad objectives of labour, income and well-being. The problem resides in the impossibility of expanding these experiences, once those "special" conditions are no longer available and they have not been incorporated into policies and the institutional apparatus of development services.

But VTIs may have - and effectively have had in many cases - a very important role to play in convoking political and technical conditions for the establishment of these policies and institutional apparatus. In the first place, because their reputation and operational capacity makes them fitting to carry out pilot experiments; secondly, because VT provides any social development process with a basic element: its capacity to convoke and mobilise the participation of the population involved. This capacity is based on the motivation deriving from the prospects of improving jobs and income, and on the teaching value of training for and on the job.

This all goes to point out that a basic challenge to VTIs involved in policies of support to less privileged groups or sectors, is to be able to acknowledge the limitations of their own mechanisms to produce results by themselves; and also to assert their intrinsic and extrinsic potentialities at the hour of calling for political and technical decisions for the creation of institutional conditions and allocation of resources to provide a framework and complement their action.

***5. The advisability of a clear strategy for action ("...make your own way, but also use and make maps...")***

As the true situation of less privileged social groups or sectors is complex and heterogeneous, carefully prepared and differential policies and strategies are

needed to address it. Taking into account the need for VT to be situated within these policies and strategies and within the institutional framework that implements them, it becomes clear that VTIs cannot standardise their programmes to fit all types of less privileged populations. But likewise, they cannot fall into the casuistry of an individual response to each programme or project that comes up.

Therefore it is necessary to have varied strategies for action to be applied in analogue sets of situations. These strategies should provide a framework within which the role, objectives, functions and methods of action of VT will be placed in programmes aimed at less privileged groups or sectors.

An effective strategy for action should provide a response, perhaps partial or provisional, but at least clear, to the following questions:

i. What is the specific nature of the target population? How does this population characterise itself and its social relationships? How does it explain its less privileged situation? Which are the points and critical processes where it is feasible to act and to modify this less privileged situation?

ii. Specifically for VT, what is the nature, form and process of labour/productive insertion of the target group? How can that insertion be characterised in terms of occupational categories and types of productive units?

iii. As to its labour/productive insertion, what are its less privileged factors? What are the options to overcome the situation? What are the potentials and the restrictions to attaining this goal? Which are the alternatives for improvement? For instance:

- Does it imply improving and stabilising its present form of insertion, although it may be precarious, seeking basically to ensure a capacity for survival?

- Does it imply dynamising and projecting the present form of insertion, seeking to trigger off development that will give rise to structured, stable and remunerative forms of jobs and income?

- Does it imply facilitating transfer of that population to other sectors of the economy that offer better possibilities for labour/production insertion?

- Does it imply combining various of the above options? If so, what combination is foreseen?

- Whereas action is concentrated on creation, stabilisation or development of productive units, what option is taken between individual and associative forms, or what combination of them?

- Whereas the creation or development of productive units is sought, what are the types of market and the technological profiles that offer better opportunities for competition and profitability, bearing in mind cultural conditions and available resources?

iv. What is the specific role of VT within each strategy, and what are the minimum conditions under which it is able to fulfil its objective? Some of the ones to be defined are:

- Conditions for the selection of the participating population.
- Conditions for assistance or complementary inputs for VT (credits, technical assistance, organisational assistance, infrastructure to support marketing, placement services, etc.).
- Conditions for methodological and logistic provision for VT in itself (curricular design, production of teaching aids, establishment of teaching teams and advisory groups, definition of training methods, systems of certificates and validation, preparation of the operational infrastructure; design of agile and flexible administrative systems; preparation of information, follow-up, and evaluation systems, etc.).

This does not attempt to be an exhaustive listing of the contents of an intervention strategy geared towards less privileged sectors or groups. It simply sets out, as an illustration, some of its basic elements, identified on the basis of experience obtained by Latin American VTIs (either because they have found it advisable to define these elements in a timely way, or because they missed them when the programmes did not operate properly). An intervention strategy is not an original discovery or a tool to be exclusively applied when dealing with less privileged sectors or groups. It is simply the result of applying simple and obvious tools commonly used in the diagnosis, formulation and design of any systematic social intervention, applied to this specific case.

However, much of the experience of VTIs in this field has lacked an adequate strategy definition, or such a definition has been kept at an implicit level, which has prevented its verification, validation and dissemination.

#### ***6. Interdisciplinary complementation and inter-institutional linkages*** ***("...knowing how to choose partners...")***

A richly contextualised VT, having multi-facetic contents, such as that required by less privileged groups or sectors, in turn requires interdisciplinary teams and interinstitutional frameworks for its proper operation. The tasks of diagnosis and design that are necessary to elaborate strategies for action, must take due account of economic, social, cultural, technological factors, etc. And to

manage these factors, specialised professionals are needed, who will supply their theoretical and empirical knowledge, as well as their techniques for research and social action inherent to each discipline. The integrating axis of this interdisciplinary effort is the examination of labour and productive processes, from the perspective of identification and outlining the role of VT within each specific strategy for action for less privileged groups or sectors.

Likewise, in the design and production of curricula and teaching aids, in the preparation of teams of educational agents (teachers, advisors, etc.), in the identification and preparation of ways of providing services, in the establishment of the basic lines for follow-up and evaluation. There is a need for interdisciplinary teams who are able to structure teaching processes that will integrate contents of a cognitive, appraisal and operational type for organisation areas, enterprise management and productive technology.

Finally, in programme operation, there is a need to manage motivation, mobilisation and group organisation processes, structured training processes, enterprise consultancy processes, technological assistance and advice, etc. Very frequently these processes will have to be organised and managed as projects, with the demands of programming, coordination and control; obviously, all this demands multidisciplinary teams.

At a first glance, this insistence on what seems so obvious - the need for interdisciplinary - may look surprising. However, very frequently VTIs rightly proud of their tradition and methodological know-how, and fearing academic "contamination" by formal education, tend to perpetuate and reproduce it - in a conservative way - through their own systems for internal training.

This makes them inclined towards mechanisation and methodological rigidity, an ill to which specialists trained by VTIs themselves fall prey, as they tend to form closed groups, disposed towards isolation and refractory to transdisciplinary contact, especially from outside their institutional frontiers.

This phenomenon, which is clearly undesirable, even in the development of VT within its "classical" fields of action, must be completely overcome in order to attend to less privileged groups or sectors. The hypothesis may be made that, perhaps, to a great extent, it is this factor that explains the hostility with which certain sectors within VTIs themselves regard this field of action.

The variety of forms and contents of VT for less privileged groups requires not only multidisciplinary complementarity for internal management, but involves intensive external linkages with the broad process of organisation and development of the community, sector, region, etc, as the context in which the

dynamics favouring improvement of labour/productivity insertion of their target populations is created.

