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The Economic Bulletin for Latin America has been published by the secretariat of the Economic Commission for Latin America twice yearly since 1956. The essential purpose of this periodical is to provide a résumé of the economic situation of the region designed to supplement and bring up to date the information published in the Commission's annual economic surveys. Apart from this summary, which is to appear in every issue, special articles on different subjects related to the economy of Latin America are included, as well as informative and methodological notes.

The ECLA secretariat assumes entire responsibility for the *Bulletin*. Its content—intended for the information both of public officials and of the general reader—was not submitted to the Commission's member Governments before publication.

Since October 1958 the *Bulletin* has regularly included a Statistical Supplement. This subsequently became large enough to warrant separate publication, one issue being published in 1960, another in 1961 and two in 1962, each being bilingual with the corresponding table of contents. Since 1964, a new publication, the *Statistical Bulletin for Latin America*, has been issued twice a year, to provide the public with a regular flow of statistical data on economic matters.

EXPLANATION OF SYMBOLS

Three dots (...) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A minus sign (—300) indicates a deficit or a decrease.

A stroke (/) indicates a crop year or a fiscal year, e.g., 1954/55.

An asterisk (*) is used to indicate partially or totally estimated figures.

"Tons" and "dollars" are metric tons and United States dollars, respectively, unless otherwise stated.

Minor discrepancies in totals and percentages are due to rounding.

THE NEW EXECUTIVE SECRETARY OF ECLA

The Secretary-General of the United Nations, U Thant, has appointed Mr. Carlos Quintana, Director of Industrial Planning of Nacional Financiera, Mexico, as Executive Secretary of ECLA. Mr. Quintana succeeds Mr. José Antonio Mayobre, who had been in that post since 1963.

In the three and a half years during which he was the head of the ECLA secretariat, Mr. Mayobre strengthened the work of the Commission and successfully maintained the independence of judgement which has at all times enabled it to analyse and present Latin America's economic problems with candour and sincerity. In recognition of his good judgement and diplomatic skill the Secretary-General entrusted him with a number of delicate international missions.

The new Executive Secretary is to enter upon his duties in March 1967. Born in Puebla, Mexico, Mr. Quintana graduated from the Instituto Politécnico Nacional de México, where he studied electrical and mechanical engineering. Later, he obtained a doctorate in industrial engineering at Columbia University, and in business administration at Harvard. He taught at the Instituto Politécnico Nacional, worked as an engineer in both public and private enterprises and from 1944 to 1950 was employed in the Department of Industrial Research of the Bank of Mexico. He joined ECLA in 1950 and was Director of the Industrial Development Division from 1956 to 1960. Since 1960 he has been Director of Industrial Programming of Nacional Financiera, Mexico, a government agency for financing industrial development. He was a member of the Governing Council of the Mexican Institute for Technological Research. In 1964 he visited Yugoslavia, Czechoslovakia, the Soviet Union and Poland as a member of the economic mission sent to those countries by the Government of Mexico, and has represented his country at many United Nations conferences and other international meetings.

CONCEPTS AND METHODS OF AREA PROGRAMMING FOR COMMUNITY DEVELOPMENT

INTRODUCTION

In analyses of the development planning experience of Latin America two unsatisfied needs have been repeatedly pointed out:

(*a*) The need for organized popular participation in the preparation and application of plans;

(*b*) The need for translation of national plans into feasible specific projects.

These two requisites for effective planning are naturally related. While popular participation in the widest sense is needed to give authenticity and force to the national objectives of planning, the most varied and fruitful participation will presumably be at the local level, in projects directly affecting communities and organized interest-groups such as trade unions and co-operatives. At the same time, such participation can hardly take shape without an institutional framework and techniques for the preparation of local projects to which the popular organizations can relate themselves.

Up to the present, advances in macroecomonic analyses and in national planning have hardly affected the welfare of the low-income majorities of the Latin American countries. Not that these masses have remained static during the years since development planning became an accepted component of national policy. They have participated in change in the only ways open to them: in mass support of populist political movements, and in mass migrations to new environments offering them some hope of a better livelihood or at least closer proximity to the currents of modern urban life. The social and economic structures of most of the Latin American countries present formidable obstacles to organized popular participation in planning and to wider participation in enjoyment of the fruits of development. These obstacles have been documented in several studies of the Economic Commission for Latin America; it can be assumed that they are not impregnable against a sufficiently vigorous and well-directed strategy.

The social policy conceptions and techniques that are relevant to the objective of converting "popular participation" from a slogan into a reality at the local project level are commonly referred to by the term "community development". Initiatives and schemes under this label have proliferated in Latin America in recent years. In this area of social policy, however, a chronic imprecision of terminology has reflected conceptual vagueness and weaknesses in the application of the basic approach to the varied and rapidly changing local situations of the region. One example is the use of the term "community development programme" to denote almost any local self-help activity. Community development has borrowed technical terms from several other disciplines, but its practitioners have rarely familiarized themselves with the exact usage of these terms by economic planners, public administrators and others. The outsider seeking enlightenment concerning principles and rationally-organized action processes is likely to come away rather confused.

As defined by the United Nations, community development involves those processes of social and economic change which raise levels of living and effect the integration of local populations into national life. In spite of the apparent differences of opinion about concepts and organization of such activities, practitioners widely agree that the community development process consists of two essential features. One is the mobilization of local people for joint action with government in reaching higher levels of development. The second is the combination of numerous technical efforts into a single instrument by means of co-ordination or associated action of these agencies at the local level. Theoretically, the total effect in each community should be an integrated one. A degree of programme standardization should result in areas or regions embracing a number of like communities; in addition, these programmes should be directly related to the goals of over-all regional or national plans. Due to the necessity of tailoring many microplans to fit conditions of hundreds or thou-

sands of local groups, the process of programming is inevitably tedious and complex.

Community development "programmes" have, in general, been notably weak in techniques for such programming. Most of the agencies administering community development in Latin America have had only a vague idea of their goals, rarely have quantified their targets, and still more rarely have used budgeting as an instrument of cost analysis for improving input-output efficiency. The ability to elaborate sound projects that can be executed rapidly and efficiently has lagged far behind needs. This last weakness, which community development shares with most other areas of plan implementation, became particularly conspicuous after the Inter-American Development Bank embarked on a new policy of offering financial support to Governments for specific projects aimed at the achievement of urgent social and administrative changes, only to find that most countries are unequipped to elaborate projects meeting the Bank's high standard of feasibility.

Nevertheless, the community development approach has already contributed to effective action for popular participation in at least a few countries of Latin America, while even its failures should reveal valuable lessons for the future. The present paper draws upon the several dissimilar national experiences, together with the planning conceptions and techniques that have evolved in other areas of economic and social action, so as to formulate principles for local area programming *with* organized popular participation *for* comprehensive development.

The approach proposed here is one of planning from the bottom up, in which programming merges into administrative processes at the local level. The reasons for such an approach in programmes that must incorporate local resources, leadership, organization and values are sound and compelling. The organization of the planning and programming mechanisms, as will be demonstrated, can be flexible in relation to the requirements set by differing social and economic structures and administrative conditions.

In attempting to relate community development to national planning for social change, one runs the risk of becoming entangled in the problems of dealing with models and theoretical constructs which in themselves are relatively unrelated to the modification of human behaviour or the increase of productivity in the communities. On the other hand, undue attention to the techniques of microplanning, community action and operational implementation of projects may result in failure to relate these activities to macrosocial and macroeconomic processes. The approach here is an attempt to bridge this gulf between central planning and community action by relating them through programming techniques.

The present paper represents a new stage in continuing exploration of social development policy and planning carried out by the Social Affairs Division of the Economic Commission for Latin America. It is intended to serve as a guide for community development practitioners, but in the present version a good deal of illustrative material and summaries of the terminology and techniques of over-all development planning now in use in Latin America have been omitted.

Several related contributions from the continuing study have already been published in the *Economic Bulletin for Latin America.* In addition to an earlier attempt to clarify the conceptual and methodological problems underlying the theme of the present paper ("Popular participation and principles of community development in relation to the acceleration of economic and social development", vol. IX, No. 2) and a general discussion (" 'Social Development' and 'Social Planning': A Survey of Conceptual and Practical Problems in Latin America", vol. XI, No. 1), the relevant studies include: "Rural Settlement Patterns and Social Change in Latin America" (vol. X, No. 1); "Social Service in Latin America: Functions and Relationships to Development", by Virginia A. Paraiso (vol. XI, No. 1); and "The Housing Problem in Latin America in Relation to Structural Development Factors", by Rubén Utria (vol. XI, No. 2).

I

Survey and diagnosis

1. *Characteristics of the area survey*

The programming unit for a local area will begin its work by gathering and analysing the factual information which forms the raw material of planning. This process of study will be somewhat different from the diagnostic approach of global programming. Although the area

programming group may be able to draw a large store of general information from the studies which have been completed previously for regional or national plans, little of this will be of an order of specificity which makes it applicable in local programming. Additional fresh and complete data must be obtained to make it possible for the programmers to set specific targets by selecting the communities and zones of action, and the instrumentation of the specific objectives by allocation of funds, personnel, equipment and materials in accordance with certain techniques. At this level of programming, the planning decisions involve people who live in identifiable communities in conditions determined by environmental, historical and social factors. These are given situations, and in order to begin to change them it will be necessary to take them into consideration in all of their complexity and heterogeneity.

The first characteristic of the survey, them, must be its utility. The programmers want data which are relevant in their task. They do not want *all* of the facts about every community, but only certain selected kinds of facts. One of the most difficult traps to avoid in surveys of this kind is that of allowing the design for the study to become exhaustive. No data should be gathered which are not immediately needed. It is well to remember that data will continue to accumulate once the programme has been started.

The second characteristic of importance is promptness. In most cases the area survey will not be undertaken until action is imminent. Time will be an important limiting factor in how comprehensive and deep the survey can be. The survey must cover a relatively large population quickly and inexpensively. The purism of scientific research is seldom applicable in such circumstances

Third, the survey must be objective. That is not always easy to achieve in the community setting, or in the appraisal of techniques and achievements of bureaucratic agencies already operating in the area. Bias creeps in very easily when the available personnel includes few—if any—professional researchers.

Fourth, the study should be structured to fit the programming processes, through careful organization of the work and the advance preparation and standardization of the instruments so that they are satisfactory for regional or national planning purposes.

The steps which will be followed in social surveys of local areas will therefore include the following: (i) definition of the substantive fields of information needed for programming; (ii) delimitation of the physical area to be covered in the survey; (iii) data-gathering by methods appropriate to that area's population; (iv) interpretation and analysis of the data to explain the situation; (v) preparation of projections of existing trends significant for programming and future evaluation; and (vi) drawing conclusions and recommendations for policy guidance and programming. In some cases the diagnostic process may require testing and continuing observation over a period of time, as in a pilot demonstration, in order to verify hypotheses which have been advanced as a basis for programming and action.

2. *Definition of the subject-matter of the diagnosis*

The survey group must begin its task by defining the subject-matter to be included in the diagnosis. The subject-matter may be general, i.e., covering all aspects of the life of the people of the area in comprehensive fashion, or topical, i.e., dealing only with specific questions such as health, education, agricultural methods, and so on. Because of its comprehensive character, the community development approach in programming interprets economic, social, political and administrative information. The survey will be much more efficient and complete if all these aspects are included in the plan of diagnosis from the beginning. Experience proves that repeated surveying of the same villages by different agencies causes confusion and misunderstandings among the people. These reactions adversely affect the work.

Yang has suggested that a diagnostic survey of a rural area should include the following subjects: (i) man's relation to the physical environment; (ii) significant historical background; (iii) the character of the economy; (iv) agriculture; (v) the people's level of living; (vi) population; (vii) the family; (viii) education; (ix) housing; (x) health; (xi) religion; (xii) government; and (xiii) social institutions.[1]

A standardized diagnostic plan for the rural areas of the Andean region of Ecuador was prepared by the Andean Mission in 1964. The survey was of a general type for application in local programming areas. The subject matter included (i) general characteristics of the area, including the aims of the surveys; (ii) natural

[1] FAO, *Fact-Finding with Rural People*, prepared by Hsin-Pao Yang (Rome, 1957), pp. 71-103.

resources; (iii) sociocultural aspects; (iv) housing; (v) health and hygiene; (vi) clothing; (vii) nutrition; (viii) labour; (ix) education; (x) infrastructure and services; (xi) level of economic development of the area; and (xii) conclusions.[2]

A different approach was used by the Ministry of Livestock and Agriculture of Uruguay. In its 1964 national survey of the rural economic and social situation, a sampling technique was applied to provide a comparative analysis of all parts of the nation. The subject matter in the survey included (i) economic conditions, i.e., agro-economic zones, production, rural enterprises, land tenure and marketing; (ii) organization of the territory, i.e., local areas, their internal characteristics and the possibility of communication with other areas; (iii) population and levels of living, i.e., demographic and occupational structure, income, and levels of living indicated by nutrition, housing, education, health, social participation, and religion.[3]

The several surveys cited above are good examples of intensive preparation for planning by the analysis of local conditions and the technical services which exist in the area. The subject fields of study serve to block out the rough dimensions of activities by government and private agencies. Each of these will be related to a number of specific goals.

3. *Delimitation of local programming areas and regions*

The approach of programming from the bottom up requires that operational programmes shall be elaborated first for the smallest local areas which are identifiable in terms of (i) administration and (ii) population and socioeconomic interrelationships. The boundaries of this physical area or unit should be carefully defined before the diagnostic survey begins. These local areas should combine into regions which have been determined by the national planning office and regional planning bodies.

The criteria for delimiting local programming areas are fundamentally administrative. A United Nations study of the factors which should be taken into consideration in the programming and execution of technical activities, especially in rural areas, indicates the difficulties of setting universal criteria for delimitation of local programme areas.[4] The variables which should be taken into account include the governmental system, patterns of settlement, communications, availability of technical personnel, the funds available to the programme, and the kinds of social organization influencing participation and control. To these we can add the available infrastructure for technical services which already exists in the area, and the distances which must be covered by personnel in serving the communities. Operating teams should be located so that they must travel no more than two hours to rural work areas. In many parts of Latin America the boundaries of the local programming are determined by physical characteristics —rivers, mountains, gorges and other natural barriers to communication.

In rural Latin America this programming area as the unit of diagnosis will usually constitute a recognized field administrative zone, with a population ranging from 100,000 to 150,000.[5] It should have a headquarters city which is commonly used by all of the technical and governmental services operating in the area. The size of the area should meet the criteria of administrative and operational efficiency of all of the collaborating agencies. The number of subdivisions within the area should be as few as possible, to keep bureaucratic delays and duplication of personnel to a minimum. The area should be selected with the possibility in mind that in the future it will become a governmental unit in a decentralized system of technical services and administration.

Closely related to the programme areas are the community networks into which they are subdivided. These units will consist of a number of communities grouped into the largest network in which interrelationships exist and for which technical services can be provided efficiently by a number of specialists working as a team.

In Ecuador's Integration Project in the Andean region, each province in the highlands region has been considered a local programme area. The provincial capital serves as the headquarters city, because most local services are provided from this centre. The areas have been further subdivided into "sectors". The "sector"

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[2] Misión Andina del Ecuador, *Estudio de área: investigación de algunas comunidades de Chunchi y Alausi* (Quito, 1965).

[3] Ministerio de Ganadería y Agricultura, *Situación económica y social del Uruguay rural* (Montevideo, 1963).

[4] United Nations, *Decentralization for National and Local Development*, ST/TAO/M/19 (New York, 1962), especially chapters III and V.

[5] Pan American Health Organization, *Health Planning: Problems of Concept and Method* (Washington, 1965), p. 23. However, the criteria vary considerably for different kinds of programmes: see *supra*, p. 16.

usually includes one or more small towns and their countryside. The diagnostic surveys covered areas in which new operating zones were to be established. The National Indian Institute of Mexico has also developed an area programming method which is based on these principles. Each of the Indian "refuge areas" has been carefully defined so that the programme for integration of its native population can be administered from a "co-ordinating centre".

The presence of large cities within the programming region may also have considerable influence on subdivision into programming areas. Major cities will of course be treated as separate areas, since they cannot be considered to have the same kinds of characteristics as the rural areas. In some countries the rural hinterland is so thinly settled that it cannot be incorporated into the programme areas as we have described them here. In these cases, programmers may eliminate such areas, and they will often be omitted from the diagnostic surveys for that reason. This criterion would certainly not apply to virgin lands which are being opened to settlement. They should be considered project or programme areas, even in spite of the relatively small population which they contain. It is also possible that in some cases, such as river basin development projects, the local programming areas should be defined on the basis of plans for the future rather than present conditions.

4. *Identification of communities and other local associations*

The instrumental aim of the community development process is to convert the organized groups of the local area into resources of development. We take it for granted, of course, that these populations are also the ends to which the programme is directed.

Since in economics the structures of social organization are not ordinarily considered to be resources, they are not mentioned in econometrics. However, in the area diagnosis for popular participation activities, it is necessary to attempt to classify the kinds of local groups which exist in organized form, to estimate their numbers and dispersion throughout the area, and to describe their capacities in a total programme of action.

For the purposes of programming, we shall consider any organized local group to be an "association". A community (as the term is conventionally used by practitioners) is an association. All forms of local associations may be classified, and those forms which can participate in an organized, rational and constructive series of activities contemplated in the programme we may term "operational social modules" of the action. In other words, each such association, depending upon its nature, can provide certain functions which are necessary for the development process.

By this definition, governmental agencies are associations, and they should be included in the survey for that reason. The inventory of organized groups in the area should normally be subdivided into two main categories: (i) governmental agencies or associations, and (ii) non-governmental associations. The latter may be again broken down into three sub-headings: (i) the kinds of local associational groups which can make functional contributions to the activities of the programme, such as organized communities, co-operatives, neighbourhoods, extended families, syndicates, enterprises, clubs, churches, and similar groups; (ii) secondary groups which are based on status relationships and wider forms of association beyond the locality, such as towns, economic systems, political parties, sports leagues, the church as a hierarchical system; and (iii) non-governmental technical or service agencies which may be expected to carry out specific activities of the programme. These three classes of associations may provide capital in the form of both fixed and working assets; natural resources such as land, forests, stone, sand, building sites; and skilled and unskilled labour. Depending upon their structure and size, organized groups of many kinds may also serve as communication channels, systems of prestige and status allocation which can serve as rewards to stimulate motivation in the action, and as mechanisms of implementation.

To survey these social resources, the investigators and programmers should use defined criteria for identifying local associations. Most community development practitioners fail to differentiate organized groups in the area by their form and function, and very often fail to take into consideration the kinds of interlock or linkage of the local groups within the wider and more complex social system of the area. It is therefore particularly important in the investigation to ascertain and describe how local associations are integrated into the secondary levels of social organization, and how status is given to local leaders who also serve as the members of the area associations, institutions, or systems.

In the analysis of the area, the problems of gathering, coding and tabulating data on communities and other organized groups will be

enormously complicated if the investigators use any definition of "community" other than that of an organized locality group. This definition implies that the community is all-inclusive of the primary social groups living within its physical boundaries, and incorporates every person who lives within its defined extension. At the same time, this definition—which is focused on the requirements of programming through the use of the concept of "operational social modules" as units to be treated in scheduling—frees us of the difficulties inherent in considering the community in its secondary or tertiary dimensions as a region, a city and its countryside, or a whole nation.

It also enables us to sidestep another problem in programming. Although we need not go into the sociological and socio-psychological theories of community organization here, we should point out that not all of the people who live in rural areas are members of locality communities. Research in Latin America shows that with increasing rural migration, the adoption of new technologies which tend to industrialize agriculture, and the changing forms of human settlements in many countries, the organizational structure of social groups undergoes great change. Other types of social groups and associations are becoming more important in the life of rural people. These kinds of informal and formal social organization are displacing the locality group community through the modification, substitution or limitation of its basic social functions. As mass media and new occupational opportunities permeate the countryside, it becomes increasingly fallacious to assume that programming can be postulated upon "standard community units". This problem has long existed, and has been recognized in urban areas. The kinds of techniques for rural and urban action differ in community development approaches: because of rural social change, the actions will tend to become increasingly similar as a result of deruralization and changing social organization.

The technicians who are responsible for a community development process should have access to organized forms of local association in order to facilitate their work. It is of course possible to organize such associations; however, if structured social organization does not already exist at the local level, the attempts to organize formal groups such as community councils, *juntas de vecinos*, youth clubs, farmer associations or co-operatives may prove to be time-consuming, costly, unpredictable and frustrating. These problems arise out of the dynamics of group functioning. Such processes are not as simple as often assumed. Social groups cannot exist without frequency of interaction, sentiments of cohesion and belonging, and shared norms and statuses which facilitate the activities of the group in achieving agreed-upon goals. Attempts to organize new groups often lead to factional quarrels, struggles for leadership, lack of participation and challenges to group authority.

For this reason the survey must gather representative data on communities and other local associations as groups having status-structures and integrated functions. Many different kinds of associations may provide forms of participation and resources needed for the instrumentation of targets. The community may be the best form of association for accomplishing many activities, but it is not the only form which is available and it is not the most appropriate for all of the tasks to be carried out. In many kinds of community development activities, the mechanisms will be inter-communal, while in others the technicians may be working with interest-groups or age-groups within the community.

5. *Data-gathering*

It is a rare researcher who records even a considerable part of what he observes. Therefore, once the survey plan or outline has been prepared, the organization of data-gathering should employ methods which provide a number of checks against loss of information which ought to be considered in programming. The first check is the survey guide or instrument itself. It should be prepared with the expert assistance of specialists who are familiar with the methods and problems of research in each of the subject fields. If possible, they should continue to act as an advisory group of consultants during the course of the survey, going into the field as often as possible.

However, data-gathering must often be done without the direction of professional investigators. It is then necessary to have a team composed of technicians from the subject fields. These should have a period of training and "warm-up" before the survey begins. The same technicians should stay in the area and undertake the operational activities once the survey has been completed. This procedure insures that much of the unrecorded data which is absorbed through observation, the political and community contacts, and the experiences in solving many problems in the analytical phase, are carried over into the operational programme.

It also implies that in those cases in which relatively large financial resources become available within a short time, requiring a rapid start-up of the programme, area diagnostic surveys can be undertaken in many areas or regions concurrently. In this way no loss of enthusiasm or momentum will result while new personnel are recruited for the activation phase. Sometimes it is preferable to simplify the survey instrument in order to make it operationally a component part of the action programme by making it applicable by local personnel.

We are of course referring here to survey methods as differentiated from pure research for scientific purposes. The aims of a diagnostic survey as a fact-finding phase in operational programming are altogether different from research. However, if information is known to exist about the programming area as a result of research, it should be utilized. In a few cases, it may be possible to obtain the help and participation of university professors or advanced students who have been doing research in the same area to enrich the survey findings.

Another important characteristic of the data-gathering process will be its reliance upon much locally-available information which has been prepared over a long period of time. Records of the technical services, government offices, census, and local professionals and technicians are usually accessible to the survey team. In many cases these findings cannot be obtained by surveys but only by soliciting the information from those who have patiently gathered it over the years. It is not unusual to find that local plans and aspirations have led to a study of many of the technical problems of agriculture, education, health, or housing in years gone by, but that resources were not then available for their execution. In any case, the psychological and administrative advantages of asking for this kind of information are so great that considerable time should be spent by the survey team in going to local authorities and leaders for their views and accumulated information. In some areas it may be possible to use the techniques of community self-surveys.

The methods used in data-gathering are principally those of observation, sampling, interviewing, questionnaires and schedules, case studies, gathering of information from secondary sources, and pilot or demonstration applications. The programming unit should, of course, participate in the process of surveying, control the quality of data being gathered, and insure that it will be utilized in the programming and policy-making processes.

In the collection of data about resources available in the area, the investigators should organize their information so that it will be possible to determine how efficiently these resources are being used, and how this efficiency could be increased. In order to do this, it will be helpful to break down data about resources into categories of instruments, tasks, and techniques.

In order to make comparisons of alternative programmes or of their component parts, it will be necessary to calculate the cost of instruments, and to relate them to techniques. We define a task as the actions performed to achieve a target, which is a specific objective accomplished in a given time period. The cost of the instruments which are needed in the performance of that task can be accurately calculated. In most cases, tasks will be performed in sequences and varying combinations by the same personnel. The term technique refers to the methods used in a combination of tasks aimed at achieving the targets of a particular activity. The investigators should try to identify the kinds and amount of resources allocated to specific instruments and combined by techniques. For this reason, we mention the importance in the data-gathering phase of a classification of data on resource-use in this manner.

6. *Interpretation and analysis*

The raw data gathered in a survey are relatively meaningless until interpreted and analysed. Although the subject-matter of the diagnosis has been divided into categories in the survey plan, the investigators must apply the concepts which give coherence to the findings. In the approach proposed here, the analytic process should involve the use of four such concepts as interpretative devices to reach conclusions for setting policy and making decisions about the programme. These concepts are (i) objectives; (ii) resources; (iii) codes of behaviour; and (iv) conceptions of administrative and technical rationality. This frame of reference is operational. It supplements the theoretical frame of reference which includes theories of development, social change and community dynamics. The operational frame of reference focusses on the local programming area as a socioeconomic system. The purpose of the analysis, then, is to discover some of the essential characteristics of this area system by looking at each of the four aspects we have just mentioned.

The findings of the surveys can be expressed primarily in two ways, either (i) quantitative

or numerical; or (ii) qualitative. After the information has been classified in relation to the survey outline, the investigators will tabulate and summarize it. In the process of summarization, numerical expression is to be preferred whenever it can be used. Tabulation and analysis should be a joint effort of the field investigators and the personnel of the programming unit. Much of the data will be useful to the central planning office as well; therefore, it will be advisable to occasionally review the progress of the work with specialists in national sectoral programming. At this stage of the diagnosis it will be necessary again to insist upon careful editing and supervision in the analysis of the data, for accuracy, objectivity, consistency and completeness. During analysis unanticipated results or gaps may appear; in such cases the investigators may have to return to the field to gather additional information, or they may have to reclassify some of the data. In the area survey this is always possible, because the investigators remain in touch with their sources of information.

When skilled researchers are participating in the survey it may be possible to use statistical methods in analysis. In general, however, the most significant findings of an area diagnosis are not statistical in nature. They can usually be expressed in terms of sociological, economic and administrative generalizations. We can see at a glance that the four interpretative concepts will imply a certain amount of difficulty in quantification of the summaries. Objectives are reducible to numbers by expressing them as targets through procedures which will be discussed below. Most resources can be converted easily to monetary terms. However, codes of behaviour and concepts of planning or administrative rationality are value-laden and values have so far failed to yield to quantifications. Therefore, we can anticipate that our approach, which is focussed on values in several respects, will not always give us results which can be coded or converted to common quantitative denominators. In the analysis of behaviour and administrative-technical concepts, then, the diagnosis will be essentially descriptive.

Yet much of the data can be expressed numerically, and thus can be presented in primary and summary tables, charts, graphs and other similar forms. Since the diagnosis of a programming area should be functional, it will be more important that the conclusions be fresh and timely than that the survey be published as an *opus magnum* with endless correlations of variables. The administrator wants guidelines for action which he can use immediately. In fact, the most valuable surveys are those which give technicians and administrators a sense of direction, urgency, and enthusiasm for implementation as the results are crystallizing. Presentation of the diagnosis should never be an end in itself. Rather, it is the beginning of action.

7. *Projections*

The diagnosis should serve as a useful guide for setting policy and making rational decisions about priorities and techniques. Consequently, the way in which the findings are presented to policy-makers and administrators should clearly call attention to the problems which are foreseen and the kinds of alternatives which ought to be considered.

The projection is a very useful device for this purpose. Everyone knows that changes will occur in the area situation. But the demonstration of how these changes will affect the population in the future offers the most convincing argument for reformulating policies, revising present strategies, or allocating more resources for specific programmes. By assuming that existing policies are maintained for five or ten years more, the projection would be based upon the present trends in budgeting the distribution of funds among programmes or activities, techniques employed, and the actual efficiency, cost, concentration and coverage of instruments.

From the analysis of the resources, needs and interests of the population, the characteristics of that population and its disposition to change, the diagnosis should indicate what objectives might feasibly be proposed. From the analysis of the available instruments, the diagnosis should indicate the limitations and scope of future activities. Out of this combination of variable factors, it should be possible to compare the present policies against alternatives for which projections can also be made. Secondly, it should be possible to use the projections in programming for setting targets in those activities to which highest priority has been assigned. The projections thus have a double utility.

Most projections in some way relate alternative combinations of instruments to a known population increase. Whether in education, health, nutrition or housing, the normal approach is to extrapolate the population increases and then project against these trends the known rates of change in other indicators. It is very difficult to refute conclusions which are drawn from such projections, yet it is amazing how little these relatively simple devices are employed

by agencies in making their plea for the more efficient use of resources, or for the allocation of larger amounts of resources for programmes which are critically needed.

8. *Preparation of conclusions and recommendations*

Out of the analysis of the area situation, the investigators and programmers should formulate generalizations based upon the information which has been gathered, tabulated and interpreted. Wherever it can be done co-operatively the process of preparing conclusions and recommendations should represent a synthesis of sectoral or technical viewpoints of all of the agencies and organizations that will collaborate in the programme. In many cases, this criterion means that available surveys, studies and diagnosis can be integrated into the area survey. This approach will lay the foundation of inter-agency co-ordination of activities in the action phases. If the size of the survey group and its level of competence is adequate, the conclusions should also be related to theoretical frames of reference of development theory (which could be taken in part from regional or national plans), explanations of processes of social change which have been observed, and community dynamics which will be helpful in the formulation of techniques in programme execution.

Since programming is in many ways a problem-solving process, the diagnosis should have the function of defining the nature and scope of the problems to be attacked. There must be a body of information sufficiently complete to permit a rational judgement of what can be done within the limits of resources, time and structures available. The conclusions can usefully focus on the four interpretative concepts which we have mentioned. The diagnosis should point out clearly what are the kinds of objectives to be reached in the various phases of the programme; what the limits of resources imply as to definitions of priorities and strategy; how the attitudes and values of the population and technical services influence the selection of instruments for the programme; how the bureaucratic, political and social structures affect the kinds of action which may be undertaken; and how the existing and anticipated policy guidelines of the programme are related to these questions.

II

POLICY AND VALUES IN LOCAL PROGRAMMING

1. *The role of values in policy*

Programming is a method of presenting action alternatives to policy-makers. The first step in a rational approach to policy-making includes the survey and diagnosis which we have just described. The second step is that of formulating, modifying or adapting policies by which the programme may be guided, using the information and conclusions of the diagnosis.

We may define a policy as a set of values for the determination of the principal variables of the programme. Policy is fundamentally concerned with the ends and means of action. The key policy variables to be defined in local activities are no different from those debated at higher levels. They include: (i) the definition of objectives; (ii) allocation of resources of various kinds to achieve those objectives; and (iii) specification of the ways in which those resources are to be used by organized enterprises applying certain techniques.

It is often assumed that local programming is no more than the breakdown or disaggregation of a global plan. This assumption implies that the policy questions for local implementation have already been resolved at higher levels, and that local programming units will not have to take into consideration the difficulties of formulating policies by proposing alternative courses of action. If this were so, the question of value preferences about the nature of goals or the most desirable means of action would presumably not arise in local programming.

Unfortunately, this is not true. Policy questions do arise in local programming. As Gunnar Myrdal has pointed out, "In any human valuation means have, in addition to their instrumental value, independent values as well. The value premise which has to be introduced in order to allow policy conclusions to be reached from factual analysis has therefore to be a valuation of means as well as ends. Furthermore, in reality, of course, a desired end, if reached, is never attained in purity. The dynamic social process initiated by the means results in many other changes besides the positive achievement of the end. These accessory effects of the means

have also to be taken into account in the chosen value premise."[6]

One of the objectives of a community development programme is popular participation. The nature of this objective itself becomes a conditioning factor in the continual changes of evolving programme goals and the instruments of action. In such a dynamic process, which obeys myriad influences of local as well as regional or national groups, policy cannot be static or finalized. It cannot be set from above, for, if it were, the very programme itself would be a denial of basic principles of local participation. This problem of policy-making has been discussed by economists in relation to the attempts to define the welfare function (W) of a model for the economy: if this variable could be fixed, then all decisions on ends introduced into the analysis could be managed in terms of a given scale of values which would indicate the optimal use of resources and techniques. But, in Arrow's paradox, a mathematical application of this method of formulating social ends was shown to be unresolvable.[7] From a theoretical viewpoint, the rational-deductive or utopian ideal of fixing a single set of values in the plan must be dismissed. It is not possible to define a "welfare function" or a unitary "public interest" by which planning from the top down can be applied.[8]

In any comprehensive programme of local action, problem-solving and decision-making will be live questions. Far from having a given policy which can be applied, the administrators and programmers will be constantly confronted with new choices of which objectives to pursue, and how best to reach them. Inevitably questions of preference will arise, and some combination of values will have to be chosen and inserted in the programming processes in order to make it possible for the programmers to reach policy conclusions which reflect a consensus of those engaged in carrying out the programme. Such policy guides will reflect basically three points of view: (i) the strategic goals of the national and regional plans which determine in broad outlines the priorities in allocating funds and technical personnel; (ii) the rational judgement of administrators, technicians and programmers at the local level who must make the programme operationally effective; and (iii) the codes of behaviour, attitudes and values of the local associations and other decision-making networks in the area society. The programming unit and administrators must therefore be aware of the need to reconcile these three types of values in the policy, since they are in fact engaged in introducing extraneous standards of "modernization" and legitimizing these with the authority of the state.

This method is so essential to the basic approach of community development as an instrument for developing popular participation that we must explore it further.

As mentioned earlier, the local programmers must work within a frame of reference which serves as a valuational approach in initiating effective local processes of change and growth. These values focus on actions of government as a system of technical services and agencies jointly with the people designed, by successive approximations, to bring about the solution of specific problems of raising levels of living. The participative nature of this process involves the population directly and deliberately in a process of social engineering. In this process the limits of local competence are candidly recognized. The reforms and adaptations of existing technologies, systems of production and distribution of goods and services at the community level will be piecemeal and uneven. The changes will be modest in scope and not always consistent in their effects. Yet it is assumed that reality of demands and interests of the affected groups will permit continuity in the interrelated changes which gradually begin to produce a multiplier effect, and that experience in accomplishing limited objectives will stimulate the participants to build a body of social experience in identifying, analysing and overcoming their problems.