These linkages imply developing the capacity of planners and executors of VT, to relate it to integrated community development processes, combining actions in the field of labour and production with other fields such as housing, health, and community participation. Likewise, relating it to regional development processes, linking urban and rural contexts, creation of physical infrastructure and improvement of production, etc. And also relating it to development processes geared towards making an economic sector more dynamic by providing it with the infrastructure and resources for production and marketing, etc.

Linkage to comprehensive development processes can be achieved in two, not necessarily coinciding, ways: through state-promoted plans and programmes, or through spontaneous organisation and participation processes arising among the target population or its community context.

The participation issue will be discussed in detail in the next section, but at this point we shall refer to inter-institutional linkages, in development plans and programmes of whatever origin.

Planned inter-institutional contexts make it possible to define in a clear and timely manner the global framework of development objectives and strategies, specific strategies geared towards concrete less privileged groups or sectors, the specific role to be played by VT in these strategies, and what can be expected from institutions responsible for providing other inputs and complementary services.

But they also make other demands on VTIs:

- Development of the capacity for technical interlocution with those in charge of designing and planning this type of programmes, in order to provide information, criteria and methodological tools for the comprehensive design of programmes, as well as concrete and suitable proposals to define the role of VT within said programmes. This is essential to avoid the definition from the outside of the role of VT, occasionally done using stereotyped and simplistic criteria, through lack of knowledge of the subject.

- Development of a discipline for programming, coordinating and controlling complex activities, probably structured by projects, that is necessary to ensure timely and adequate fulfilment of its functions without hindering the general progress of the programme.

- Finally, the development of a capacity to manage the sometimes difficult and irritating problems of inter-institutional coordination. In order to do this it is essential to reach a considerable degree of understanding of the processes managed by other institutions, in such a way that - in knowledge of their possibilities and limitations - it will be possible to establish a dialogue going beyond the mechanical coordination problems, minimise the possibilities of conflicts and, on the contrary, increase possibilities of complementation. For this too it is useful to have interdisciplinary resources within the VTIs.

Generally, in the interinstitutional classification of integrated development plans and processes, VTIs are placed within the "production and employment" components, as a complement to other basic social service components, physical infrastructure, and community organisation components.

Within the production component, it is expected that the VT component will be complemented by those of credit and technical assistance, that would be the responsibility of other specialised bodies. However, and particularly when dealing with programmes for less privileged groups or sectors, delimitation of responsibilities and fields of action is not always as sharp as might be expected.

In fact, as training becomes more open and is inserted in more integrative and dynamic development processes, it must get involved in fields such as consultancies in business administration, technological assistance, etc., which are often considered to be the exclusive ground of other bodies. This might give rise to conflicts that are even more deplorable when considering that the demand for services is so wide that not even the combined coverage of the conflicting institutions could satisfy it. The only way to manage these situations is through a basic agreement on the strategies and methods of action, in such a way as to make it possible to distribute coverage with the criteria of optimising joint capacities.

However, it is not only in the "production and labour" components of integrated development programmes that possibilities arise and demands are generated for VT. In the basic components of social services (health, housing, education, etc.) there are very important fields for specific applications of training. For example, in the area of housing, self-building processes give rise to demands for training, not only in technical aspects of building but also in the development of organisational and management capacities.

These examples make it possible to set forth two important functions opened up to VTIs in this type of integrated programmes: the training of community multipliers (to which a more detailed reference will be made in the next section



concerning community participation), and the training of institutional development agents.

The training of institutional agents at the middle technical level is a ground which is already well known to VTIs, particularly those operating in the service sector and who have established training agreements with state bodies, for example in the area of health: prevention promoters in community health, nursing auxiliaries, environmental protection technologists, etc. The training profile of these jobs implies, further to the specific technologies in their field of action, technologies for diagnostic, formulation and attendance of projects and processes of wide community participation, having an essentially pedagogical and social nature.

When the VTIs take on responsibilities in the training of this type of institutional agents, they do so through cooperation agreements with the bodies that hire them. This opens up opportunities for methodological exchange and mutual understanding that must be translated into a better capacity for inter-institutional coordination.

***7. The participation of the target population ("...the greater the affection, the greater the respect...")***

Participation of the target population is already an essential element in any development strategy, but has different approaches that oscillate between two basic positions: participation as a concession being given, and participation as a right being exercised.

Furthermore, and to a great extent determined by the approach adopted, various levels of participation can be given to the target population in development programmes, ranging from restricted and passive participation, limited to providing information and doing work in institutionally defined programmes, to participation as a consultation on needs and options through traditional leaders, and participation as a deliberate process, geared to developing an effective and democratic capacity for co-management.

Without exception, all the formulations on participation of the target population to be found in VTIs, concerning attention to less privileged groups or sectors, emphasise their affiliation to non-assistance concepts, whereby it is inferred that there is at least a predisposition towards a broader approach to this participation. Now, it is well-known that - in general - there is a tendency towards much talk and little action in this field, which justifies a reasonable scepticism at the outset.

However, it may be seen that, within the wide spectrum of experience of the Latin American VTIs in this field, with varying degrees of intensity and generalisation, developments have indeed taken place that warrant highlighting in the practice of active participation processes of the target populations. What is most significant in this experience is that, besides expressing an advanced concept of social development, it has proven to be of considerable practical value because of its real contribution to the improvement of effectiveness and relevance of the respective programmes.

Some lessons gained from this experience are presented herewith, listed not necessarily in order of importance:

In the first place, participation criteria must be understood in a comprehensive way. This means that, in addition to being defined and instrumented through the global action strategies that are the framework for VT, they must also be incorporated into the conception and practice of training in itself, as a participatory teaching process. This fundamental aspect will be dealt with in detail further on.

Secondly, this strategy should contemplate concrete lines of action, aimed at developing the target population's capacity for participation, and at creating opportunities to exercise this capacity in real processes for the management of integrated projects, where learning takes place, mutually strengthened by experience and training at the level of labour/productive activities.

It is thus that special importance is given to methodologies that provide a basis for training processes based on group self-diagnosis activities and formulation of development projects, in which specific training, advisory, and technical assistance activities are identified and programmed. Similarly, the figure of community multipliers or endogenous development agents gains importance, taking on the role of encouraging organisation of the target population, support and implementation of service provision, support to project programming, coordination and control, mobilisation of the populations' own resources (workshops, materials, potential trainers, etc.).

VT has an exceptional potential for the development of participation processes within it, and for their promotion in integrated development projects, because, as it moves directly in the labour/productive sphere, it enjoys a special convocation and motivation capacity, in view of the interest shown by the target population in obtaining concrete results in terms of the job-income binomial.

But beyond this training possibility, there is another one that is of particular importance for far reaching participating strategies, and this refers to the

interest shown by the trade union, community or economic organisations of the target population who are aware of the strategic importance of the improvement of their capacity to manage social and enterprise development processes, key elements in gaining power at the level of political participation.

An important political phenomenon, appearing in different ways, but which has become generalised in the countries of Latin America over the past years, is the pressure to speed up processes for the decentralisation of political life and public administration. Increasingly greater value is placed on the capability of the local communities, of the municipalities and of the region to take on the management of their own development processes. This has established a particularly favourable context - if not an absolute demand - for participation processes within VT, particularly that geared towards less privileged groups or sectors.