Because this set of values does not yet seem particularly significant in the grand designs of macro-planning, it is commonly dismissed as being relatively unimportant for national or regional development. The problem-solving or incremental approach seems to be a denial of the application of rationality as the basic ideology of planning. One can argue that to be concerned with the empirical quality of local situations introduces muddle into what should be a precise and logical method of defining overall priorities. However, real-life situations in all

[6] Gunnar Myrdal, *Value in Social Theory*, Routledge and Kegan Paul (London, 1958), p. 49.

[7] Kenneth J. Arrow, *Social Choice and Individual Values* (Wiley, New York, 1951).

[8] The problem is discussed in David Braybrooke and Charles E. Lindblom, *A Strategy of Decision* (Free Press, Glencoe, Illinois, 1963); in James M. Henderson and Richard E. Quandt, *Microeconomic Theory: A Mathematical Approach* (McGraw-Hill, New York, 1958), chapter 7; and in J. S. Coleman, "The Possibility of a Social Welfare Function", *American Economic Review*, vol. LVI, No. 5, December 1966, pp. 1105 ff.

developing societies do have a way of being entangled, inconsistent and perverse. Experience shows that if the local programme is not basically concerned with the visible confrontation of concrete problems and needs, it will very soon be scrapped as impractical by administrators and political leaders.

Friedmann has analysed the benefits of "crisis planning" in Venezuela, and points out that while it may be less elegantly rationalistic and simplistic than in the textbook versions, it has proved to be preferable as an approach not only in local but in national programming:

> "The birth of national planning in Venezuela under conditions of crisis had two immediate consequences. First, it put a very high premium on its effectiveness. At the very least, this meant that government was willing to give active support to the establishment of a workable planning process and would make use of it in ways that seem politically opportune. Second, it meant that short-term problems would be given priority attention. Long-range speculation on alternative goal possibilities is a luxury in which planners can indulge only when there are no problems of great urgency to be met or when planners forgo whatever chances they may have found for influencing major decisions. A second paradox of planning, therefore, is this: when planning is least needed—as under conditions of relative calm and stability—it can afford to be 'rational'; but when level-headed rationality is desperately wanted—as under pressure of an extreme crisis—planning is given the least scope for exercising its manifest function.
>
> "This raises an interesting issue for planning theory. If the paradox stated holds true, planning typically occurs—and receives political backing—under conditions of crisis. The rationality of planning practice must therefore be adapted to its conditions: it must sacrifice comprehensiveness to the urgency of overcoming specific bottlenecks; it must become more problem- than goal-oriented; it must be piecemeal and fragmented rather than co-ordinative."[9]

The introduction of the values and rationality of programming into local situations must be considered an innovation little different from other kinds of technological change. The difference is one of level and the nature of the techniques which are being introduced. The programmers will be working with village leaders and people, as well as with bureaucrats and political leaders. Yet the transformation of attitudes, routines and administrative structures are quite similar to other kinds of developmental processes.

In normal situations the local governmental officials or the decision-making elites may not find changes to be convenient, desirable or practical in terms of their ends. However, in the crisis situation, the innovation of programming techniques becomes a symbol of the development "mystique", and merits more serious consideration by these groups. Urgent need for solutions heightens the probability that new ideas will be tried which in other circumstances would have been rejected. The psychology of adoption of new techniques will normally involve a period of testing, adapting and gradually reaching a workable version of programming techniques and mechanisms which satisfy the various interest groups in the area. In these problem situations, the values which are relevant as premises for policy-making will also be under discussion. The two aspects—policies and the values by which policy preferences are set in decision-making—cannot be separated.

2. *Objectives*

In the community development approach to local area programming, the planning group faces the task of integrating many different governmental and community activities into a performance system whose elements are interdependent. The formulation of the objectives of the programme involves reconciling and integrating the policies already announced by central planning bodies and technical services with the interests of the local population. The programming process serves as a means of transmitting locally-oriented objectives to the participating public agencies so that they may consider the formulation and/or revision of policy from the bottom up.

We may divide the objectives within the comprehensive programme into three categories, merely for purposes of our discussion here. Each of these categories of objectives will reflect a policy-orientation, either local, technical-sectoral or strategic. Each of the categories offers a basis for considering certain community development principles which are related to the kinds of objectives appropriate to that category.

[9] John Friedmann, *Venezuela: From Doctrine to Dialogue* (Syracuse University Press, Syracuse, New York, 1965), pp. 28-29. Crisis as a factor in the adoption of innovations has been analysed by H. G. Barnett, *Innovation: the Basis of Cultural Change* (McGraw-Hill, New York, 1953), pp. 80-89.

(a) *Locally-defined objectives, or "felt-needs"*

The philosophy of community development has long paid a great deal of attention to the "felt-needs" of the community as a first approximation of programme objectives. The interests and goals which are reflected in the concept of "felt-needs" were considered to be a kind of unsophisticated policy guideline that set out the value-orientations of the people. The programming method consisted in defining the objects of action by ascertaining what the community wanted, and providing the necessary kinds of assistance in getting it. The justification for this approach was that motivation could be most easily stimulated and resources could be most easily mobilized when the community saw that programme objectives coincided with their own interests.

The "felt-needs" usually led to such tangible improvements of community infrastructure as roads, wells, schools, irrigation works, churches and community meeting places. In many villages the programme personnel assisted in the organization of interest-groups, councils and committees which took responsibility for mobilizing local resources for the tasks. Government services related themselves to this process of community action rather haphazardly as they were needed and called upon by each community or the promoters of community development. It was difficult for them to anticipate what demands the villages would present. A national effort based on the "felt-needs" approach usually had the over-all goal of making the people feel that government was interested in their problems by giving them a role in, and an identification with, a national development ideology.

In its unmodified form, the "felt-needs" method of setting objectives for the communities and the agencies leads to unsystematized and random activities. Although the coverage of a local area may be organized more or less predictably, the content of the action has no ordered pattern and may be quite unrelated to the rationally-conceived objectives of a comprehensive and integrated development project. Although it serves as a useful device for inserting the value orientations of the communities into the formulation of objectives and policies, the concept of "felt-needs" is in fact seldom used exclusively. In most programmes which involve the community development approach, supplementary value premises are pragmatically introduced into the formulation of objectives: in some cases, these other criteria are given more importance than "felt-needs" in programming.

(b) *Technically-defined objectives, or "real" and "induced" needs*

Because "felt-needs" are not usually regarded by technicians, administrators and planners as an adequate and satisfactory basis for setting the objectives of a programme, other formulas have been created for introducing value premises into the policy. The device of "real" or "induced" needs was introduced to enable the technical services to sensitize and induce the community to recognize its "real" needs, which the agency is organized and equipped to meet. The justification for this approach was that the needs were really there, but that the community should not only perceive them, but "feel" them as well. This is a simplified way of saying that the community should change its scale of values, so that the people would participate actively in achieving the objectives appropriate to that particular agency. The earlier method was inverted: the community values were remoulded to fit the needs of the agency. If many agencies were at work in the same local area, community development was reduced to a method for obtaining community participation in the work of each agency.

The introduction of technical value premises into the objectives of the programme need not be so complicated. Most communities are quite willing to accept their responsibility in assisting a technical agency which undertakes projects on their behalf. There is no necessity for the mumbo-jumbo of "real" or "induced" needs. However, rationality in programming should lead to a consideration of the questions of balance, overlap and fragmentation among the total range of technical services in the local area. Each technical service should see itself as a sector, and not as the whole. Each should contribute specific objectives to the total programme. These technical activities can be combined into a substantive programme framework when the limited objectives of each agency or service are interrelated and made to coincide with the total needs of the community.

This is the approach used in setting objectives for the Andean Indian Programme. The comprehensive design of the action consists essentially of structuring the separate technical activities into an integrated system which includes objectives in agricultural development, stock-raising, afforestation, vocational training, handicrafts and small industry, co-operatives, nutrition, housing, home improvement, health, education, community organization, recreation, construction of infra-structure and facilities, re-

search, training and preparation of leaders and auxiliary personnel.

However, two problems arise. The sum of objectives for all communities in the area or nation may result in a total demand for services which the existing agencies are incapable of meeting. Secondly, there is no inherent evidence which leads one to believe that the combined services add up to the most efficient development instrument. In other words, the co-ordination and integration of many technical services in a single programme seems incrementally logical, but still leaves unsolved the problem of which needs should be attacked first, and how resource inputs should be made preferentially in order to get the kinds of structural changes which neither the communities nor the technical services can evaluate.

(c) *Strategic objectives*

The problem of strategy may be restated as the interrelation of the global plan with local programmes. Macroeconomic and macrosocial diagnosis focuses on questions of priority among the total range of objectives which can be considered for the society. As the decision-making about many alternative goals becomes extremely complex, the most promising approach for obtaining solutions is that of applying mathematical methods. The standard approach is simulation by model-building, in which some factors in a situation are taken as given (constants) and equations are formulated to manipulate the key variables and interrelations within the system. As we have mentioned above, the problem of social functions in the model is that of quantifying the value premises so that they can be introduced into the model. Since this is impossible as yet, strategies and priorities are still determined in national plans by expert guesses as to what will happen in the future: as Lewis has commented, "the work (of preparing a plan) is subject to much error; its quality depends more of flair and judgement than it does on technical arithmetic".[10]

Yet the mathematical model of the national economy can be, and is, used as the "hard core of programming",[11] and increasingly all of the methods of policy analysis and programme decision-making are related to it. The method of "successive approximations", or planning by stages, offers the advantage of making over-all programme decisions on the basis of strategy with the help of knowledge obtained from mathematical methods, and the subsequent filling in of programme and project objectives in terms of their probable effects on the functioning and output of the economy. Incrementalism or planning from the bottom up is consistent with this approach. The community development process can be related functionally to economic development by its impact on certain of the variables which have been considered crucial by economists as a result of model-building. These may include, for example, private consumption, unemployment rates, current government expenditures, gross marginal propensity to save, and annual increase in labour productivity.

We see, then, that the elaboration of a local action programme using the community development approach can be rationally related to the global development plan. At this level of strategy, the local programmes in combination can be regarded as instruments for achieving global goals. One such goal which has been accorded growing attention is that of popular participation. Another relates to the "inward growth" of the economy.[12] In social planning the strategic goals which have been identified include redistribution of income, population control, human resource development, and urban and rural development.[13]

The area programming team can seize upon these key goals for the society as the broad guidelines for structuring activities in relation to the national plan. Strategic objectives have in fact provided the basic points of orientation for implementation of rural development, agrarian reform, integration and regional development projects in many Latin American countries. It is in the context of these larger designs for development that the local area programme becomes significant not merely for the sum total of its co-ordinated activities in the villages, but for its impact as a needed instrument in national modernization and nation building.

Finally, then, the integration of the locally-defined objectives with those of the technical services within the design of strategic goals for the nation can be given rationality by the programming process and by a frame of reference

[10] W. Arthur Lewis, *Development Planning*, George Allen & Unwin (London, 1966), p. 147.

[11] Jan Tinbergen and Hendricus C. Bos, *Mathematical Models of Economic Growth* (McGraw-Hill, New York, 1962), p. 9.

[12] See Aníbal Pinto, "Concentración del progreso técnico y sus frutos en el desarrollo latinoamericano", *El Trimestre Económico*, vol. XXXII (1), No. 125, 1965, pp. 3-69.

[13] ECLA, "'Social Development' and 'Social Planning': A Survey of Conceptual and Practical Problems in Latin America", *Economic Bulletin for Latin America*, vol. XI, No. 1, 1966, pp. 42-70.

which we call the community development approach. One aspect of the problem of integrating different levels of objectives therefore is organizational: the process of programming must be set up so that all points of view can be represented and a consensus can be reached as to policy and implementation of the programme. The second aspect will be a conceptual basis for comparing and interrelating the objectives so that they can be instrumented most efficiently in the local situations which prevail in different parts of the country. The assumptions which are inherent in the community development approach, and which introduce its value premises into policy-making, include the following:

(i) The objectives of the programme should include the formation of local voluntary associations, and provide for their dynamic integration into the wider-area secondary community;

(ii) The objectives should be problem-oriented, reflecting as much as possible the kinds of priorities which are preferred by local groups;

(iii) The objectives should be coherent and consistent as between central and local programming;

(iv) The objectives within the performance system at the local level should be interdependent and mutually facilitating in their effects;

(v) The objectives should be structured as to content, and in space and time, to accelerate sustained development in the programming area.

3. *Resources as a policy variable*

It is a truism to say that scarcity of resources is the most severely limiting factor in development. These scarcities are of three kinds: material, human and organizational. However, it has also been noted many times that it is the countries with poorest resources that make the least efficient use of those available. Justifiably, then, planners and administrators of development programmes tend to feel that the key of development is rationalization of resource use, and to assume that knowledge or expertise can solve the problems of development. Certainly it is extremely important for a developing country to have access to scientific, technological and administrative information. But a small pool of expertise does not compensate for massive scarcities of funds, equipment, materials, well-trained technicians and the all-important organizational structures within which these human and capital resources can be employed efficiently.

The problem of lack of resources therefore must be recognized very realistically at the beginning of the programming process. Although we have approached policy problems from the side of objectives of the programme, it would probably be much more appropriate to begin any discussion of policy from the point of view of the resource inventory. The questions of what goals to set then take on an entirely different character.

Moreover, the question of resources has a double dimension. The kind and amounts of resources is one aspect. Certainly capital, labour, natural resources and organizational resources are crucial elements, for they are related to the matter of priorities when resources are scarce. The second aspect of the resource problem is that of instrumentation. Various types and qualities of resources must be combined into instruments before they can be used in attaining the indicated objectives through programme activities. It will be of little use—as many developing countries have seen—to receive massive doses of funds from foreign aid, if they do not at the same time possess the skilled technical and administrative manpower to utilize the capital. Conversely, expensive training programmes in the country or in other countries for technicians do no good if they must return to an agency which lacks operating funds for its work.

An inventory of separate resources can therefore be quite misleading in setting targets, unless care is taken in programming to focus attention on the policy problems involved in utilizing resources as instruments. As we have already noted, instruments are combinations of certain resources in certain proportions, according to certain standards, for attaining one or more targets. The existence of an instrument will have been determined by the nature of the specific objective for which it is designed, and therefore the definition of objectives ordinarily precedes the determination of appropriate techniques and instrumentation.

The programmer is faced with two very specific questions in the evaluation of the combinations of resources available. First, do the right resources, in the right proportions, with the right standards, already exist as instruments to be deployed in the proposed programme? This question carries with it—if the answer is "yes" —the matter of determining how rapidly existing instruments may be multiplied for an expanding programme.

However, since the answer to this first question is usually "no", the second question follows: what kinds of resources, in what proportions, at what standards of quality do in fact exist? This question must then be amplified by also asking how these existing resources can be combined

into effective programme instruments. In this second case, we have left the basic assumption that it is possible to make better use of existing resources pretty much as we find them. We are now embarked on the difficulties of trying to settle questions of priority within the area of instrumentation. This probably reflects fairly the situation in most countries, in so far as programmes of local development are concerned: the instruments do not presently exist for easy mobilization of popular participation, and, to make matters worse, the component resources of labour, capital, natural resources and organizational structures are frequently lacking or inefficiently distributed among programmes.

4. *Alternative patterns of organization*

Area programmes for the mobilization of popular participation are always organizationally complex. Because of the comprehensive nature of the action, many agencies may be collaborating, co-operating, or co-ordinating their efforts in the lateral sense, while various levels of these organizations may also be involved in the vertical sense. Programmers and policy-makers have a number of choices open to them in the organization of the programme. For this reason, the pattern of programme organization is a variable which will be conditioned by the structure of national development programmes, as well as the characteristics of operating instruments and local government in the programming area.

A rather wide variety of organizational patterns appears in the community development approach in Latin America. These can be classified in terms of relative complexity, considering the variations from the simplest to the most complex. If we consider the functions of the organizations, we can divide them into four types: (i) organization for planning or programming which is basically policy-setting and not operational; (ii) organization for operational co-ordination, in which agencies of various kinds attempt to act jointly; (iii) integral operating organizations for comprehensive programmes; and (iv) the sectoral use of the community development approach as a "programme". The latter must be considered separately, because of its inconsistency with the principle that programming for popular participation in local areas should be comprehensively organized.

The organization of a central planning or co-ordinating council in Latin America is usually an extension of Presidential authority. The normative approach therefore emphasizes central direction in a planning process which interrelates the structures of technical services with local government. The policies which prevail are those of getting national planning goals communicated to and accepted by the local groups, efficiently implementing the targets of the programme by the use of existing instruments in the areas affected, and encouraging or assisting the local agencies to create programming units for planning from the bottom up.

One of the difficulties encountered in the organization of central co-ordinating bodies is their lack of authority in getting implementation of programmes. The solution often proposed is one of combining the normative function of making plans or elaborating projects with authority to supplement the activities of technical services in the attainment of goals which are newly announced. In other words, mechanisms which are initially co-ordinative tend to become operational. Organizations tend to slip out of the first category into the second.

The second type of organization, therefore, will have mixed functions. Policy-making and planning represent one kind of function. Operational implementation of the programme may be regarded as another. In combining these two functions, several countries have established organizations which have a dual character: thus Acción Comunal in Colombia, Promoción Popular en Chile and Cooperación Popular in Peru began as Presidential programmes in which policy-making and co-ordination were mixed with operational responsibilities. It is from experiences of this kind, in which an operating organization also has responsibility for making policy affecting other agencies, that much of the resistance to co-ordination has arisen. Comprehensive programmes seem politically and administratively to be an exaggerated centralization of power. They threaten existing divisions of functional responsibility. Resistance by sectoral agencies obliges the Governments to incorporate these organizations into existing ministries. No country of Latin America has launched a community development ministry, and none has had an operational Presidential programme which lasted for more than a few months. In the present Chilean case Promoción Popular continues to have a temporary existence as Congress debates its legal creation in the Presidency.

It seems correct to draw two conclusions from these experiences. First, the responsibility for policy-making and planning of comprehensive programmes must be kept separate from the responsibility for implementation. For this reason, we have suggested here that the local pro-

gramming units should be representative of both planning and operational mechanisms in order to find common grounds for intersectoral co-ordination of action. But the function of such units should be exclusively normative (i.e., policy-making and programming). Secondly, integral operating programmes under the direction of some high authority in government, such as the President, are structurally unstable because they interfere with the functioning of many other ministries and agencies, which sooner or later will revindicate their rights.

On the other hand, the nature of bureaucratic rigidities is such that a number of autonomous agencies have been created for the implementation of integral programmes. These may exist under the sponsorship of existing ministries, or separately. Generally, they result from the urgency for attacking specific problems of marginal populations.

A fourth type of comprehensive action may result from sectoral programmes which use the community development approach. These actions may occur apart from a national policy of community development or popular participation. Ordinarily such actions do not relate to a national or regional development plan, and are limited in regard to their degree of intersectoral co-ordination. Finding themselves required to undertake comprehensive programmes as a result of the introduction of community development concepts, some sectoral agencies have themselves initiated intersectoral actions in which they employ personnel and techniques of other sectors. These activities have led to conflicts of concept and fragmentation of community development in Latin America.

In summary, the policy guidelines should establish the organizational structure of the area programme in three fundamental aspects: (i) by providing for the creation of a policy-making and programming unit, whose mechanisms can be kept separate from those of implementation, and responsible primarily to political authorities at the regional or national level; (ii) by giving each of the collaborating agencies a role in co-ordination of the programme by the establishment of a co-ordinating council; and (iii) by conceiving of all of the action agencies in the area, whether governmental, semi-public, or private, as potential instruments for the execution of the programme.

III

Concepts and methods of programme elaboration

From their diagnosis the programmers will have obtained information about the character, needs and interests of local groups. They will have defined the area of action in physical and social terms. They will have analysed possible objectives and the resources available in terms of their possible new combinations into instruments of area action. They will have studied the forms of economic and social organization at the local level to identify the modular units of the different kinds of activities of the programme. Finally, they will have reached a consensus among agencies, people and leaders about policy guidelines and the organizational pattern of the programme.

All of this work will have been necessary in order to draft the programme as an operational document which fixes targets, the form of organization and the instruments which will be used in carrying out the activities. The programme will be a system of interrelated parts having a structure and capable of producing the kinds of outputs which are necessary to accelerate the development of the population in the area. The concept of the programme as an input-output system implies a certain sequence of activities over time which should be standard in their effects. The principles of administrative and technical rationality require that the inputs be spread over an optional time period which has already been studied in the diagnosis. For greatest efficiency of resource use, the operating agencies will synchronize their activities in each community or area by the breakdown of the total time period into phases and sequences in which tasks are rationally ordered.

The concepts and methods of programme elaboration which are described here have been used in the rural development and integration programmes of Ecuador and Bolivia, and in the scheduling of operations in agrarian reform settlement projects in Venezuela. They are introduced here as a method for introducing rationality into programming. They are not intended to be dogmatic or inflexible rules. They represent procedures for converting conventional sectoral or community development services into instruments of an action system. This system should be capable of achieving measurable ob-

jectives with highly specific inputs of resources in such a way that it can be continually readjusted for greater efficiency through cost analysis, evaluations and administrative controls. As we have mentioned in the Introduction, these are the techniques which are so much needed for the preparation of area development projects which can meet given standards of feasibility.

1. *Trajectory of coverage*

In the diagnostic process an inventory can be made of all of the classes and total quantity of modular operational units. This total of all of the communities, groups, associations and other organizations to be attended during the implementation of the area programme will predetermine all of the other factors in programming. The rate at which the programme can cover the modular units will probably not be constant. Due to start-up difficulties such as lack of personnel, adjustments of techniques and the creation of new instruments, the operation begins slowly and accelerates its speed over the years. This accelerating rate of coverage is the trajectory of the programme.

The trajectory can be graphed as the number of communities or other units to be attended over the duration of the programme. An example of this process is found in the Rural Development Programme of Ecuador, which increases from 96 communities to 1,572 in a period of 10 years, with a total coverage of 35 per cent of all modular communities.[14]

The failure to set a trajectory in a programme of popular participation can lead to serious difficulties, for it may result in demands for coverage which were not foreseen and which cannot be met. For example, Llosa reports of Peru, "Once the will of the peasants has been mobilized in a process which tends to improve their living conditions, the demand acquires a very accelerated growth. As a result, the requests sent up by the communities have augmented day by day, surpassing the technical and material capacities of Cooperación Popular. But if the expectations which have been created are not met (at times, through the work of the opposition, these have been stimulated by exaggerated suggestions), the peasants feel deceived, believing that their real desires have not been taken into account. The consequences of this situation can be grave, not only for Cooperación Popular but also for future social development.

> "In effect: between August 1963 and August 1964, the field headquarters of Cooperación Popular received 1,538 requests from the communities, of which they attended only 665. This means the reaction of the peasants to the mobilization initiated by Cooperación Popular exceeded the present capacities of the organism by over 100 per cent. The accelerating demand, especially in view of the fact that the resources of the programme are not being increased but reduced, may lead awakened desires to turn against the organization which in their view is frustrating them."[15]

Through the joint action programming of the Consejo Nacional de Desarrollo Comunal, these difficulties are being overcome. With the incorporation of Cooperación Popular into the comprehensive integration project, its areas of coverage have been concentrated in seven zones, and some of its substantive responsibilities are being shared by other agencies.

Coverage must be scheduled on the basis of the instruments available. The question of priority for areas and communities will in turn depend upon the nature of the targets and the intensity of activities. The problems of geographical concentration and selectivity occur within the country as a whole in the assignment of priority to certain regions and areas. It also appears within the programming area. We have already indicated that the Andean Mission in Ecuador follows a policy of selecting strategically located and influential communities in a plan of penetration of the area. Selected communities are given first priority in the scheduling of coverage in order to obtain early demonstrable effects which should increase the motivation and interest of the more backward communities. The instruments of the programme have been developed around "minimal targets", i.e., critical activities which achieve the most effective results in terms of development goals. The Andean Mission does not attempt to respond to any sort of request from any community in the area. Its targets and activities in the area, and in each community, follow a rational sequence based upon the strategy of balanced economic and social change.

In the programme of the National Indian Institute of Mexico, the approach to scheduling coverage is much the same. The Institute gives priority to four basic targets: (i) roads; (ii) credit; (iii) sanitation; and (iv) education. In

[14] Ecuador, Junta Nacional de Planificación y Coordinación Económica, *Plan General de Desarrollo Económico y Social*, Tomo VI, Libro Primero, "Programa Nacional de Desarrollo Rural" (Quito, 1964), pp. 27-28.

[15] Jaime Llosa Larrubure, "Cooperación Popular: Un nuevo enfoque del desarrollo comunal en el Perú, *Revista Internacional del Trabajo*, vol. 74, No. 3, 1966, p. 269 (translation by author).

the areas of refuge it also follows a strategy of penetration. The principal installations are in the administrative and trade centre of the area, which is usually a *mestizo* city having many related services which collaborate with the Institute in the programme. Within the programming area, priorities and targets are assigned to two kinds of zones. These include the demonstration zone, which enjoys a permanent, constant and direct contact with the programme. "In this demonstration area are installed educational, sanitary, medical and agricultural demonstration services, as well as others, whose use is stimulated; but the most important installations consist in the organization of economic development projects which aim at showing the modern techniques for exploiting the resources of the habitat: soils, pastures, forests, rivers and lakes."[16]

The second area is one of diffusion or extension of the programme. It is the zone which cannot be reached in direct action. Certain occasional services are provided in the area of diffusion, such as sanitary campaigns, legal aid, and promotion based on the demonstration of rising standards of living and development in the first area. A third zone is called the area of migration, to which the Indians are taken as paid labourers. It lies outside the area of refuge, and in this case the local co-ordinating centre of the Institute serves only as a supervising agency. A fourth area is that of resettlement, in the event that population densities in the area of refuge are so high as to require such measures. In projects of resettlement, the Institute acts as one of the collaborating agencies through its co-ordinating centre in the area of refuge from which the Indian people are migrating. The programming of such resettlement projects, which may involve many government agencies, is done at the national level. We see here the way in which activities in one programming area may be rationally related to those of other areas, through co-ordination and central planning of a number of integral programmes or projects for different programming areas.

The programming by the Rural Development Institute of Bolivia, the Venezuelan Community Development Programme which operates in selected communities within state programming areas, and the agrarian reform programmes of many countries—including Chile, Paraguay, Brazil, Ecuador and Peru—include some elements of this area coverage approach. The same principles can also be applied in urban areas. In urban renewal and community development projects of the Foundation for Municipal Development in Venezuela, project areas were selected and activities were programmed to achieve coverage within a number of these over a period of several years.

The scheduling of coverage in the local area should of course be based on the conclusions of the diagnosis. The analysis will have determined the feasibility of certain kinds of activities, and should make it possible to assign specific priorities to the communities in line with the tactics of utilizing existing patterns of communication, social organization and local leadership. However, a longer-term schedule of coverage for the programming area should be constantly evaluated and revised in the light of experience. The difficulties of Peru's Cooperación Popular are very likely to occur elsewhere. It is probable that once action begins, other communities in the area—or other regions—will demand similar technical services. This may lead to a situation of crisis, if the agencies are incapable of responding with the amount of resources available. Such demand by the communities may lead to modifications not only of trajectory of coverage, but of policy, as mentioned above. It may be possible to increase the input-output efficiency by changing the coverage: some communities are likely to respond more positively than expected, and those which were given highest priority may need a longer period of assistance than the programmers originally estimated. These changes in the schedule of coverage for the area will directly affect the phasing of activities, to which we now turn.

2. *Phasing of activities*

In the discussion of diagnosis, we have seen that the programme or project can be broken down into many activities, all of which are interdependent and form combinations of tasks. In each community or other form of modular group, the operational process becomes very complex as the personnel of a number of different technical subprogrammes work in harmony with the people. The tasks and activities must be synchronized and scheduled throughout the area in order to determine the total inputs in a given number of years. For programming reasons it is helpful to divide activities into three phases: promotion, implementation and consolidation. Phasing is a method of standardizing techniques.

[16] Gonzalo Aguirre Beltrán, "El Desarrollo de la Comunidad en las Regiones de Refugio" en *Jornadas de Financiamiento Agrícola en América Latina*, Banco Interamericano de Desarrollo-FAO (Viña del Mar, Chile, 1965), pp. 22 ff.

Certain kinds of targets, and their corresponding tasks, will be grouped in time sequences in the communities to make most efficient use of personnel.

Promoción, motivation, animation or *sensibilización* are different terms which have been used to describe the first phase of the action. The activities included in this phase may take many different forms, but all are aimed at establishing contact with the modular groups to be covered by the programme, and to stimulate and orient them in participating in the development process.

The most effective techniques, as well as the relative emphasis to be given promotion, should be analysed in the diagnosis. If no experiences exist in the programming area, pilot projects using different experimental approaches in promotion should be tried out to see how the people react.

Promotion should create among the people a "development ideology" which encourages the community to identify itself with the national development process. At this stage the people should make a decision to participate voluntarily and to begin preparing their own microplan for collaborating in the activities. The community may begin to organize formal groups and its council or local government during this phase.

In some areas already undergoing rapid social change promotion may not be necessary. The prevailing differences of cultural values, social organization and relative integration into the socioeconomic system of the programming area may also call for different promotional approaches within the same local area, especially in countries where Indian, *mestizo*, Iberian or African ethnicity exists. Since the promotion phase should stimulate each modular group to make a decision as to its participation in the programme, the techniques employed should accelerate the development process as much as possible from the outset. Promotion may take the form of educational activities, as in the Puerto Rican community education programme. It may emphasize the organization of local councils, as in Colombia's Acción Comunal. Or it may attempt to slowly reduce barriers of social distance, isolation and ignorance through visual aids, the use of native languages by technical personnel and other techniques in combinations.

Promotion should be concentrated in a limited area as foreseen in the schedule of coverage. It is possible and advisable to combine the diagnostic survey of the local area with coverage. The survey team may include technicians who will work in the villages after the diagnosis is complete. The organization thus derives the maximum benefit from the *rapport* and personal contacts established in the survey period.

Once the traditional barriers have been overcome and a climate of positive concern for progress has been created, the people are impatient to see tangible results. At this stage it is already too late for programmers to begin thinking of the acquisition of resources, the co-ordination of different sectoral activities and the organization of an administrative apparatus capable of delivering services in the area. These operational mechanisms must exist *before* promotion begins, or at least must be in the last stages of activation concurrently with promotion.

Promotion cannot be a self-help process. Therefore, the use of mass media or political promotion for stimulating the people must be rapidly followed up by technical orientation and assistance to help the people understand the nature of the programme and their role in it. Promotion should also be directed at groups not directly involved, as political and power elites in the cities, whose support is essential for the success of the programme. A period of from six months to a year may normally be assigned to the promotional phase in each community. As we have indicated, the exact nature of the activities and the timing will have to be adjusted to the local situation.

Implementation, as the term indicates, is the phase of intense activity by the community in the achievement of the tasks which have been jointly planned by the local group and the programme organization. This phase usually lasts for more than two years. Again, it is variable, depending upon the rate of change which local populations are capable of sustaining.

The actions result in the attaining of sequences of targets which are the objectives of the programme. These may include the development of infrastructure, new institutions and forms of organization, integration of local groups into wider social and economic systems, increases of production, accumulation of capital and rising levels of living. This phase of the programme should produce measurable growth and change. From the baseline statistics and analysis of the diagnosis, it should be possible for the programme to quantify this progress. More than anything else, the implementation phase is important because the will and the means of self-sustaining improvement are "built into" the community system.

Consolidation refers to the phase in which the programme reduces the intensity of its activities. The community has begun a process of change and growth. It will be able to maintain a certain impetus with decreasing inputs by the Government. In this phase of devolution of responsibilities for progress to the local group, the rhythm and intensity of services by technical agencies become normal, i.e., similar to that offered to the more developed communities. The programme is still supportive of the continuing development process and responsive to the needs and interests of the community. The number of programme tasks and the instrumentation of specific objectives decline to a minimum as other institutions and local government assume increasing responsibility for continuing activity.

The consolidation phase may require one to three years in countries or regions having well organized government and community services. If the local governmental services are weak, and continued attention to the local programming area is required through the joint action programmes, the consolidation phase may be longer than three years.

3. *Action fronts*

Phasing is a method for grouping targets into combinations requiring similar instruments. Action fronts, as we refer to certain classes of activities, is a related concept which is useful in the achievement of balance in programme content.

The front of *organization for development* relates to those targets and activities which focus on the human factors and the organizational structure as a kind of social infrastructure for development. In this area the objectives of an intangible kind, such as promotion, motivation, social attitudes, co-operativeness, participation and group functioning are uppermost. In the programming guide used by CORDIPLAN for agrarian reform settlements,[17] the activities which are included in the organization front are: (i) promotion, both individual and collective; (ii) community organization; (iii) leadership; and (iv) community integration, with emphasis on rights and freedoms, inter-community integration and social services.

The front for improving *production*, or *economic development*, concerns the processes which raise the outputs of all types of local economic activities, by improving the technology, bettering the forms of marketing, and promoting entrepreneurial or management skills for the exploitation of local resources. The objectives in this class of activities also include capital accumulation by saving and development of productive facilities, as well as the organization of economic enterprises, the use of credit, and the development of human resources.

In the programme referred to above in Venezuela, the activities of this front include: (i) training for production, including collective and individual instruction as well as marketing skills; and (ii) production stimuli, which fall into categories of campaigns, and of production contests and shows.

The front for raising *levels of living*, or *social development*, focuses on processes of development which increase the goods and services available for consumption and influences the quality of living through the elevation of the cultural level. In so far as the "aspiration effect" generates demand for new goods and services, it stimulates increased efforts and enterprise, as people fulfil their aspirations. The aims of social development should also include activities which tend to reduce the exaggerated differences between social classes which may lead to feelings of deprivation and inferiority. In this way the front of raising levels of living specifically includes the psychological effect of integration, thereby diminishing the conditions which create or maintain social and economic marginality.