#### ***8. Training, a conductor wire ("...let us not forget what our job is ...")***

The incorporation of integration, linking and outward-looking criteria into VT, particularly when implemented with enthusiasm and from positions critical of orthodox traditions, should not make us forget that their doubtless value would be seriously questioned at the point where their uncontrolled application might compromise the very identity of VT, and/or displace VTIs from their specific functions.

This control is not easy to achieve once the process of expansion has started, as it is easier to point out the strict boundaries to be broken down in "classical" conceptions of VT, than to define new limits in the proposed changes.

It should be borne in mind the great step forward implied by VTIs having overcome its initial conception of preparation for employment in formal and specialised jobs, and the second great step reflected in their wider functions in education in and for productive labour. In the field of attention to less privileged groups and sectors, the very concept of productive labour itself has been expanded. This now incorporates any of the forms taken on by a person's labour/ productive insertion, together with activities that do not have an immediate monetary value, such as production tasks for own consumption, or self-building, protection of the environment and maintenance of public works and services undertaken by community organisations, etc.

The range is broadened even further with the incorporation into training contents of issues referring to business management, and trade union and economic organisation of the target populations, together with contents referring to the production of goods or services.

Naturally all this leads to the new limits being very hazy, and effectively the risk is being run of a loss of identity in this function, together with institutional vulnerability to questioning or manipulation.

There are no infallible recipes to avoid this danger and it will have to be lived with in processes for less privileged groups or sectors. But somewhere along the line, tools will have to be found to deal with the situation, and this will be in the development of a pedagogical basis and in the refinement of operational structures for these populations' VT. It is in this praxis that criteria, methodologies and specific, concrete tools will be defined, which will make it possible to put forth sound arguments in discussions over identity, and to control the danger of institutional displacement or manipulation.

In the following section an attempt has been made to provide a proposal for systematisation along this path.

**b. A proposal for methodological systematisation of VT  
for less privileged population groups**

So far, this document has set out the data gathered from the experience of Latin America VTIs on their activities geared towards less privileged population groups. In order to make reading easier and given the overall descriptive nature of the paper, the definite source of each experience has not been pointed out, but nevertheless the nature of this presentation has been one of systematisation of experience, in an inductive analysis process.

We shall now attempt to round off, at least in a provisional way, this inductive process, presenting a proposal for general methodological systematisation of VT programmes aimed at less privileged population groups.

Before going on, a clarification needs making. So far reference has been made in the text to the target population as "less privileged groups or sectors", to indicate that it includes the whole range of types listed in section 2 of this chapter, ranging from those whose disadvantage is explained by their place in the structure of the labour/productive scheme (for example the informal urban sector), through those who are defined in relation to categories of a social order, either by exclusion (such as marginality), or discrimination for socio-demographic or socio-cultural reasons (such as women or indigenous population), to those whose disadvantage is determined by more specific or situational reasons (such as the physically handicapped or victims of natural catastrophes).

However, this typology which gathers and classifies the wide range of less privileged population groups covered by VTIs includes very heterogeneous groups and sectors, which have been characterised by applying very different analytical categories. On this basis it would be impossible to suggest a methodological framework in common.

It has also been stressed that the characterisation of the target populations that best fits the nature of VT is that which refers to the world of labour/productivity, such as the informal urban sector, the traditional rural sector, open unemployment, etc., in which reference is made to analytical categories such as the nature and degree of development of productive units, the position of people in the labour force, or their specific form of job insertion.

The informal urban sector, open unemployment, the traditional rural sector, etc., are prevailing forms of labour/productivity insertion in populations classified as marginal or in a situation of critical poverty. At the same time, groups or sectors excluded because of sex, ethnic or cultural reasons, are of interest within a social policy, not only in themselves but as far as they undergo marginality, poverty, etc., and therefore priority attention will probably be centered on groups whose labour/productive insertion is of the aforementioned type. The same occurs with groups whose less privileged situation is due to specific reasons or conjunctures.

Accordingly, from now on, the methodological systematisation presented will refer to VT for groups or sectors of the population in less privileged situations due to their place in the productive structure and in the labour market, generally implying situations of poverty and cultural limitations.

The specific characteristics that individuals or groups of this population might have, referring to conditions of gender, age, ethnic group, physical handicap, vulnerability to catastrophes, social behaviour, etc., are variables that will be taken into consideration in the specific processes and contents of the methodology, but do not affect its conceptual framework or its basic structure.

***1. The aim: training for a job and development***  
***("...more than mere survival... more than just assistance...")***

VT for less privileged population groups should be training for productive labour and for social development. That is, it should contribute to make labour/productive insertion easier for its target population, in such a way that - besides offering immediate job or income opportunities - it contributes to the general development of the production apparatus, while assisting the process of change

leading to overcoming the constraints, imbalances and inequities, thereby eliminating the structural determination of less privileged situations.

For ethical principles and for practical reasons, VT excludes mere assistance, and surmounts positions restricting the aim of its activity to ensuring survival of less privileged population groups. Evidently, this survival should be a first priority, but this will always be a very precarious situation if a process of economic growth, increasing the total mass of available goods and services, is not achieved. Therefore, training should give priority to development contexts promoting the effective insertion of the target population into modern production, distribution and consumption circuits.

However, it is equally imperative to avoid contributing to this growth and insertion by simply reproducing conditions of inequity and productive inefficiency prevailing originally. Training should also contribute towards change through contents and processes geared towards developing understanding and a capacity for organised action in economic and socio-political spheres.

## ***2. Pedagogical bases of training for labour and development*** ***("...they know more than we think...")***

Training for labour and development seeks to overcome the simple transmission of operational skills, production or management techniques, by the comprehensive development in the target population of a conscious mastery of the production process and of the understanding of its context.

The only way to contribute to such a process is through training methods that consider the members of the target population as active subjects participating in and responsible for their own development, able to understand the socioeconomic processes they are involved in. This demands a teaching methodology that is mindful of power, authority and domination relationships, ready to permit the self-determination of its target populations, based on teaching technologies in accordance with these criteria.

Training for labour and development gives a privileged position to teaching-learning processes that center on the student, preferably in collective contexts; that develop creativity and enable students to consciously administer their learning process, adapting it to their own rhythm and particular interests. Many forms of formal, non-formal, informal, or incidental education, which at times complement, at times contradict, and at times mutually support each other, all have an impact on the target populations. For this reason, training

for labour and development should be recognised as part of an open and permanent educational process, and therefore anticipate the best way of linking itself with other educational modalities that best complement it and strengthen it.

### ***3. Training agents ("...process administrators... not content transmitters...")***

The ample concept of training agents is preferred, meaning that, in training for labour and development, this function is not limited to the traditional teaching-instructor, but that it involves consultants in business management, technical assistants, development agents from other institutions participating in integrated processes, community extension workers, whether they have been trained on an ad hoc basis or have appeared spontaneously, etc.

The collective characterisation of the training agent, as an interdisciplinary team that takes part by encouraging, supporting, guiding and controlling the training process, contributes towards promoting the progressive autonomy of the target populations and in developing in them an interest in cooperation and management. This collective configuration, although open to linkages with other agents in the various phases of the training process, cannot be left to chance. It has to be based on a careful process of selection and training and on the technique of project work.

The training of training agents, insofar as possible, should be carried out through self-managed processes, in collective and practical contexts, such as in those processes where it is expected they will have to act.

### ***4. Training programmes ("...Systems...")***

The fact that open and dynamic training processes are suggested, structured around concrete development projects, and that, consequently, traditional programmes and curricula have proven to be inadequate, does not mean that training should be left to chance. Well-defined (but not closed) frameworks are needed, together with catalogues of essential and optional contents (leaving space for unforeseeables) and clear (but not rigid) paths along which to advance. In short, a systemic approach to programming.

The programming of training for labour and development should be functional. It should be built around the identification of problems and critical needs in the forms of labour and management used in the informal sector, and on the design of improved profiles incorporating suitable technologies. In this way, mechanical transposition of production technologies used at other levels

will be avoided, as their demands and nature are very different. Management techniques that are either exotic or academistic within the context of the target population should also be avoided. Essentially, the functional nature of programming should ensure its capacity to respond to real problems, felt by the target population.

Programming should be comprehensive: not only should its content include technologies for the production of goods or services, but particular emphasis should be placed on the development and implementation of the business management capacity. All this should be enhanced by contents referring to social and economic contexts that frame and determine labour/productive insertion of the less privileged sectors, using organisational training elements to support and project improvement in production and management, ensuring that the increments achieved in the productivity sphere are also expressed in the spheres of profitability and well-being.

This arrangement also demands that programming should be comprehensive insofar as it anticipates and classifies, around the development of skills, processes for the development of knowledge and attitudes and values.

Programming should be projective. Functionality should not imply that training must be limited to the immediate set of technical problems a specific target population faces, or to the immediate needs of a subsistence production. Starting at this level it should be possible to offer development possibilities to the target populations wishing or needing to complement or deepen their training in order to have access to more demanding levels of technology and management.

Programming projection should ensure that VTI services to less privileged groups or sectors do not become, under the pretext of their specificity and the low cultural entry levels, second class training, and/or a world which is isolated from the other VTI opportunities for training. On the contrary, these services must take place in a dynamic and transitional environment.

For this reason, the programmes should include activities that bring the target populations into contact with the most developed labour/productive contexts, and be clearly related to programmes that are used to cover the needs of the "formal" sectors, by means of credit, validation and certificate systems.

This programming should also be linked to systems outside VT; with those of out-of-school basic education, popular education, etc., seeking to provide the target populations with possibilities of access to basic training in mathematics,



reading and writing skills, etc., and the development of skills for expression and management of formal processes and institutional environments.

In order to be consequent with the aforementioned criteria, programming should be flexible. It should be sufficiently versatile to adapt to a wide range of economic, social, technological and cultural situations of the target population and its forms of production.

This flexibility, which assumes a diversity of contents and training levels, is implemented through a modular programme organisation, which is the only way to enable various combinations and variations in the training process, while keeping control over them and ensuring integrative and projective strategies.

This modular organisation requires a wide range of training events and activities (courses, workshops, seminars, educational tours, etc.) classified by technological levels, levels of complexity, modalities of training (in person, at distance, in centers, at the enterprise, etc.), in which programmers can use the elements they require to shape the training itinerary that is needed to respond to the requirements of a given target population, in a specific development situation.

The above leads to another criterion, which is essential in providing a meaning to most of the previous ones, and that is the need for programming to be structured by projects.

In fact, it would not be possible to respond to the criterion of functionality with a rigid and stereotyped programme; it would not be consequent to advocate participation in training if the self-diagnosis and objectives of development set out by the target population do not find specific responses, adapted to specific requirements; integration into interinstitutional schemes would become a simple mechanical exercise if programming of VT were to be a stagnant compartment without the capacity to adapt and adjust to the objectives and evolution of development processes formulated within the whole context.

Programming by projects makes it possible to organise training itineraries that include activities and contents of a technical/operational type, of a conceptual type and of an assessment type. All this should be delivered in the measure needed to attain the objectives of integrality, providing linkage mechanisms with training systems aimed at other population types and at more advanced technological levels that guarantee the projection of the training effort.

For the same reason, these programmes require the support of suitable systems for certification and validation.

### ***5. Functions of training ("...continuous training...")***

Depending on the nature of the specific problem they should contribute to solving, three major operational training functions may be identified for less privileged groups or sectors: training, promotion, and consultancy.

Training is geared towards raising the target population's level of competence, in the fulfillment of jobs related with the production process for certain goods and services; for management of that same process, and for tasks implying its own well-being and development. Training techniques not only include the traditional in-person type (no less valid for being traditional), such as courses, workshops, seminars, etc., but also those developed more recently, such as self-training techniques.

Promotion is aimed at the social integration of an initially disperse population, and its mobilisation around a development alternative. It also seeks to maintain cohesion when facing the cumulus of internal and external pressures which affect it all along the training process. The most frequently used techniques within the promotion function are: participative research/action, pedagogical propaganda, recovery of oral traditions, organisation laboratories, training encounters and visits, etc.

Consultancy seeks to provide access to socioeconomic and technological information that will broaden the ever-restricted horizon of training (restricted because of its necessarily specific nature). It includes enterprise consultancies, or management consultancies, technical assistance geared to help face the technical problems that due to their urgency, or level of complexity and specialisation, are beyond the reach or the immediate possibilities of the target population, which cannot wait for training results and therefore must be solved "from the outside" by specialists.

Consultancy programmes are generally organised around the following type of events or lines of action: technological and socioeconomic information, extension campaigns, training consultancies, technical assistance, socio-enterprise consultancies, etc.

### ***6. Training modalities and media ("...diversity, wealth, concentration...")***

The less privileged groups and sectors of the population at whom the methodological approach set out in this section is directed, usually go through

situations of scepticism and apathy that hinder the maintenance of the necessary levels of motivation to keep up interest, confidence and persistence, essential to the development process which may be lengthy and full of pitfalls. Likewise, their educational deficiencies, lack of experience in structured educational processes, and the pressure for survival, conspire against reaching levels of efficiency in teaching-learning processes.

It is therefore essential to structure very intensive, multifacetic training "environments" in which a concentration of various stimuli and points of reference are concentrated, which strengthen and complement each other.

The combination of training modalities, such as mobile actions that make the target population's access easier and bring it nearer to their daily environment; distance training, encouraging self-training discipline and providing self-training material; training in centers complementing and projecting learning and opening up prospects for technological development; in-service training making it possible to find immediate application of knowledge with its economic and motivational effects; the integration of the individual and the collective dimensions of learning, etc.; linkages of institutional teaching staff with community agents or endogenous trainers, are all strategies that operate in this direction.