In the Venezuelan programming guide which we use as our example, the social development front includes the following: (i) promotion of health in its preventive, nutritional and treatment aspects; (ii) housing and home including community services and amenities; and (iii) education and culture.

4. *Instrumentation of targets: sub-programmes and activities*

The programme in its elaborated form synthesizes all of the information which has been provided in diagnosis and policy guidelines. As we have mentioned, it must give the administrators and technicians a basis for activation of a system. The place where all of these diverse factors come together—and the spinal column of any operational programme—will be the instrumentation of targets.

When the programmers approach the task of instrumenting the specific objectives which have been agreed upon—or are still being agreed upon as programming proceeds—they will have

[17] Rubén Utria, *Algunos elementos para la programación de actividades del desarrollo de la comunidad y participación popular en la consolidación de asentamientos campesinos*, CORDIPLAN, Caracas, 1965, p. 39.

a limited quantity of resources upon which to draw. If a number of different agencies are collaborating in a programme of interrelated joint actions, it is necessary to subdivide the programme so that the funds and personnel of each agency can be channelled into specific activities and tasks. Each sub-programme can be assigned to a single agency, or to several agencies by again subdividing it into activities and tasks. The instrumentation of certain targets may be rather complex, as several different sources of resources and techniques are required. Nevertheless, funding can be calculated and imputed no matter how many or what kind of organizations are involved in the system. The total for the programme can be determined, as well as the subtotal for each agency and the contributions by the communities.

Through the use of unit cost estimates for each task or instrument, the programmers can calculate the costs of each target. The resource limitations will therefore be a parameter for determining the number and kinds of targets which can be achieved each year. The policy of the programme will determine which phases and fronts should have priority in the allocation of the available resources. Therefore, the relative costs of instrumentation of the targets will be considered in determining the nature and scope of sub-programmes and activities, and in phasing these.

If costs are carefully analysed for each target and instrument, it may be possible in some activities to measure outputs so that cost/benefit ratios can be calculated. However, in human resource and social development, the procedures of determining the cost of an instrument in terms of the person benefited may be either too complex or prolonged to make it useful as a programming method, at least in the first years of the action. For that reason, the method of unit costs/target is preferable, if we consider that a target should refer to the attainment of some activity or task, based on certain standards, which provides goods or services which are measurable objects. The cost of each instrument will be lowered if it is combined with other tasks or activities, and if administrative costs can be reduced by joint action.

The programming method which we have just outlined can be understood better if we take a specific example of the instrumentation of targets and the related unit costs/target method.

As we have seen above, the Andean Mission administers a project of the National Plan which represents the initial implementation of the national Rural Development Programme. The objectives of the Programme are therefore related to the attainment of strategic goals of the National Development Plan. The Andean Mission has broken down its Programme into ten sub-programmes.

Each year the agency sets targets with each of the communities covered. The kinds of targets are determined by the interests and needs of the community as disclosed through participative programming in which field personnel, local groups and a central office programming unit work together. Availability of instruments, in the form of funds, equipment, personnel and techniques, determines the coverage of the programme as a whole as well as the kinds of activities which can be undertaken in each community.

Within each sub-programme, the agency specifically schedules all targets and their instrumentation. For example, the agricultural development sub-programme is broken down into: (i) supervised agricultural credits; (ii) agricultural extension (demonstrations); (iii) school gardens; (iv) family gardens; and (v) small irrigation works. The instruments for attaining targets in each of these activities have been specified as a result of practical experience with Indian people. The average unit cost of each instrument for each task is calculated by cost analysis. The agency knows the average amount it must allocate in its budget for supervising each farm credit, constructing each kilometre of small irrigation canals, developing each school garden, and so on. Through the use of this method of unit costs for tasks and activities, which is under constant review and analysis, the agency can rationally relate its resources of personnel, equipment and funds to the targets to be achieved each year in its total coverage of rural communities. It is also able to determine the support of each collaborating agency for a specific set of objectives. The three-year financial plan of the Programme is based on the coverage of communities and the projected costs of operation and investment for each of the sub-programmes.

The subdivision of programming areas into sectors served by interdisciplinary teams is used as the basis for rationalizing inputs of personnel, equipment and techniques. The number of teams determines the cost of instruments for the programme, and limits the coverage of communities per year. The concept of "minimal targets" in each technical activity has been applied to re-

duce the programme content to conform with priorities. It should not be assumed that this method of programming is rigid, and that targets are completely standardized. In practice it is quite flexible: many communities are assisted in reaching goals which are purely local in nature, because the field personnel are free to use instruments in a variety of ways so long as no additional resources are needed.

The concepts and methods of programming by instrumentation of targets are still imperfect. Many improvements will be made in years ahead. However, we are interested essentially in showing here that a programme can be conceived as an input-output system, in which the instrumentation of targets can be rationally organized. By this method costs can be more accurately predicted than in the lump-sum budgeting approach of conventional technical services. The programming method makes it possible to determine the feasibility of the proposed actions in relation to interests and needs of the population, considering the resources of funds and personnel which are available. The rational structuring of the interagency system marks an important step forward for the more efficient use of resources to attain specific development objectives.

5. *Co-ordination of technical services*

In the past few years many government agencies have become very much concerned about co-ordination of their activities. The attempts to create community development co-ordinating mechanisms in Peru, Colombia and Chile at the Presidential level show the urgency with which this problem is being treated.

If the agencies in the local area continue to operate as conventional services, they will have difficulty in co-ordinating their activities. In such cases each agency must separately reach agreement on many programme variables with all others. Without a programming unit which can analyse differing standards, codes of behaviour, resources and objectives, the desired co-ordination remains primarily a matter of convenience for each agency in terms of its own interests. Duplication and rivalry are the inevitable effects of a fragmented and unsystematized aggregation of public and private services.

The conception of the area programme as a system of interdependent and mutually responsible parts offers an alternative to present attempts at unprogrammed co-ordination. Through participative diagnosis and programming in which agencies can achieve consensus on policies and instruments, the organizations can operate more rationally at the village level where the greatest savings can be made through joint action. The area programme reflects the needs and interests of all of the agencies, as well as those of the communities: it is no more than a highly specific agreement in which the activities of the collaborating agencies are synthesized in an integrated schedule of operations.

We do not mean to imply that programming is a kind of magic wand which will resolve all of the problems of co-ordination. It certainly will not. But the experiences of a number of agencies in different countries clearly prove that it is possible effectively to interrelate instruments, activities and tasks in a common system.

CORDIPLAN's experience has been summarized thus:

> "At the time of its inception the National Programme had no budget of its own at the local level. The pilot projects were financed by co-ordinated effort at the local level. Similarly, the technicians who co-operated on these projects were made available by various agencies. This made possible the co-ordinated use of various types of services in the Programme, and infused each participating agency with the idea of complementarity in community development. The success of these projects led the regional authorities to allocate funds in their regular budgets for community development. From the standpoint of the national budget, the advantage of this procedure is that the overall advance of the programme is not hampered by budgetary limitations. Thanks to co-ordination ... the resources are constantly being expanded as new programmes, new sectors, and volunteer technical personnel are incorporated into the community development projects."[18]

However, there is more here than meets the eye. One of the secrets of effective co-ordination is outstanding leadership: certainly in the instances mentioned above, national agencies or co-ordinating groups have owed the success of participative programming and operational co-ordination as much to the initiative and expertise

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[18] Carola Ravell, "Community Development in Venezuela", Inter-American Development Bank, *Community Development: Roundtable Documents*, presented at the 8th Meeting of the Board of Governors, Mexico City, 1966, p. 26.

of certain key officials as to the methods they have used in formulating programmes. This fact leads one to conclude that while a national or regional policy of joint action and co-ordination is an essential first step for participative programming, it should not always be expected to have effect unless unusually capable administrator-planners take charge.

IV

The relation of programming to execution

A good programme is one that can be effectively executed. The programming group must therefore take into careful consideration the administrative and operational capabilities of the organisms responsible for implementation. It is evident that a modern and efficient administration is a *sine qua non* of execution: W. Arthur Lewis has written that, "Without a reasonably competent administrative machine, there is no basis for development planning."[19] If the mechanism of implementation does not exist, it must be created. In this case, programming will also have to be applied to the processes of administrative organization.

The question of the relationship of programming to implementation by existing technical services and agencies acting jointly is one of the most vexatious for planners. What is the role of planners in the execution, supervision, evaluation and control of the programme? This problem takes the form of a dilemma for them. Should they remain aloof to administrative problems and resist direct involvement in the process of doing? Or should they regard planning and doing as essentially one action in which they must share administrative and operational responsibilities? The answers to these questions differ, and valid reasons have been given for both alternatives. In taking either position, the programmers must pay the price of certain disadvantages for themselves and for their degree of authority and power.

For example, if they prefer to disclaim responsibility for programme execution, the planners must entrust implementation of the completed plan to other officials. In such a situation, they can only hope that the administrators and technicians understand and share the development ideology and the goals of the programme. In these situations, the warning of Lewis cuts very deeply against the logic of preparing elaborate directive or comprehensive plans. When administrative and technical competence for implementation are weak—as they so often are at local bureaucratic levels—it may be much more sensible for the programmers to simplify their work, and to prepare programmes directed only at the solution of certain key problems. The price for completely separating planning from execution is likely to be very high if the execution of the plan breaks down as a result of this separation, because the operating agencies are not capable of following through with the elaboration of specific area projects.

The alternative seems no better to most planners. For on the other horn of the dilemma they are caught in a participative process in which programming may be subjected to many pressures from administrators, technicians, political leaders and community groups. The price to be paid in irrationality, inefficiency and the loss of technical planning control may also prove to be high.

Although it is popular at present to criticize planners for their failure to elaborate a stockpile of projects which can be executed expeditiously, the crucial question of how these are to be implemented is a factor in their preparation. The dangers of combining programming and administrative functions are very real. Planners have three objections to doing so. First, they are apprehensive of surrendering authority at the centre to the periphery. Participative planning and joint executive control means dispersion of authority. Planning has won power and authority very slowly. Planners who now have power of decision-making at high levels feel that they will be exposed to attacks and adverse influences from many quarters if they allow peripheral political and bureaucratic factions to reassert their authority in planning for the local areas.

Secondly, planners fear that the value and interest differences are too great between themselves and peripheral pressure groups on basic planning principles such as rationality, organization, co-ordination and objectivity in policy-making. The problem they see is that of dual bureaucracies, one at the centre which is modern and rational in objectifying its functions, the

[19] Lewis, op. cit., p. 21.

other at the periphery which is traditionalistic, irrational, fragmented and subject to special interests of local *caciques* and factions. Under such conditions, the planners can hardly be blamed for hesitating to venture out of the central circle of modern bureaucratic behaviour and organization which supports their planning ideology.

Thirdly, the planners suspect that by participating in programme implementation they will be caught up in local processes of "patchwork" administration and constant programme readjustments. When such measures fail and the execution of the activities goes wrong in the field, they will be held responsible for the failures and will lose face and authority as well. In a sense, this third point represents a fear on the part of many programmers that political leaders will pressure the planning group to carry the bulk of administrative responsibility and details, while denying sufficient authority to really make the programme work.

Yet the dilemma is a real one, and the fundamental consideration must not be one of professional status, sharing of power and authority by planning systems, or an illusory division of labour which separates "thinking" from "doing". The goal of planning is guided development. It will be impossible to get the processes of change and modernization started in the traditional sector of the dual bureaucratic structure unless programming sets up certain conditions in the administrative and operational mechanisms to be employed as instruments of execution.

These patterns of interrelation between programming and execution will fall largely within the area of administrative organization of the programme. They will involve three levels at which the relationships between planners and administrators must be defined. If we recall that the programming process must in principle be participative in order to (i) gather information needed for planning from all relevant sources; and (ii) move towards consensus on means and ends among groups affected by the programme, then the kinds of relationships between programmers and implementing personnel can be different at each of these levels. The central planning office at the top must have a high degree of autonomy. Planning bodies in the ministries, regional development agencies and autonomous organisms at the middle level can also operate effectively without taking responsibility for the functions of execution. But at the local level, the purposes of programming will be frustrated unless the politico-bureaucratic and popular organizations are influenced by the planning ideology, with its conceptions of rationality, objectivity, hierarchy and interdependence. Obviously, the best means of achieving this diffusion of the new values and ideology will be to place its carriers—the programmers—right in the executing mechanisms. Thus, whatever the conditions may be at higher planning levels for participation of administrators in planning, and for planners in programme execution, our thesis here is that in the local areas programming and administration must be built into operating mechanisms as a joint function of guidance and control.

In order to understand better why this is so, let us consider all of the objections which planners usually cite for not mixing planning and execution, as we have summarized them above. Those refer to the manifest functions of planning, conceived as the ordering of inputs and outputs for development. But planning also has latent functions. Friedmann has pointed out that in Venezuela the planning ideology has been used "as a lever for achieving results which for both the public and many technical planners remained largely invisible":[20] planning fulfils these functions in serving as a popular symbol of the development society, stimulating public confidence, contributing strength to the stabilizing consensus that government should act rationally for nation-building and progress, and promoting rational adaptation and change in all sub-systems of the society. Included in the last are those politico-bureaucratic structures at the local level that appear to be obstacles to the execution of programmes.

The nature of a community development programme aimed at achieving a high degree of popular participation in development is such that these so-called latent functions of planning must be placed at the head of the list of desired goals. The integration of local social and economic systems, which are inevitably somewhat isolated and closed, into a single nationally interdependent system will require a high degree of deliberate and rational action by the people and local organizations. Such a process of integration and participation can hardly be secret. It must be voluntary and charged with motivations and attitudes which are consistent with the nation-building process. This sense of direction can only appear, as Friedmann argues, when regional and local planning mechanisms themselves become instruments for the transmission of the development ideology by direct

[20] Friedmann, op. cit., p. 56.

participation in the processes of change. The dialogue between planners and all of the groups involved in action will become the locus of decision-making, and the beginning point of planning from the bottom up. Where the most intensive sharing of information for reaching consensus occurs, programming must necessarily be inseparable from the practical questions of execution.

In order to offset the dangers of those tendencies which run counter to the stated principles of planning, six functions should be provided for in the executing organizations within which programmers will have to work at the local or regional level. These include: (i) administrative direction oriented to planning ideology; (ii) technical supervision of operations; (iii) programme or system budgeting and cost analysis; (iv) evaluation of outputs; (v) training of personnel; and (vi) programming as a continuing function.

1. *The nature of administrative direction*

Of the four kinds of alternative organizational forms which have appeared in Latin American community development programmes, we noted that several had been unsuccessful as attempts to unify the functions of programming and execution. In other countries, or even in other programmes in these same countries, successful combination of programming and execution has been accomplished. In general, these successes have occurred either in co-ordinative or joint action programming of a number of services at the local level, as in CORDIPLAN-ORDEC community development projects of Venezuela, PINA in Colombia, and the National Council of Community Development and its associated agencies in Peru. Or the combination of local planning and execution has been a part of the organizational structure of an integral agency with many sub-programmes, as the Instituto Indigenista of Mexico, Andean Mission of Ecuador, or the Rural Development Institute of Bolivia.

The organizational form of the executing agency determines to what extent it will be possible to apply principles of programming and administrative rationality in its functioning. Similarly, the administrative authority of the management officers of the programme will be set by these structural characteristics of the agency. Two factors are crucial. The first is the degree of rationality or expertise which governs the selection of these executives. The second is the scope of their authority to bring the organization into systematic conformity with objectives which are rationally set.

In the autonomous agencies this administrative authority is patterned after that of a business corporation, in which the chief officer responds to a board of directors, and is himself the channel of authority from that group to all parts of the organization. A number of community development, agrarian reform, housing and vocational training institutes in Latin American countries have this structure. In these organizations it is not only possible to maximize the implementation of the principles of administrative rationality, but also to set up planning groups at the central level which are responsible to the chief executive of the agency, and have access to information, authority and the communication systems for developing consensus. Such an agency can usually present a tightly-consistent programme to higher authorities for funding, and can structure the administrative and planning controls so that all parts of the organization work harmoniously in their internal and external relationships. In such organisms the chief executive is usually subjected to auditing and technical review through evaluations, and his administrative authority may be diminished by structural delegations of authority to key subordinates in programming, administration and finance, technical operations and other functions. Without major exceptions, the management personnel in such agencies are chosen for their professional experience and skills, and it is customary for central planning bodies to prefer these agencies as executing agencies for development programmes and projects because of their planning, administrative, and technical competence.

Political leaders usually prefer those forms of organizational structure and executive personnel which respond to their interests. This is of course true at all levels, and affects the kind of authority and adaptations or modifications or organizational functioning which these administrators can introduce. In many Latin American countries, the forms of bureaucratic structure and functioning are regulated by law and even by constitutional provisions in complex and detailed ways. Their relative inflexibility because of the legislative processes of modification often makes it more convenient to create new structures than to amend or reform the old. This accounts in large part for the tendency to set up parallel or overlapping agencies, thereby creating further difficulties of co-ordination, collaboration and co-operation by government ministries and agencies.