As to teaching media, training strategies for less privileged population groups should creatively combine aspects ranging from "home-made" media, including the use of the natural technological and social environment of the population itself as a teaching resource, with the most sophisticated media of an audiovisual nature, the use of mass media, and even informatics applied to training.

This is on the basis of assigning the media a value that is not only didactic but also pedagogical, since the selection of media expresses a value, a concept of education and of the world. For this reason it is important to develop strategies for personal and group use of the media, in such a way as to enable the population to desmystify them and to use them as part of the self-management of their own training.

#### ***7. Operation through objectives and projects ("...not to train for the sake of training...")***

VT for less privileged groups, as any other type of training, may use the impact it has on the forms of labor/productive insertion of its target population as a way of checking its effectiveness. It is well-known that the adjustment

between training and effective insertion or improved insertion does not take place automatically, that this transition is full of uncertainties. Added to the uncertainties that the high rate of labour market mobility and the accelerated pace of technological change impose on any type of training in the world of today, and to the uncertainties that are specific to underdeveloped societies due to deformations and restrictions in their labour markets, are the uncertainties characterising deprivations and exclusions that are unique to less privileged groups.

These factors impose on training for these groups, demands that are especially severe in the definition of objectives, of goals; in the identification of factors of success and failure; in the programming and organisation of activities, and in the monitoring of progress and follow-up of results. In short, they impose the need for an operational organisation through projects, superseding the traditional operational organisation of "assembly-line production".

Furthermore, operation by projects is the only way to fulfil the methodological principles and criteria set out above, for instance, the combination of training media and modalities, those of diversity of training functions, inter-institutional linkages, etc.

#### **4. INSTITUTIONAL PROJECTION**

##### **a. Varying standpoints**

The attitude of VTIs regarding the subject of disadvantaged social sectors, and the form and intensity of their actions addressing them, can be explained by many complex, inter-dependent factors.

A crucial factor is the economic-political base of their institutional structure: where they get their resources, who controls them, what constitutes "legitimate" use within the provisions regulating their activity.

Here we find a whole gamut of possibilities, oscillating between two basic positions which are set forth here more in the way of "ideal types" or abstract constructions that schematise reality for analytical purposes and which do not exactly correspond to any specific case.

At one extreme we find VTIs whose financing comes directly from the private sector and who are controlled by it, and whose regulatory framework

places them clearly at the service of their contributors. At these institutions the attitude toward the question of disadvantaged groups or sectors tends to be a benevolent but distant interest, giving rise to marginal attention, at the most. Actions geared to such groups tend to be limited and asystematic; selection of the target population depends primarily on the pressures at hand; and the institutional effort in this sphere tends to be understood as "social dues" paid by the VTI to fulfill its civic responsibility of solidarity toward the most disadvantaged (SENAI, SENATI).

When such VTIs involve themselves with disadvantaged sectors, their actions are marked by the values prevailing among the business sectors that serve as their axis and support: rational planning, scientific management, profitability and productivity, market selection, competitiveness.

When these VTIs are moved to address disadvantaged social groups, this approach leads them to concentrate their attention on those that best reflect or reproduce those values, such as micro-enterprises, which are seen in a relatively simplistic light as "little brothers", who should be educated and provided with the resources they are now lacking, so that they can eventually grow up and form part of the "adult" enterprise model.

Despite this paternalistic slant, the approach in question has various interesting aspects. By defining a target population and adopting a methodological and operative style very much in line with those commonly found in vocational training for developed sectors, it is possible: a) to apply the instruments already available at VTIs, thereby guarantying a certain level of economy and efficiency, and - above all - minimising the problems of legitimacy and identity produced by a deviation from the fields of "classical" vocational training; b) to provide target populations with dynamising elements, such as an emphasis on productivity, competence, market orientation, etc., which increase potential for effectiveness of action; and c) to gain the support of financial and technological assistance institutions, and private sector groups interested in promoting the values of free enterprise and individual initiative, as well as industrial deconcentration processes.

We should not, however, lose sight of the fact that these factors, although positive, are not in themselves enough to guarantee the success of involvements by these sorts of VTIs with disadvantaged groups or sectors, even in the case of micro-enterprises, unless significant efforts are made to adapt both methodology and operations. The limitations become particularly clear when VTI activity is restricted to conventional (technical and/or administrative) training and is not expanded into comprehensive advisory processes articulated

with sectoral development strategies. Moreover, in the experiences using this approach reported by VTIs the number of micro-enterprises served is very small, and the selection tends to concentrate on the relatively more developed enterprises, or those with a high developable potential (sometimes, in fact, they are approached with the same strategies and programmes used for small enterprises), making it relatively easy to obtain some positive results. The internal and external performance of these programmes remains to be seen, when they are assigned more significant coverage.

The VTIs clearly forming part of the state apparatus are in a different position. Such VTIs have been assigned, and have assumed, an instrumental role in development policies that have involved them in the provision of services to disadvantaged groups or sectors. Here the weight of the programmes for such groups tends to be significant within their overall efforts, and specialized operating structures have generally been established for this purpose.

Their attitude tends to depend on the evolution and the comings and goings of government programmes and policies for social development. They tend to be committed to the cause of social justice, critical of the prevailing development and enterprise models, and to use more critical-structural approaches in their diagnosis of disadvantaged sectors, as well as in the proposal of alternatives for surmounting problems. Such approaches thus emphasise sociopolitical as well as technical-economic variables.

Once again we should underscore that this is a generalised characterisation, which does not reflect the reality of any specific VTI. In fact, there are significant variations among the concrete cases that tend to fall under this approach. SENA, INA and INCE, for example, share a high level of insertion in the state policy and planning apparatus for social development, but have very distinctive individual characteristics.

#### **b. Committed VTIs**

SENA is the VTI that has gone the farthest in terms of the intensity of its institutional commitment to disadvantaged sectors, in a process nurtured by two key factors: the fact that the subject is approached from a methodological perspective that emphasizes a structural socioeconomic and political analysis, and the fact that it has decisively taken on its role as a instrument of government policies for social development, as well as its insertion in inter-institutional types of intervention.

The distinctive characteristics of SENA's efforts in this field are as follows: characterisation of its target populations as productive-labour sectors at a

structural disadvantage (informal urban sector, traditional rural sector, self-managing grassroots housing sector, etc.); the consequent methodological and operative implementation through specialised programmes: urban and rural Vocational Promotion Programmes (PPP); and an emphasis on training and advisory processes and contents geared to the organisation of the population linked to such sectors. At the same time this is seen as a strategy for structuring the training process itself, in order to integrate it in broader development processes, and to raise the general levels of social participation of such populations.