In these structures executive authority has usually been reserved for high political office: ministers, governors, mayors and presidents are those who can cut the Gordian knots—if anyone can—for bringing a number of different sectoral or area actions into concert. Here the expertise of the programmer or professional manager may often be sharply limited in its application, and he is usually a co-ordinator, an administrative assistant or a junior officer to a political figure. We have already sketched some of the problems which result from the differing codes of behaviour and values of the politician-administrator.

The contrast of these two may have other effects. Agencies with autonomy usually feel a need to decentralize their authority. The local administrator of a regional or area programme is a "line" officer whose expertise can be supplemented by "staff" professionals who watch over his shoulder and guide him from the central office. Ministerial or government service "staff" have a reduced range of authority, since their expertise may be regarded as interfering with the authority of some lower echelon political figure whose interests and administrative orientation may not conform to the objectives of a central or hierarchically superior unit. This fragmentation and division of political authority into many descending spheres closes the lines of communication, consensus and co-ordination. In these conditions, the community development official has very limited control over the continuing rationality of development activities as efficient means-ends instruments. Needless to say, personnel for these positions are not always selected upon the basis of professional expertise.

Yet it is important to recognize in programming that the local administrators are the principal point of contact for incorporating planning principles and rationality into operational mechanisms. They are the focal point of communication with higher and lower units of the administrative hierarchy. The latent functions of planning are applicable to these situations, and it is important to encourage political administrators to enter into the dialogue of innovating goals and techniques. Many political authorities have already recognized the symbolic appeal of establishing the beginnings of a planning system in their organizations. Through these steps in regional and local planning, tentative and imperfect as they are, the influence of the latent functions of planning will definitely lead to improvements in administration which will be convincing to political authorities. An increasing number of municipalities, states and provinces are desirous of joining forces with development planners. In most cases, the first effective contact in what may be a long and useful relationship is to provide them with guidance in the programming of joint action by existing services.

2. *Technical supervision of activities*

Supervision has been given relatively little attention either in local programming or in community development activities. One still finds occasional assertions that community development processes cannot be systematized, but only learned in practice. In the area programming approach, however, instrumentation of the specific objectives is a method which draws from a wide variety of disciplines concerned with local development processes. The techniques employed in the instruments are not those of community development; rather, they are techniques commonly applied in technical services such as agriculture, education, health, housing, and social services. Community development is the approach used in the application of these integrated techniques with community collaboration. For this reason the supervision of the various sectoral aspects of the joint action programme must be done by experts in technical fields. A number of community development actions also provide for supervision by international advisers in all aspects of organization and operations of the programme.

Essentially, supervision will consist of quantitative and qualitative control of the activities performed by programme personnel in assigned tasks and activities. This means that if programming has been done in the manner described here, the supervisor in each related service will go into the field knowing what he should find. He will have the programme guidelines for the modular units to be covered by the operations, and the targets which have been quantified for each of these. He will know by unit cost estimates what amounts of resources are required for the completion of the various tasks and activities. He can draw from his professional or technical knowledge in determining whether the instruments are satisfactorily producing the desired effects in terms of both quality and quantity of outputs. Since he will be familiar with the techniques being applied in his substantive field, he should be able to make corrections, suggestions and on-the-spot evaluations of the most desirable ways of applying such technical skills. In short, the basis exists in the programme for an objective judgement of problems and progress, so that super-

vision becomes an effective tool for the rational administrative control of the activities.

In an integral programme, supervisory personnel fulfil a staff function from the centre. They are often assigned to work under an operations or technical director. In joint action programmes of many agencies in co-ordination, each of the participating services would of course provide its own supervisory personnel. Operational and planning agencies can both fit their personnel into this supervisory system because of its direct control over programme execution.

3. *Budgeting and cost analysis*

Although the procedures are well known, community development programmers seldom apply performance and programme budgeting as an integral part of the administrative mechanisms which they establish in organization of programmes. They customarily conceive of the programme, whether of an integral or a joint action type, as another conventional service in which all costs are lumped in the object-cum-organizational classification of expenditures. Sometimes these classifications are arbitrarily subdivided into categories which have no relationship to output objectives, thus making it impossible to determine accurately what the different objects have cost. This approach to budgeting makes accurate analysis and control of costs impossible. It nullifies any attempt at rational programming as a technique for assuring optimal efficiency.

The purpose of a programme budget is that of facilitating administrative management which must in turn account for results in terms of the development programme. The division of the budget into object classifications which correspond to programmes, projects, activities and tasks makes it possible to determine the costs of each of these units or aggregates separately.[21]

More importantly, the programme budget meshes with the periodicity of short-term, middle-term, or long-term planning. The programme will comprehensively reflect all of the inputs, both in operating and investment categories, will identify the organizations which are charged with specific activities or tasks, and will summarize in relative detail the financial requirements by years, by areas, or by sub-programmes in ways which provide the information for allocation of funds. This information is necessary in any type of comprehensive programme as the basis of making policy decisions, selecting alternatives among priorities and programmes, and other management decisions. If the data on financing have been prepared for a longer period, this elaboration must have been accomplished in close co-operation with administrators so that the criteria for classification and accounting have been standardized.

The preparation of a performance budget requires that the progress review and cost accounting procedures by executing agencies be correlated with the approved plan or programme. It is for this reason that the elaboration of a financial plan of a programme and the operating budgets of the participating agencies cannot be disassociated. Since the operating budget is the most important element of programme control available to both planners and administrators, they should work on it jointly and continuously over the years of the programme. In some countries, the planning agencies now closely co-ordinate their programme budget review processes with the annual budget preparation of the agencies at the central level. They call in the officials of the national general accounting office for consultation as well.

The programme budget also facilitates the making of management decisions about uses of personnel and equipment among the local programming areas by the implementing agencies, when it is correlated with the targets, instruments and responsibilities which have been agreed upon in the programme trajectories, phases and activities. We should point out that the programme budget requires legislative or governmental review authorities to accept or re-

[21] A standardized breakdown of programmes into their component categories has been given in United Nations, *A Manual for Programme and Performance Budgeting*, ST/ECA/89, New York, 1965, p. 10, as follows:

Table of summary definitions used in programming

Operating categories	*Investment categories*
Programme: an instrument for performing functions by which goals could be set and undertaken, in principle, by high-level administrative units	*Programme*: an instrument for establishing targets to be achieved through an integrated set of investment projects
Sub-programme: a division of complex programmes to facilitate execution in a specific field for which partial goals could be set and achieved by specific operating units	*Sub-programme*: a division of complex programmes covering specific areas in which investment projects are carried out
	Project: a series of works in an investment programme or sub-programmes for formation of capital goods, which are carried out by a production unit capable of functioning independently
Activity: a more limited division of actions towards goals of an operating programme or sub-programme, involving processes for which an intermediate or lower-level administrative unit is responsible	*Works*: a part of a stage in formation of a capital good that is a segment of a project
Tasks: a specific operation forming part of a process aimed at achieving a particular result	

ject the programme as a unit. This discourages budget-cutting and aids in acquiring resources.

However, budgets are not only a management tool for control of the dynamic processes of operations. By interrelated organization of a number of other functions of the financial management system of the programme around the budget, it is possible to audit the use of resources to see that legal requirements, joint programming and management responsibilities have been met in terms of efficient organizational performance. The financial management cycle, which begins with programming as a means of forecasting the work load of the organization, goes on through the other following steps:

(i) From the financial plan of the programme, the agency classifies and determines all of the budgetary resources needed each year;

(ii) From the budget, after review and agreement by higher authority, the agency makes requests for funding;

(iii) Once allocations of funds have been made and expenditures begin, the budget provides the classificatory system and criteria for accounting of expenditures in input-output terms;

(iv) From the accounting process, the administrators will have regular and complete reports of results in performance and costs;

(v) And finally, the information available through accounting becomes the basis of review and analysis of the programme as a continuous process. Management decisions can then be made to control the programme flexibly, rationally and efficiently. Executives can respond promptly to changing circumstances and problems by modification, adaptation and remedial action within their authority.

As we have indicated elsewhere, it is only when the programming process is carried down to the level of the local area that accurate definition of targets and cost accounting can be achieved in a programme. The feedback of both diagnostic and administrative information from the local area is essential to the programming process at higher levels. If estimates are used, these will be unsatisfactory in cost accounting. The aim should be to budget on the basis of complete and accurate data, and to elaborate continuing programmes which reflect measured, not estimated, inputs and outputs.

4. *Evaluation*

The systematic programming of joint action by a number of agencies with many forms of local groups and associations will be a very complex enterprise to bring to implementation. For that reason, it will also be difficult to evaluate. As we have seen, the supervisory and accounting functions can accurately order the results about material achievements of the programme, and their costs per unit.

However, tabulation is not evaluation. In the evaluative processes, especially where social and economic changes of profound kinds are being analysed, we are often concerned primarily about results which are intangible, slow to appear, and interrelated. Usually the community development evaluator wants to find evidence of a multiplier factor that has been created in the village and will lead to continuing progress. This cannot be measured superficially as the contribution of so many man-hours of contributed labour or the organization of a local community council in a determined number of villages.

Therefore, the evaluation process must begin with the quantification of targets achieved, the tangible evidences of innovations, technological change, and new forms of social and economic organization in the community. But evaluation goes well beyond this mere measurement of what has been accomplished on the surface. Evaluation should be especially directed at the quality of change and its consistency, or "fit" with existing behaviour and institutional forms. It will focus on the kinds of values and motivations which the people have developed as a platform of ideology upon which to continue to build local progress. It will take into account the integration and linkage of local institutional forms, and the readiness of the population to be interdependent with other wider elements and systems of the society which development requires. Specifically, these are the forms which popular participation will take in their social and psychological dimensions, and they are certainly as important as the amount of local resources which the communities have put forward for their contribution to the programme.

Other aspects of the programme which evaluation may study will include the balance and consistency of programme content at the local level, the economic impact of the programme as a basis for meeting rising consumer demands, the attention which has been given to the formation of a development *mystique* and a cadre of local leaders who are willing and able to assume increasing responsibility for local development ventures of an independent nature.

Internal appraisal of the organization as an input-output system is also an indispensable aspect of evaluation. From the viewpoint of

administration, the principal function of evaluation is that of maintaining the drive towards rationalism in the organization. Evaluation assists the system to sustain a sense of objectivity in its work, thereby clarifying goals, aiding in achieving targets on time and continuing to develop more effective techniques.

Because of the requirement for objectivity and comprehensiveness, evaluations are most productive when they are done against the background of a development plan by experts from outside the programme. However, an external evaluation of this kind can be accomplished only infrequently. In programming it is essential to provide for a continuous internal evaluation process in which management and operations personnel participate freely and openly. In the internal evaluation process, the goal should be that of utilizing the evaluation process as a means of focusing the attention of personnel on the goals of the organization, and upon the essentially rational ways in which they are set. The sense of sharing in these goals and the creation of an innovative atmosphere in the system are themselves as important to future efficiency and rationality as are the conclusions which come out of this internal evaluative process.

5. *Training*

The training of personnel by the organization may also be considered by programmers to be an essential control function of administration. This is so because it normalizes the most diverse elements in the organization, which are the human ones. Although training often refers to the service provided for the informal education of adults and leaders in community development operations, these programme activities must be kept distinct in our thinking from the pre- or in-service training of the paid employees of the agency. This latter kind of training is essential for the selection of the individuals having desirable technical characteristics for the programme. Training inculcates in the personnel the ethics and values of the organization, rationalizes its objectives and transmits the specific techniques and norms of operations which are required in its work.

Training should assure that each employee has digested the concepts and methods of programming in so far as these relate directly to the tasks which he is to perform. The content of training should therefore include the interrelation of the activities of the technicians individually, and as team or groups, to the programme as a whole, through its targets and instruments. This will enable the employee to see his role in relation to all other types, to orient himself within the structure of the organization, and to understand the kinds of communications, controls, and authority which are required for its rational functioning.

The training processes of community development have become generalized throughout Latin America. They have evolved to a degree which makes professional training possible in some countries, at the university and postgraduate levels. This academic preparation can reinforce but not replace in-service training by the operational organizations to provide motivation, a sense of belonging and the desired patterns of normative technical skills for their personnel. Operating agencies in community development and popular participation also have a large component of personnel who have had no opportunity for specialized training. To these they must impart the basic instruction needed for work in the programme, in accordance with their responsibilities. Only one country in the region, Venezuela, has established a joint training centre for administrative technical and middle-level operational personnel in community development as the joint effort of all of these services involved in the national programme. Other nations continue to rely upon sectoral training programmes, special courses, universities, and training activities of regional organizations such as CREFAL and OAS.

With increasing frequency such courses either include programming and planning of operations, or expert personnel of central planning bodies assist executive agencies in programming. The shortage of middle-level personnel trained in programming is serious throughout the region. Training of regional and local operations personnel for participation in planning should also be provided in order to encourage the coordination and close interrelation of programming with project implementation.

6. *Organization of local programming units*

Elsewhere we have mentioned that policy guidelines for the establishment of programmes should indicate three essential aspects of the organization of the local programming units.

The programming units, although they have been interrelated with executive functions, should be functionally distinct. This division of planning from operations functions can be achieved in many different ways. In the integral type of programme, the programming unit can be set up at the level of the national or regional

director to serve the local areas in organizing and reviewing the programming continuously. The same type of structure can be created at the regional level under the authority of a planning commission, the governor or the director of a comprehensive regional development organization.

However, if regional planning units have been created as hierarchical sub-units of a central planning agency, the gap between programme preparation and implementation must be closed by mechanisms of consultation, participative planning, information-gathering and perhaps supervision and control by planning personnel. It is essential in such cases that the planners and executive agencies agree upon procedures for interrelation of sectoral planning, and for co-ordination of local programming and national planning.

Many Latin American Governments are now concerned about the problems of the co-ordination of planning among national, regional, sectoral and autonomous bodies. Each agency having a planning function should see that its work is regarded as a sub-unit of a comprehensive, systematic effort, and not as an isolated and partial attempt at planning. The joint programming by regional and sectoral planning units for geographically-limited projects has certain advantages of specificity and manageable division of labour among the different programming units. This is the significance of the agencies collaborating in the Peruvian National Council for Community Development as a planning, project co-ordinating and review mechanism. There are many advantages for community and social development programmers to work within the structure of existing or partially-completed regional plans. This is now being done in Plan Lerma (Mexico), the Guyana Project (Venezuela), Cauca Valley (Colombia), SUDENE (Brazil) and Alto Paraná (Paraguay), for example, where the macroeconomic strategy has already been studied and the commitments of the Governments for large investments in the region have already been incorporated into national policy. Co-ordination in such cases is well advanced.

Another approach has been attempted in the creation of regional planning bodies for a state or province, much in the manner of the French "modernization commissions". Thus the State of Zulia and CORDIPLAN have together created the Zulia Planning Council, in Venezuela, and the Department of Antioquia, Colombia, has established an autonomous development agency which has a planning body closely related to the new Council of Community Action established by the Governor. In France, where the participative regional planning commissions are extensions of the Central Planning Commissariat, officials of ministerial planning units (sectoral agencies), worker organizations, managers of local enterprises and professional groups are represented on the commissions. Each of these in turn is sub-divided into committees concerned with vertical and horizontal aspects of plan co-ordination.[22] However, no country of Latin America has yet initiated an integrated national-regional planning system of the French type. For reasons mentioned above, it is obvious that local area programming using the community development approach for achieving popular participation in development should be concentrated in regional planning, which will probably lead in time to the establishment of such integrated programming systems on a national basis.

7. *Conclusions*

Community development continues to grow in Latin America. As it does so, it continues to evolve new methods and techniques. At present one of the most vital fields of experimentation is that of programming, through which community development will be drawn more closely into relation with global planning for national and regional programmes.

It is clear that useful contributions have been made in this field in the past few years. The application of diagnostic techniques, new kinds of operational concepts and the perfection of administrative techniques for community development have already extended its approach and scope far beyond that of a community-by-community kind of service, and have opened up areas of extensive programming which are flexibly adaptable to differing administrative organizations and project patterns. The result of this work should make it possible for Governments to systematize the planning of such projects in the next few years as an integral part of their development programmes to be financed intersectorally and with foreign credits.

It is possible to foresee that these methods will enable the countries of the region to make more effective use of their human and natural resources which are lying unused in the small communities. It should also be possible to combine the existing agencies, public and private,

[22] Francis Le Guay, "Planning in France", *Economic Bulletin for Latin America*, vol. VIII, No. 1, March 1963, pp. 29 ff.

through such programming for more efficient action in co-ordinated or associated projects. By the use of programming techniques which are more sophisticated and more consistent with global planning, community development projects will expand more rapidly than they have in the past, and will contribute to general social and economic development.

FISCAL INCENTIVES FOR EXPORT*

I. Introduction

Fiscal incentives for exports are exemptions or refunds—total or partial—in respect of import duties or internal taxes on raw materials and other inputs used in the processing of export products, or in respect of taxes levied on the finished produce. Since such duties and taxes influence costs and prices of exports, the object of the exemptions or refunds is to strengthen their capacity to compete on world markets.

Some of these incentives may be applied to exports of primary commodities, but they are more important in promoting exports of manufactures and semi-manufactures. In practice, commodity exports not only do not enjoy tax incentives, but are frequently subject to tax and to a less favourable exchange rate. Although the exchange rate is not actually a fiscal incentive, it seriously affects the capacity of exports to compete on world markets.

There are various kinds of fiscal incentives: drawback; alternative régimes equivalent to drawback in their effect, such as temporary admission systems, bonded warehouse procedures and compensatory imports; and internal tax exemptions or refunds. The nature and use of these incentives will be described in the next section, together with an analysis of the problems involved in applying them at the country level, and in attempting to harmonize them within the framework of regional integration.

The present article will deal mainly with direct fiscal incentives—i.e., those which influence exports because they were established for that purpose—and only incidentally with those resulting from government measures adopted with broader or perhaps entirely different aims in view. For example, exemption of exports from a sales tax levied on similar products for domestic consumption is regarded as a direct incentive for exports. But the incentive would be indirect where tax exemptions established in favour of new manufacturing lines or industries producing for export—for example, duty-free importation of machinery and exemption from profits tax—happened to have a favourable effect on exports of specific products.

In examining the difficulties of applying tax incentives, it should be borne in mind that they are related to fiscal incentives in the broadest sense of the term. In other words, exports are affected not only by tax collection measures, refunds and exemptions, but also by the type or pattern of expenditure of tax revenue. For instance, a new road between strategic points, or some other infrastructure project, may give a much stronger fillip to a particular industry than a tax exemption for industry in general. There are actually many indirect ways of encouraging and even subsidizing exports without recourse to direct tax exemption or refunds or direct payment to the manufacturer or exporter.

The problems caused in individual countries by the establishment and application of fiscal incentives for exports are essentially the same as the problems resulting from their application under a regional economic integration programme. In the second case, however, they manifest themselves in different ways, their relative importance alters and there are new factors to be reckoned with. In both instances, they have economic, legal and technical implications.

At the national level, the first rule is to gauge the probable effects of proposed fiscal incentives and compare them with the real or potential effects of similar incentives or other government policies and practices for export promotion. It is particularly important in this connexion to bear in mind policies and measures which might neutralize or cancel out the effect of the tax incentives, as, for example, over-valuation of the exchange rate. There is a danger in not seeing the question of export incentives as a whole, in not realizing that their value is limited and in

* This article explores the problems encountered by Governments in establishing and applying fiscal or tax incentives for exports, examines the new approach which must be made to those problems when those incentives are applied in the context of a regional economic integration programme, and suggests some criteria for dealing with future difficulties. The article deals essentially, although not exclusively, with the experience of the Latin American countries, and their problems.

failing to understand their relative weight among all the incentives that should be given to the export sector. Moreover, for some products, fiscal incentives may serve no useful purpose or lead to an unnecessary loss of fiscal revenue. When there is a world market boom, substantial profits can sometimes be reaped from certain exports, and it may even be found advisable to tax exports as part of government price stabilization schemes. Although this is unlikely to apply to the manufactures exported by the Latin American countries, it might be true of semi-finished products made from local raw materials.

An exceptionally important problem posed by the establishment of tax incentives for exports is the need to differentiate between those designed to remedy existing price distortions and those that really constitute an export subsidy. A ruling principle in international trade, embodied in the General Agreement on Tariffs and Trade (GATT) and other international trade instruments, is that refunds of taxes should not exceed the total amount of the tax or the actual payment, and that repayments over and above that limit are in effect a subsidy and might induce the importer country to apply anti-dumping or countervailing import duties. Apart from this general principle concerning when a tax refund actually amounts to a subsidy, there are certain accepted ideas on the special types of incentives which are regarded as subsidies. The legal provisions of the international agreements on this subject will be discussed in detail in a subsequent section of this article.

The third major problem at the national level is the technical difficulty of determining the incidence of tax measures on export prices. Moreover, it is not always easy to determine the content of taxable inputs in certain finished products, particularly when the processing is technically complex.

Another source of concern to Governments is the need to avoid the unnecessary complications that crop up in the export process with the introduction of cumbersome fiscal procedures which threaten to discourage all export activities.

In the context of regional economic integration, the key problem arises from the desire to avoid granting subsidies likely to disturb normal competitive conditions among the countries concerned. Another aspect which acquires added importance in an integration programme is the extent to which tax incentives should be applied. It must be decided, for instance, whether different levels of incentives should be set to meet the special needs of the less developed countries in the region. It is also important to prevent inter-country tax disputes or unduly strong competition that might syphon off some of the tax revenue urgently needed for integration purposes. The hazards of a limited approach, which have been mentioned in relation to problems at the national level, are particularly serious for an economic integration programme. Greater use of tax incentives in one country than in another or the application of a wider range of such incentives may be the means of counteracting other factors affecting competitiveness on world markets or may be dictated by the situation prevailing in other countries as a result of government policies, even when they are of a non-tax nature. In the same way, attempts to harmonize tax incentives for export on a regional scale will have to overcome the difficulty of determining, at the national level, the incidence of taxes on export prices and the content of taxable inputs in technically complicated finished products. Special problems are also created by the need to decide whether to grant exemptions or refund some of the more controversial types of tax (e.g., on fuels, machinery and wages, and direct taxes on export earnings).

These questions relating to the economic integration process have been raised here because in Latin America this process has reached the stage where account must be taken of the impact of national export policies on competition among the different industries in the area and the regional harmonization of policies and practices in this field. They have been discussed in ALALC, which has been attempting to develop common standards for the application of the drawback system and systems of equivalent effect, and seeking some means of avoiding the distortions produced by fiscal incentives for exports in the competitive conditions among member country industries.

II

APPLICATION OF FISCAL INCENTIVES: PROCEDURES AND PROBLEMS

1. *Types of fiscal incentives for exports*

(a) *Drawback*

There are many kinds of drawback and other systems producing similar effects, all of them established with the object of reducing the cost of export products containing imported components. The aims and effects of drawback are closely related to those of supplementary systems (such as temporary admission, bonded warehouse procedures, and compensatory imports).[1] Expressed in its simplest terms, drawback consists in the refunding of customs duties paid on imports of raw materials and other inputs which are subsequently re-exported, in processed or unprocessed form. In other words, although payment of duties and re-exportation are indispensable prerequisites for the application of drawback, processing of the imported material and its use as an input in other export products is not a rigid requirement in all cases.

Drawback is more usually defined as the refund, at the time of exportation of a manufactured product, of the customs duties paid on the raw materials and other inputs used in its manufacture. In this case, the processing requirement is essential. This conception has been modified and broadened, particularly in the legislation of certain Latin American countries, as well as in the provisional draft of a common definition prepared for the first meeting of ALALC's Advisory Committee on Trade Policy. According to this draft, "drawback means a system for the partial or total refund of import duties and taxes and other charges of equivalent effect, as well as of internal taxes, paid on raw materials and other inputs used in the manufacture, processing or adaptation of goods for export". Although no consensus was reached on a common definition for drawback, it is interesting to note that the definition proposed differs from the classic concepts in two respects: (1) drawback should not cover cases in which raw materials or other products are re-exported without having been processed or used as inputs in goods for export; and (2) under the drawback system not only customs duties would be refundable, but also internal taxes levied on the raw materials and other inputs used in manufacture.

The references to Latin American legislation on drawback and other fiscal incentives have been taken from ECLA sources. Since there are no extensive studies in the countries concerned or a complete and up-to-date compilation of Latin American legislation on economic matters, some of the data may be incomplete or subject to correction.

Some Latin American countries have a separate body of legislation governing the refund of internal taxes. Others have adopted legislation covering the refund of both internal taxes and import duties, while still others have no drawback system of any kind as yet.

Table 1 shows the position in the various Latin American countries.

It has not been possible to collect much information on the use of the drawback system in Central America. (The provisions that exist in principle in the integration agreements will be discussed later.) The tax studies of individual countries made by the OAS/IDB/ECLA Joint Tax program, published between 1964 and 1966 under the title of *Latin American Tax Systems,* indicate that Nicaraguan legislation permits drawback by refund of the duties payable on imports of raw materials that form part of the national product, when the product is exported; partial or total exemption of export taxes to the extent required to encourage competition on foreign markets; and partial or total exemption (drawback) from production taxes, to the extent required to encourage competition on foreign markets, through the refund of the sum of these taxes when the product is exported. The Program's studies of the Central American countries refer to tax incentives for economic and industrial development, but make no specific mention of fiscal incentives for exports *per se.* The study on Honduras makes a very indirect reference to the subject when it states that the Government considers the foreign exchange in-

[1] At the first two meetings of ALALC's Advisory Committee on Trade Policy it became evident that a drawback policy, or principle for its inter-country regulation or standardization, could not be established without due regard to the combined effects on intra-area trade of the various forms in which fiscal incentives were applied to exports. In fact, it has not yet been possible to reach agreement on a common definition of drawback. ALALC began work on a definition in 1965, and is awaiting the preparation of comprehensive studies on the operation of the various special customs systems.

Table 1

DRAWBACK LEGISLATION IN SELECTED LATIN AMERICAN COUNTRIES

Country	*Refund of import duties*	*Refund of internal taxes*	*Combined legislation*	*Separate legislation*
Argentina	Yes	Yes	—	Yes
Bolivia	Yes	Yes	Yes	—
Brazil	Yes[a]	Yes	—	Yes[a]
Chile	Yes	Yes	Yes	—
Colombia	No	No	—	—
Ecuador	No[b]	No	—	—
Mexico	No[c]	No	—	—
Paraguay	Yes	Yes	—	Yes
Peru	Yes	No	—	Yes
Uruguay	Yes	Yes	—	Yes
Venezuela	Yes	Yes	—	Yes

SOURCE: Latin American Free-Trade Association (ALALC), Advisory Committee on Trade Policy (CAPC), *La devolución de derechos e impuestos (drawback) en los países de la ALALC* (ALALC/CAPC/I/di:9) (Montevideo, 28 July 1965).

[a] This table was prepared by ALALC before the promulgation of Act 5025 of 10 June 1966 which exempts exports from taxes under the head of imports, customs clearance, consumption, sales, repairs to the merchant fleet and ports, and stamp duty on exchange transactions. The Act provides for the refund of the flat taxes on fuels, lubricants and electric power, which are a cost component of the manufactures and beneficiated mining products selected for export promotion.

[b] The Industrial Development Act of 1962 stipulates that all taxes paid on imported raw materials are to be refunded to industrial firms in proportion to the quantity exported, provided that the imported inputs do not represent more than 50 per cent of the ex-factory sales price.

[c] The Presidential Agreement of 13 September 1961 with the Ministry of Finance and Public Credit grants a number of fiscal incentives for the export of industrial products that require no further processing and whose import content does not exceed 20 per cent of the cost of the product. They include what the agreement describes as a "subsidy for the total amount of import duty" paid on inputs for those export products. The tax or duty is not refunded, but the subsidy is credited to the recipients, who may claim reimbursement from the Treasury.

come or saving obtained when classifying industries as basic, necessary or desirable for purposes of granting tax incentives. The study on Panama recommends that enterprises exporting goods produced in Panama should be exempt from payment of customs duty on capital and intermediate goods and raw materials depending on the proportion of their output which they export. This franchise is to be granted without contract. It follows from this recommendation that Panama did not use the drawback system. The studies on Guatemala and El Salvador do not provide any additional information on the use of the drawback in Central America.

(b) *Alternative systems equivalent to drawback in their effects*

As has been shown, the salient feature of the various types of drawback is the total or partial refund of duties and charges. However, other systems, equivalent or similar in their effects, provide for suspension, or exemption from payment, of such duties and charges. The two most important systems of this kind are storage in special premises of goods brought into a customs territory for subsequent re-exportation after processing or manufacture and conditionally relieved from payment of the import duties and taxes applicable to them, and temporary admission. The ALALC countries applying the former procedure are Chile and Colombia. Temporary admission is current practice among all the States members.

(i) *Temporary admission.* According to the proposed common definition drafted by ALALC,[2] temporary admission is the customs procedure under which conditional relief from import duties and other charges of equivalent effect is granted in respect of foreign goods brought into a country for a specific purpose, and intended for re-exportation within a specified period, either in the State in which they were imported or after having undergone specified manufacturing, processing or repair. This definition was approved by the Advisory Committee on Customs Questions at its second session, but has not yet been adopted by the Advisory Committee on Trade Policy. With the exception of Argentina,[3] Brazil,[4] Mexico and Uruguay, which permit processing, the ALALC countries apply the temporary admission procedure only to separately identifiable products re-exported in the State in which they were imported, without further processing; consequently, it does not serve as an instrument for the promotion of exports of processed or manufactured goods.

(ii) *Bonded warehouse procedure.* The nomenclature and regulations for this system of conditional relief from payment of duties vary from

[2] *Anteproyecto de normas aduaneras comunes para el régimen de admisión temporal en los países de la ALALC* (ALALC/CAPC/I/di:16) (30 July 1965).

[3] Although Decree No. 5343/63 authorizes the temporary admission of raw materials or semi-processed products to be re-exported after processing, this system does not seem to have been used much in Argentina.

[4] In Brazil, the legislation on drawback (Decree No. 53967 of 16 June 1964) provides not only for refund of import duties but also for the suspension of import duties in certain authorized cases.

one place to another. In Chile, for example, it is known as the "special warehousing procedure" (*régimen de almacenes particulares*). In Colombia it is part of the general warehousing system. In an ALALC document (ALALC/CAPC/I/di:7)[5] it is defined as the procedure under which goods may be stored in special premises for manufacture or processing and subsequent re-exportation. The glossary of international customs terminology prepared by the Brussels Customs Co-operation Council includes the English term "bonded warehouse procedure", and defines the bonded warehouse as locked premises and enclosed spaces approved by the customs, in which goods may be stored under customs control without payment of import duties and taxes, and in certain countries under bond.

Leaving aside variations in nomenclature and definition, the following are the essential features of the system. Imported raw materials and other products intended for processing or use as inputs in a manufactured product for subsequent exportation are conditionally relieved from payment of duties. Raw materials and other products imported on these terms are kept under customs supervision, generally in special warehouses in a position to ensure that the goods will really be used in the manufacture of products for export. To that end, the importer is required to provide security or a bond to cover the payment of duties (plus fines where appropriate) in the event of failure to comply with this condition. A variant of this procedure is the system of *free areas* within the customs compound where imported raw materials or other products undergo processing for export.

(iii) *Compensatory imports.* The compensatory imports procedure in use in Brazil and Colombia is another system with effects equivalent to drawback. Under this system, instead of receiving a refund of the duties and charges paid at the time of importation of the raw materials and other inputs used in the manufacture of the products for export, the industrialist is allowed to import replacements of these materials duty-free. This system cannot be classified either as drawback or as conditional relief from payment of duties. It is rather a case of deferred exemption.

(c) *Internal tax exemptions or rebates*

To simplify the analysis of internal tax exemptions and rebates, a brief classification may be made, distinguishing between taxes levied on income received at the time of its realization by the taxpayer (direct taxation) and those applicable at the point when income already realized is spent (indirect taxation). (See table 2.)

Exemption from indirect taxes, or their refund, is common practice in international trade. The same cannot be said, however, of direct

[5] ALALC, Advisory Committee on Trade Policy, *El régimen de almacenamiento de mercaderías en recintos particulares para su elaboración o transformación y posterior exportación* (preliminary study) (ALALC/CAPC/di:7), 29 July 1965.

Table 2

CLASSIFICATION OF TAXES AND DUTIES

Internal taxes		*External duties and other charges*	
Direct	*Indirect*	*Direct*	*Indirect*
1. On corporation profits	1. On production	On exports[a]	1. Customs duties on imports
2. On income	2. On consumption: (*a*) General sales taxes, single-stage or multiple-stage (*b*) Specific consumption taxes ("excise taxes"), single-stage or multiple-stage		2. Other import duties and charges (such as exchange surcharges, supplementary duties, etc.)
	3. On transfers (legacies, gifts, etc.)		

[a] See the following documents prepared for the Conference on Fiscal Policy held under the OAS/IDB/ECLA Joint Tax Program in Santiago, Chile, December 1962: Victor L. Urquidi, *Fiscal policy in Latin America's economic development* (CPF/DB-8T), p. 21 (where it is explained that "export taxes... cannot properly be regarded as indirect taxation, being in some measure a substitute for income tax") and José María Naharro (University of Madrid), *Production and consumption taxes and economic development* (CPF-DB-6T), where the same idea is expressed.

internal taxes, although in practice exemptions or rebates are permitted, and in some cases are even sanctioned by established international regulations.

Among indirect taxes, those levied on consumption are of particular interest for the purposes of the present study, and there seem to be more forms of indirect tax than of other taxes. For example, sales taxes may be of the multiple-stage type, affecting the manufacturer, the wholesaler and the retailer, or they may be single-stage, or even double-stage; they may be payable on specific items of consumption or on sales in general; again, they may be applied only on the basis of the value added at each stage.

Not only are there different ways of applying the tax but there is a lack of precise tax nomenclature and definitions. Thus, a particular general sales tax of the multiple-stage type may be given many different names, all of them correct but hardly any of them complete or exact. It may be called a "consumption tax", "sales tax", "cascade tax", "multiple-stage tax", "cumulative tax", or "turnover tax". It should be made clear that a sales tax payable at several levels (manufacturer, wholesaler, retailer, sub-retailer) is multiple-stage but not necessarily cumulative. For example, a multiple-stage sales tax on value added is applied to the differences between the sales price and the cost of a product at the various stages of its manufacture and transfer, and thus obviates the cumulative effects of a multiple-stage tax, which is based on the sales price at all stages.