This approach has led to various interesting results. Firstly, by concentrating action on socioeconomic groups that are undoubtedly very broad, but nevertheless identified and structurally analysed in terms of genesis, internal functioning and external articulation, they have permitted (or demanded) the development of appropriate methodologies for each sector, and their inclusion in comprehensive policies and strategies for action which provide a context and support for VTI activities, thereby getting beyond isolated cases of activism.

Moreover, the PPP strategy, centered on the organisation of the target population through a key use of self-diagnosis of their production-labour situation and the formulation of development projects at the micro level which are contextualised both by sector and by region, has made it possible to mobilise users in participatory processes that take into account the specifics of each situation and which articulate VTI services with the complementary services and resources required for accomplishing development projects.

In other words, from a practical point of view, what SENA does in this organisational strategy is to structure demand, thereby seeking to obtain maximum efficiency and impact. This element makes SENA's experience unique, within the overall context of Latin American VTI efforts in relation to disadvantaged sectors.

Another interesting aspect of the SENA approach is the way it accompanies the organisational processes of its target population, with a view to their surmounting the strictly labour-production sphere and the micro projects, and promoting the development of regional, sectoral and national organisation of a trade union sort, as instruments for representation and pressure in political and economic contexts, to the benefit of the overall interests of a disadvantaged social group or sector.

These aspects relating to SENA's participatory and organisational strategy also pose significant dangers and difficulties. The success of the PPP in

promoting grassroots organisational processes, and the VTT's close relationship with government policies for social development, have led to the government making it responsible for the execution of grassroots training and organisation programmes that are not directly linked to the production-labour world, and thereby posing questions as to institutional identity. Concerns have also arisen as to SENA's actual capacity, even within the inter-institutional context of the government programmes in which it is involved, to respond to the technical and economic demands of the projects identified and formulated within participatory processes. This implies the risk of the PPPs gradually becoming solely responsible for the government response to the demands of the population linked to such processes, in what would clearly be a distortion of the initial intentions.

SENA's experience warrants attention not only because of its emphasis on the structuring of demand by means of organisational and participatory processes. It has also made very significant achievements in structuring the supply of services, in three main areas.

- In terms of the operating structure for the provision of services, it has created special programmes for addressing disadvantaged sectors, its PPP, organised as a mobile action system with a high capacity for mobilisation and effective use of community resources and facilities. This gives it great agility in its response and provides for broad accessibility, breaking down the physical and attitudinal barriers posed by school-type centres to disadvantaged populations.

This operating structure was recently reinforced by the system of Open and Distance Training (FAD), a correspondence training mode with tutorial support, which promotes group self-training among participants as a mechanism for socialisation and for strengthening the teaching-learning process, and as a strategy for stimulating and facilitating linkages between the learning process and job-production insertion and community development processes.

The PPPs and the FAD system mutually reinforce one another, so that the distance training participants mobilise as community leaders, often acting as multipliers for PPP instructors. At the same time, the PPP promote participant linkages to the FAD system, identifying civic leaders and empirical workers or micro-enterprise operators who act as tutors or support for local self-training groups, and providing areas for practice for correspondence students.

- In terms of pedagogical structure, the PPP and FAD programmes and methodologies comprise systems which are highly flexible, modular, non-



school-like, and open, based on self-training and practical learning processes which are intensely contextualised in real labour/production and community processes.

- In terms of methodologies for intervention in target populations, the PPPs organise their action by development projects involving groups of workers or small-scale producers within specific strategies based on the labour/production sector. To promote such processes, the PPPs differentiate between their more or less standardised apparatus for short, modular training courses, and a promotional apparatus, used to mobilise the target population, identifying and supporting the participatory formulation of development projects, articulating them in the inter-institutional support framework, and presenting structured demands for training.

SENA's PPP concentrate their attention on disadvantaged sectors such as the informal urban sector, the traditional rural sector, the low-income self-building housing sector, and, as mentioned, on local neighbourhood organisation, with the prospect of participation in processes of decentralised municipal management.

We should point out a difficulty that has been faced by SENA's PPP, which paradoxically derives from their very strength and consolidation. Theoretically, they should also channel the support of SENA's broad services structure for addressing modern sectors, particularly in processes of technological assistance, management, and continuing training processes for PPP graduates. In practice this has been achieved only in exceptional cases, and what we find in fact are practically two parallel systems within SENA, which are sometimes involved in tough competition for resources, and lead to a waste of much of the potential for enrichment and mutual support which they evidently have.

INCE and INA, while they share SENA's capacity as an instrument of government policy, as well as its high-intensity attention to disadvantaged social sectors and the operating structures appropriate for such tasks, are different insofar as VTIs in Venezuela and Costa Rica put much more emphasis on the structuring of demand, and concentrate more on improving and/or broadening the supply of training services, in what seems like a "welfare state" type of attitude, which places special value on the provision of resources or services to disadvantaged sectors or groups, as well as implementation of distribution mechanisms.

This is especially true in the case of INCE, a VTI that assumes what could be called a massified supply approach for addressing disadvantaged social

sectors or groups. This institution has invested considerable resources in lines of action such as the Occupational Qualification Programme (PHO), whereby it structured a very broad supply of training aimed at the unemployed and the under-employed, which was distributed massively and fairly indiscriminately, making use of very costly mechanisms, such as motorised mobile units, provision - in many cases - of materials, equipment and tools to graduates, etc., but with less attention to the methodological and operating problems of adapting training to the conditions and requirements of disadvantaged groups, as well as to the complementary and contextual elements required to guarantee the labour/production application of the training provided. As a result, some doubts have arisen regarding the efficiency and the efficacy of the PHO programmes.

It is interesting to note that a PHO mode that seems to have yielded better results is the one undertaken within the framework of the INCE/Church agreement, whereby execution of training services is delegated to the social action organisation of the Venezuelan Catholic Church, which integrates those services in grassroots organisation and development processes, thus covering the structuring of demand, which is absent in INCE's direct action.

INA's approach, also centered on supply, focuses its attention more on qualification than on massification. For this purpose it has merged two lines of action: on the one hand, the adaptation of pre-existing programmes and operating mechanisms to the requirements and conditions of the disadvantaged groups, and, on the other hand, the creation of ad hoc mechanisms. Among the former we should note the small enterprise assistance programme, which has produced methodological developments of great interest for attention to micro and very small enterprise operators, making use of group self-diagnosis processes, the Rural Sector Support Programme (PROASER), which has successfully incorporated methodological elements of the CINTERFOR-PER Project for addressing small, unstructured rural sector enterprises, and the Action Learning methodology promoted by the ILO. Among the latter we find mobile rural actions and, in particular, the "public workshops".

INA'S public workshops are service and resource centres that are open to disadvantaged populations - the unemployed, informal urban sector employees, micro-enterprise operators, independent workers, young people looking for their first job, etc. They offer training, rental and loan of equipment and tools, advice on enterprise management, technological assistance, credit information, orientation for employment, and other services to facilitate labour-production insertion of the target populations.

The training services offered at the public workshops are fully non-school-like and are easily transformed into advisory processes when there is a breaking away from the group on the part of individual micro-enterprise operators or enterprises of an associative type, which can use the public workshop for a certain period as an "incubator" or a "nursery" until they achieve the capacity for autonomy and self-support. In some cases, however, there is a tendency for users of these services to stay on indefinitely, thereby limiting access by others. Application of the programme thus becomes relatively concentrated.

The public workshops, unlike the PPP of SENA, have managed to become effective channels for the services other INA programmes and resources. For example, the advisory services for micro-enterprise development are provided by the VTI's areas specialising in this subject, using the public workshop as the base for contacts and operations with the target group. Similarly, the fact that the physical environment of the workshop is analogous to that of classical training centres facilitates an inter-relationship with such centres, who allocate instructors and even equipment to the public workshops in order to diversify supply, to inject more advanced technologies, and to articulate progressive training processes.

There are public workshops in marginal urban and rural zones, but the latter have not managed to become consolidated, and the practice of the strategy is thus eminently urban. Another characteristic is the priority given -reflecting very distinct INA policies- to young populations and women, who are motivated, trained and supported for independent employment, either in individual micro-enterprises or associative enterprises.

The public workshops have enormous potential, which has already been realised in the practice, to become centres that dynamize community life and the informal sectors of the economy concentrated in the zones where they have been located. They constitute an original and rich strategy for integration, adaptation and channeling of INA's supply of services for disadvantaged groups or sectors. It might be advisable to explore the possibility of complementing the workshops with strategies for organising demand, in order to optimise their efficiency and their impact.

### **c. An attempt at a typology**

This section began by indicating that there are factors linked to the origin and the political-institutional situation of VTIs that are key in defining their attitude toward the question of disadvantaged groups or sectors, as well as the intensity of their commitment to such populations.

We analysed what could be considered opposing poles in a very broad range of positions, the first group including VTIs like SENAI and SENATI, and the second including SENA, INA and INCE. We found, however, that even among those in the same group there are major differences, reflecting factors such as: a) the institutional tradition and culture, which may be more or less imbued with technocratic or social ideologies; b) the socioeconomic situation of each country, which may have more or less acute problems and therefore generate more or less social pressures and policies to address disadvantaged sectors; c) the greater or lesser level of legitimacy and pertinence with which VTIs are perceived by structured enterprise sectors, which determines the intensity with which they will struggle to keep VTIs within their sphere of power; d) the greater or lesser degree of confidence and sympathy which the population in general - particularly low-income sectors - feels toward VTIs, and, as a result, the greater or lesser their demand for services, etc.; e) the existing institutional apparatus external to the VTI, with specific commitments for social action.

It is very difficult to provide a clear typology, with mutually exclusive categories, for the various Latin American VTIs as regards the intensity and scope of their commitment to disadvantaged sectors or groups. Nevertheless, such a typology is necessary if we want to come to some general conclusions, and even more so if we want to propose policies on the subject. There is clearly no single model, and, on the other hand, we cannot deal with each case individually.

Three types of VTI could be identified in relation to this subject:

i. VTIs whose commitment to disadvantaged sectors or groups is merely situational and eminently marginal, with superficial treatment, as in the case of SENAI;

ii. VTIs whose commitment is marginal but with a certain continuity and more intensive treatment, as in the cases of SENATI and SENAC; and

iii. VTIs whose commitment is intense and on-going (not necessarily exclusive), independent of the strategies used for structuring their services, as in the cases of SENA, INA, and, to a somewhat lesser extent, INCE.

This elementary typology is not, however, sufficient for covering all VTIs, since there are two types that would warrant separate mention:

iv. VTIs in countries whose relatively lesser degree of development means that - in practice - the majority of the potential target population is to some

extent disadvantaged. This is the case for VTIs in Haiti, Guatemala, Honduras, etc., where the vast majority of the population is inserted in traditional agricultural structures, in traditional systems of crafts production, or in micro and very small enterprises, etc., when they are not surviving in the precarious conditions of marginality and urban or rural informality. In these societies, VTIs, apart from the requirements of small modern urban nuclei, primarily involved in the tertiary sector, and of agricultural and mining enclaves linked to the external market, who generally have their own training apparatuses, face a social demand composed basically by disadvantaged sectors.

v. VTIs specialising in an economic sector which -by its nature-incorporates significant components in a disadvantaged situation. Perhaps the only case of this sort would be that of SENAR of Brazil, an entity which, although it deals with a large demand for services on the part of modern agro-industrial and agro-livestock enterprises, must address the enormous population involved in the peasant economy, which maintains traditional structures and demands treatments with rural development approaches.

## 5. PROSPECTS

While poverty continues to be a prevalent situation in Latin American societies, and would seem to be a prospect for many years yet to come, it can be expected that VTIs in the region will continue receiving considerable political and social pressure to devote a certain portion of their efforts to addressing disadvantaged population groups or sectors, especially those considered to be at a disadvantage due to structural reasons, as indicated above in this study.

The experience of Latin American VTIs shows that their attitudes toward such pressures, and the form and intensity of their proposal, will be different according to the type of VTI in question, and depending essentially on the origin of its financial base, its political-institutional context, and the role assigned to it by the government's development policies and programmes.

That response, whatever it may be, will in turn provoke a series of tensions and institutional developments linked to at least two types of problems. On the one hand we have those related to identity: why, how and to what extent should VTIs be involved in the question of disadvantaged groups or sectors? What effect does that involvement have on the traditional definitions of the nature, mission and fields of action of vocational training? On the other hand, there are those related to efficiency and effectiveness: what are the most appropriate strategies and methodologies for addressing these sectors of the population? How can this be done in the most economical way, with the best results?

Naturally, both groups of problems are closely related. It is inevitable for the methodological consideration arising out of a praxis involving objectives and conditions different from the assumptions of the classical paradigm of Latin American vocational training, which appeared from the 1940s through the 1960s, to lead to a questioning of that very paradigm, and, consequently, for dilemmas and controversies to arise regarding the validity and legitimacy of the traditional role of VTIs, and their institutional basis and identity.

One of the most difficult dilemmas encountered in the search for alternatives for the "classical" paradigm is that the latter seemed to offer a perfect synthesis of economic and social objectives, which gave it a basis for apparently unquestionable legitimacy. In fact, the processes of modernisation, industrialisation and specialisation of the productive apparatuses, for which that paradigm was functional, were expected to provide highly positive and generalised social effects: full employment, redistribution of wealth, social integration, political participation: in sum, generalised well-being. These effects, in turn, would stimulate self-sustained development.

VTIs, by concentrating their attention on the needs for technological modernisation and development of "human resources" in the modern sectors of the production apparatus, focused on the world of economics, of labour-production, assuming that there would be beneficial social effects as a result of their action, and generally seeing themselves as separate from the social question.

VTIs, in view of the evidence of the inadequacy of the current development models, and in view of the sociopolitical pressures pushing them to cope with demands for attention to disadvantaged sectors previously excluded from coverage by them, found themselves compelled to revise their paradigm. They found that many of those pressures were expressed as a manifestation of political or technocratic interest in social matters, at times combined with complaints regarding the "economicism" of the traditional approach.

This frequently leads to extreme positions that dichotomise social and economic affairs, and which either mechanically assimilate attention to disadvantaged sectors with social assistance programmes having no relevance to the labour-production world, or - even when recognising economic determinants in the situation of disadvantaged sectors - consider that the solution to their problems requires priority concentration on sociopolitical variables. In the first case, this area would not warrant any attention by VTIs, and in the second it would imply radical changes in the profile and role of VTIs.

Neither of these extreme positions contributes to an objective and uninhibited revision of the classical paradigm of vocational training. Fortunately, however, most Latin American VTIs in practice sought intermediary paths, more or less systematically or successfully exploring the way to find the labour-production vein, essential to their institutional identity, in the new spheres of action into which they were being pushed by social pressure.

It has been, precisely, those experiences managing to most appropriately characterise the specific forms taken on by labour-production matters in disadvantaged sectors, and to develop strategies and methodologies for intervention in line with their potentials and restrictions - both intrinsic and external - that have had the greatest success. The existence of these conditions has triggered VT's enormous potential for achieving social impacts, both directly, by way of employment and income, and indirectly, by way of its capacity to motivate, to mobilise social organisation, and to articulate processes geared to satisfying other basic needs.

The experience of working with disadvantaged sectors has renewed the role of vocational training as a privileged instrument for surmounting, in practice, the false dichotomies between economic and social affairs. This takes place through significant methodological innovations, which propose fundamental revisions of the "classical" paradigm governing the establishment and consolidation of Latin American VTIs.

Some common characteristics of the most successful responses of various Latin American VTIs in addressing disadvantaged sectors, and which in one way or another should be incorporated in the new paradigms of vocational training, are as follows:

- Identification and characterisation of the target population, not as isolated groups, but instead as belonging to sectors of the population who are at a disadvantage due to their position in the labour-production structure.
- Recognition of the fact that vocational training for these sectors cannot be seen as an individual process referred to a job, but instead must be placed in the context of production units and processes to be dealt with in a comprehensive way.
- Removal of the training process from the classroom, supporting it with mobile and distance strategies in order to gain access to target populations. Even in cases where training centres are used, they are innovated and opened

up so as to definitively break with the conventional concept. At the same time, the pedagogical process is made more flexible and open.

- Insertion in comprehensive development strategies, with schemes for inter-institutional coordination, which provide support and projection for vocational training actions and minimise the danger of attempting to go beyond the sphere of VT.

- Training in a multiple package, in connection with a series of complementary services reinforcing the benefits of training, with a view to achieving an overall improvement of production units: advisory services for management, technical assistance related to designs, products, technology, markets, access to credit, etc. Such services are sometimes provided by the VTI itself, but more commonly they are rendered by other specialised institutions, in response to calls for assistance from the VTI.

- Evolution of the profile of the instructor toward that of a training agent or facilitator for the processes of development of production units. This requires an extra dose of mystique and identification with users, as well as greater complexity, versatility, and flexibility in the performance of instructors.

- Simplification and creativity of teaching media and materials, eliminating, insofar as possible, the classical media and the "manual" type texts, and strengthening and making better use of audiovisual media, empirical aids, case studies, and real problems as teaching supports.

- Training in conjunction with production, as a motivating factor which also provides a source of income for users during their training period, as well as underscoring the practical usefulness of what is learned, as training for real life market situations. Training-production strategies used for disadvantaged sectors emphasise maximum use of the resources and real possibilities of users, and immediate application of training to production.

Despite the enormous gaps that still exist in the response of VTIs to disadvantaged sectors, we can say that they have reached a respectable level of clarity and specificity in working with this non-traditional "clientele", which has begun to have greater weight in the spheres of activity undertaken by the institutions. The concentration of the focus on labour/production, which is gradually becoming clearer at VTI decision-making levels, provides a guiding axis for actions geared to disadvantaged sectors, which appeared to be lacking during the initial stages. Moreover, there is an increasing awareness - and less fear - of the need to place limits on the truly effective contribution VTIs can be



expected to make in solving social problems. A good number of them today have a clearer idea of the role they should play as an instrument of social policy, which, as we have seen, ranges widely from those VTIs who are clearly socially committed, to those who prefer to leave this responsibility to other institutions which they see as more appropriate.

Naturally, this has much to do - as we saw above - with the degree of government dependence and with the nature of the social policies the particular government seeks to implement in each country at a given time. It is also related to the configuration of the institutional apparatus which each country, region or location provides for action vis-a-vis disadvantaged sectors.

In this sense VTIs seem to be finding an innovative vein, whose product is better reflected in qualitative contributions than in quantitative results: here they have the role of planting the seed. In this way, direct action is concentrated on transferring knowledge and experience to third parties. Training is conceived as a generator of processes, at times in a spiral. This takes place, on the one hand, through the training of multiplying agents from other agencies or from the beneficiary community itself, which in turn reproduce training, thereby attaining broader coverages than would be feasible through the VTI alone. On the other hand, it is seen in the promotion of participation and self-development of the community, with a view to unleashing its capacity and desire for progressive training in line with its own productive evolution.

The volumes of potential users of VTI services in disadvantaged sectors are such, and their needs and demands so diverse, that, paradoxically, it is in this, more than in other spheres of action, that VTIs have massively resorted to private resources and energies as a complement to those of the VTIs themselves, with a view to achieving significant impacts. The participants themselves contribute not only time, but also materials, tools, premises, and even the preparation of teaching materials, curricular designs, and pedagogical processes. We should also note here the considerable support provided by community organisations and NGOs such as business associations, unions, foundations, etc., who associate with VTIs in the execution of these types of programmes, contributing human, financial, physical and material resources, in addition to their share of penetration in the community or sector in which they have gained recognition and legitimacy.

Administration of VTI work with disadvantaged sectors has also had to keep pace with changing times. The very nature of these sectors and their evident heterogeneity justified the creation of tailor-made responses, with the imperative of reaching the specific unit of users - either individually or as a

defined group - and therefore formulated much more precisely than traditional VTI courses. The choice of the micro sphere as the area of action on the part of VTIs is in line with the decentralisation movements clearly seen at the level of government and private sector structures. Thus it is not surprising that VTIs are making - with respect to other public institutions - important gains in the decentralisation process, especially regarding their actions vis-a-vis disadvantaged sectors. Moreover, the trend in such activities, as we have seen in the course of the foregoing pages, favours articulation and multiplication of interlocutors, fundamentally at the specific, local level. This opens up a promising line for projection of VTIs into the development processes of disadvantaged sectors, this time from a different perspective than that of a mere offer of training possibilities. What can be seen ahead for VTIs is a more modest role in terms of coverage, but a role that is more realistic in terms of scope, more efficient in the use of capacities and resources, and more effective in quality and impact of their products.