This point is illustrated by the following arithmetical example. A 5 per cent sales tax is applied at several stages in the transfer of a product. Case A shows the implications of a cumulative multiple-stage tax, and Case B the effect produced when the multiple-stage tax is not cumulative, but is applied to the value added at each stage of manufacture or transfer (difference between cost and sales price).

	Case A					*Case B*								
	Sales price		*Tax (percentage)*		*Amount of tax paid*	*Sales price*		*Cost*		*Value added*		*Tax (percentage)*		*Amount of tax paid*
Stage 1	200	×	.05	=	10	200	—	100	=	100	×	.05	=	5
Stage 2	300	×	.05	=	15	300	—	200	=	100	×	.05	=	5
Stage 3	400	×	.05	=	20	400	—	300	=	100	×	.05	=	5
Stage 4	500	×	.05	=	25	500	—	400	=	100	×	.05	=	5
TOTAL AMOUNT OF TAX PAID					70									20

Compared with a cumulative tax, the value added tax offers great advantages for the solution of problems relating to the standardization of fiscal incentives in an economic integration area. These will be discussed later in connexion with the examination of the practical difficulties of applying fiscal incentives for exports.

Another technique worth mentioning is that of refunding all or part of the employers' contributions to social security funds. France and Australia have adopted this practice. According to some GATT documents, it is tantamount to a subsidy.[6] However, the legal position is unclear and lends itself to different interpretations, particularly by the countries which have not yet accepted the amendment of article XVI of the General Agreement relating to subsidies. This point will be brought up again for discussion in a later section.

In the absence of a detailed technical analysis of Latin American legislation with respect to the refund of indirect internal taxes, reference can only be made to the incomplete data compiled thus far. According to the ALALC document dealing with drawback,[7] there is no clearly-defined policy in this field, since some countries authorize the refund of all internal taxes while others refund only some of those taxes. Nor is there any hard and fast rule as to whether the refund is to be total or partial. However, there is a tendency for tax rebates to take the form of a percentage of the f.o.b. value of the product exported. This procedure, besides giving greater flexibility to whatever administrative

[6] General Agreement on Tariffs and Trade (GATT), *Training manual*, vol. 1 (Geneva, 1961), p. 131, and *Basic instruments and selected documents*, Ninth Supplement (Geneva, 1961).

[7] ALALC, Advisory Committee on Trade Policy, *La devolución de derechos e impuestos (drawback) en los países de la ALALC* (preliminary study) (ALALC/CAPC/I/di:9) (28 July 1965), p. 14.

machinery is established, does not entail refunding the total amount of tax paid.

The document goes on to list the taxes refunded, as follows: (*a*) in Brazil, consumption taxes;[8] (*b*) in Argentina, taxes paid in the domestic market (up to 6.12 or 18 per cent of the f.o.b. value of the products exported, according to their classification by degree of processing);[9] (*c*) in Chile, all internal taxes applicable to the goods eligible for tax rebates, with the exception of income tax or substitutes, therefore, land taxes, and contributions to social security funds or to the Housing Corporation (Corporación de la Vivienda—CORVI);[10] (*d*) in Paraguay, internal consumption taxes *in toto;* (*e*) in Uruguay, internal taxes, apparently also in full; (*f*) in Bolivia, taxes, licences, surcharges and stamp duties bearing upon the production, consumption and sale of the products exported; and (*g*) in Venezuela, all those internal taxes expressly specified in the relevant legal provisions.

As a rule, exemptions and refunds in respect of direct internal taxes are sanctioned in international trade agreements as an exceptional practice only or are simply not mentioned among the authorized techniques. But it is recognized that taxes of this type may influence prices, although indirectly and with a certain time-lag. Cosciani[11] has pointed out that, according to the latest economic theory, "taxation on corporations, at any rate where long periods of time and markets in highly developed economies are concerned, is included in the cost of production and the tax in question is incorporated in the price of the product. If this premise is accepted, the inference is that export rebates and compensatory import duties should be extended from indirect to direct taxation". On the other hand, this writer and others acknowledge the impossibility of estimating the incidence of direct taxes on prices.

Although GATT has condemned direct internal tax exemptions and refunds (which will be discussed in the section on subsidies), these procedures are used in many countries to encourage exports. The Central American Agreement on Fiscal Incentives to Industrial Development specifies the types of industries that are to enjoy total exemption from taxes on income and profits for periods that vary according to the industry's classification. In Colombia, net taxable export earnings are exempt from income tax. For this purpose, net export earnings are presumed to be equivalent to 40 per cent of the gross sales value of the products exported. (Some products, such as coffee, petroleum and petroleum products, bananas, raw hides and precious metals are not eligible for these exemptions.)[12] In Brazil, Act No. 4663/65, published in the *Diario Official* of 4 June 1965, established measures to improve productivity and control price increases which have repercussions on exports. Article 5 provides that during the financial years 1966, 1967 and 1968,[13] firms will be entitled to deduct from their taxable profits the proportion corresponding to exports of certain manufactured goods, specified by the Foreign Trade Commission, whose sale on the world market is to be promoted. The proportion of taxable profits attributable to exports of manufactured goods is to be estimated on the assumption that the percentage share of the products is the same in profits as in income.[14]

India is particularly interesting in this connexion. As a means of encouraging exports, this country allows a general income tax rebate, linked to export earnings, a special rebate and a tax credit, both linked to the volume of exports, and drawback, or refund of customs duties paid on imports of raw materials. Under the Finance Act of 1962-63 one tenth of the income tax due on export earnings is refundable. The Finance Act of 1963-64 offered an additional income tax rebate in the case of exports of essential industries, i.e., those listed in the First Schedule to the Industries (Development and Regulation) Act of 1951. To calculate this special rebate, the average rate of income tax payable on export earnings—i.e., the effective rate resulting after deduction of the general

[8] See table 1, footnote [a].

[9] Decree No. 3969/60 exempts most exports from sales tax (10 per cent of the value added). The exemption referred to in the ALALC document was granted by Decree No. 46/65 and applies to the other indirect internal taxes.

[10] The new legislation to encourage exports (Act No. 16528, August 1966) provides that, with few exceptions, rebates may amount to up to 30 per cent of the value of exports in the case of scheduled products, and states that the President of the Republic may take as a point of reference the proportion of the cost or price of the said products imputable to the taxes paid.

[11] Cesare Cosciani, *Fiscal problems in relation to a common market*, prepared for the Conference on Fiscal Policy sponsored by the Joint OAS/IDB/ECLA Tax Program, and subsequently published in Spanish in *Reforma Tributaria para América Latina* II. *Problemas de política fiscal* (Washington, Pan American Union, 1964).

[12] Organization of American States, *A statement of the laws of Colombia in matters affecting business* (supplement) (Washington, D.C., 1963).

[13] The period has been extended to 1971 by virtue of Act No. 5025 of 10 June 1966.

[14] Banco Nacional do Desenvolvimento Econômico, *Boletim Legislativo*, No. 33 (14 June 1965).

rebate granted under the Act of 1962-63—is multiplied by an amount equivalent to 2 per cent of the value of exports. A tax credit was established in 1965 for specified export products at rates ranging from 2 to 15 per cent of the value of the products concerned. It is applicable to income tax payable within the current year or during the following twelve-month period. If the amount of the rebate exceeds that of the income tax paid, the difference is refunded in cash.

Both the tax credit and the special rebate are linked to export turnover. They may therefore be regarded as price subsidies. In the Government's view, however, the tax credit represents a compensation to exporters for several previous tax payments—in other words, it is a form of drawback.

(d) *Other export incentives equivalent to fiscal incentives: exchange rates*

Exchange and monetary policy is a government monetary instrument which acts in conjunction with fiscal incentives and disincentives, sometimes supporting and sometimes cancelling out tax exemptions. Its aims and effects are so closely bound up with those of fiscal policy that the traditional separation of the two in economic theory is apt to be artificial, especially when it leads Governments to take conflicting action in the two fields. An over-valued exchange rate has the effect of an export tax while an under-valued exchange rate is tantamount to a subsidy. In some developing countries, the exchange rate is mainly determined by the degree of efficiency of the traditional export sectors, and is highly over-valued for exports of other kinds of products, particularly manufactures where production costs are relatively high. Apparently the question whether disincentives to exports of manufactures are offset by advantages on the exchange side has not yet been explored. On the other hand, the application of multiple currency practices can, in certain circumstances, constitute a subsidy to exports of products with more favourable exchange rates. In such cases, GATT permits the application of anti-dumping or countervailing duties.[15]

2. *Problems arising at the country level as a result of the establishment and use of drawback and complementary systems*

(a) *Possibility that incentives are or may become subsidies*

As stated in the Introduction, one of the general principles of international trade is that refunds of taxes should not exceed the amount actually paid since any surplus is in effect a subsidy and may cause the importer country to apply anti-dumping or countervailing import duties. It is also generally accepted that some special types of incentives constitute subsidies.

The following provisions of the General Agreement on Tariffs and Trade relate to the first instance.

Article VI, paragraph 1, recognizes that "dumping, by which products of one country are introduced into the commerce of another country at less than the normal value of the products, is to be condemned if it causes or threatens material injury to an established industry in the territory of a contracting party or materially retards the establishment of a domestic industry". Paragraph 2 stipulates that "in order to offset or prevent dumping, a contracting party may levy on any dumped product an anti-dumping duty . . .",[16] while paragraph 4 states that "no product of the territory of any contracting party imported into the territory of any other contracting party shall be subject to anti-dumping or countervailing duty by reason of the exemption of such product from duties or taxes borne by the like product when destined for consumption in the country of origin or exportation, or by reason of the refund of such duties or taxes".

Article XVI, paragraph 4, establishes that "as from 1 January 1958 or the earliest practicable date thereafter, contracting parties shall cease to grant either directly or indirectly any form of subsidy on the export of any product other than a primary product, which subsidy results in the sale of such product for export at a price lower than the comparable price charged for the like product to buyers in the domestic market".

The problems arising from the use of fiscal incentives for export in the context of an economic integration programme will be examined in the following section, but comments on the relevant provisions in various interna-

[15] *General Agreement on Tariffs and Trade*, Article VI, note to paragraph 2.

[16] An explanatory note to the same paragraph states: "Multiple currency practices can in certain circumstances constitute a subsidy to exports which may be met by countervailing duties under paragraph 3 or can constitute a form of dumping by means of a partial depreciation of a country's currency which may be met by action under paragraph 2." A case in point was the United States' imposition of a countervailing duty on imports of wool tops from Uruguay (see GATT, *Anti-Dumping and Countervailing Duties* (Geneva, July 1958), p. 11).

tional economic integration treaties are included here together with details of GATT's position on subsidies. This information will reflect the evolution of international concepts and principles on the subject of subsidies.

In this connexion, the Montevideo Treaty (article 52) stipulates that "no Contracting Party shall promote its exports by means of subsidies or other measures likely to disrupt normal competitive conditions in the Area"; but it goes on to add that "an export shall not be deemed to have been subsidized if it is exempted from duties and charges levied on the product or its components when destined for internal consumption, or if it is subject to drawback".

The subject of drawback was fully discussed at the First Meeting of the ALALC Advisory Committee on Trade Policy. There was unanimous agreement that the amount refunded should not exceed the total amount of import duties actually paid on raw and other materials used in the manufacturing, processing or adaptation of the goods exported, and that payments exceeding that limit would be considered as subsidies under the relevant terms of article 52 of the Treaty.[17]

Under the Central American Economic Integration Programme, there appears to be a difference between what is permitted under the 1958 Multilateral Treaty on Free Trade and Central American Economic Integration and the 1960 General Treaty on Central American Economic Integration. Chapter IV, article XI of the former, after prohibiting contracting States from taking measures leading to "the establishment of a sales price for specific goods in the other Contracting States which is lower than that resulting from normal competition in the market of the exporting country", states that "tax exemptions or refunds of a general nature granted by a Contracting State wih a view to encouraging the production in its territory of specified goods shall not be deemed to constitute an export subsidy. Similarly, any exemption from internal taxes chargeable in the exporting State on the production, sales or consumption of goods exported to the territory of another State shall not be deemed to constitute an export subsidy".

Chapter III, article XI of the second Treaty declares that "tax exemptions of a general nature granted by a Signatory State with a view to encouraging production shall not be deemed to constitute export subsidies. Similarly, any exemption from internal taxes levied in the exporting State on the production, sale or consumption of goods exported to the territory of another State shall not be deemed to constitute an export subsidy". Both treaties are still in force, although the second takes precedence over the first (see article XXVII of the General Treaty). The omission of the reference to "refunds" in the 1960 Treaty constitutes a change in policy; drawback is prohibited solely for products that may be freely traded among the Central American countries and may be applied to products that are not included in the free-trade régime.

Nor does the Treaty of Rome[18] permit any refund in excess of the charges actually imposed, since it stipulates in article 96 that "products exported to the territory of any Member State may not benefit from any drawback of internal charges in excess of those charges imposed directly or indirectly on them" and in article 97 that "any Member States which levy a turnover tax calculated by a cumulative multi-stage system may, in the case of internal charges imposed by them on imported products or of drawbacks granted by them on exported products, establish average rates for specific products or groups of products, provided that such States do not infringe the principles laid down in articles 95 and 96."

On the other hand, the regulations of the European Free Trade Association (EFTA) with regard to drawback are much more rigorous. On 31 December 1966 the revised text of article 7 of the Stockholm Convention entered into force; it authorizes Member States to refuse to accept as eligible for Area free-trade treatment goods which benefited from drawback in the member State where they underwent final processing. However, this authorization refers to drawback in its strictest sense, i.e., the refund of import duties, and it has been interpreted as permitting the refund of internal taxes. Moreover, import duties on certain agricultural commodities can still be refunded, without depriving the export products manufactured from those inputs from exemption from import duties in the member States of EFTA.

The first part of this section reviewed the positions adopted in international agreements with regard to a ban on subsidies and authorization of a maximum amount of tax refund and exemption in excess of which it would be deemed

[17] ALALC, *Informe final de la primera reunión de la Comisión Asesora de Política Comercial* (ALALC/CAPC/I/Informe) (13 August 1965), pp. 18-19.

[18] *Treaty establishing the European Economic Community and connected documents* (Brussels, Publishing Services of the European Communities, 1962).

to constitute a subsidy. The second part will refer to the provisions of some of the agreements, or to the positions taken by the various trade associations on the fiscal or similar practices which constitute subsidies. Those positions cannot be said to have crystallized and become principles of international trade, since there are wide differences concerning concepts and methods of application. The Governments signatories of GATT, for example, which were prepared to agree to the addition of paragraph 4 to article XVI of the General Agreement, felt that the following practices are to be regarded as subsidies within the meaning of that paragraph:

"(*a*) Currency retention schemes or any similar practices which involve a bonus on exports or re-exports;

"(*b*) The provision by governments of direct subsidies to exporters;

"(*c*) The remission, calculated in relation to exports, of direct taxes or social welfare charges on industrial or commercial enterprises;

"(*d*) The exemption, in respect of exported goods, of charges or taxes other than charges in connexion with importation or indirect taxes levied at one or several stages on the same goods if sold for internal consumption; or the payment, in respect of exported goods, of amounts exceeding those effectively levied at one or several stages on these goods in the form of indirect taxes or of charges in connexion with importation or in both forms;

"(*e*) In respect of deliveries by governments or governmental agencies of imported raw materials for export business on different terms than for domestic business, the charging of prices below world prices;

"(*f*) In respect of government export credit guarantees, the charging of premiums at rates which are manifestly inadequate to cover the long-term operating costs and losses of the credit insurance institutions;

"(*g*) The grant by governments (or special institutions controlled by governments) of export credits at rates below those which they have to pay in order to obtain the funds so employed;

"(*h*) The government bearing all or part of the costs incurred by exporters in obtaining credit."[19]

This enumeration of subsidies was obtained by a GATT working group from the Organization for Economic Co-operation and Development which had prepared some studies on the same subject.

The industrialized countries signatories of GATT consider that subsidies are prejudicial to all parties and impede the normal course of world trade operations, and that, in their own interest, they should shun such practices. However, most of the relatively less developed countries members of GATT have not adhered to paragraph 4 of article XVI of the General Agreement, to which the list of subsidies refers, and it was not included in article XVI until 1958. Although the countries that have not subscribed to paragraph 4 are presumably not compelled to abide by its provisions, the States members of GATT that have done so may bring a complaint before the organization if they consider the concession of an export subsidy by another member State to be prejudicial.

According to the list of subsidies, not all indirect taxes can be refunded. Point (*d*) refers to the exemption of charges or taxes other than those connected with imports or indirect taxes levied at one or several stages on the same goods when sold for domestic consumption. Since the provision specifies "on the same goods", it seems doubtful that the exemption applies to taxes on fuels and machinery, a point on which not even the industrialized countries have been able to reach agreement. The United Kingdom, for instance, recently introduced the remission of the tax on naphtha used in plants producing for export. Italy and a few more countries have followed suit, while Sweden and other industrialized countries consider, on the contrary, that this type of tax remission constitutes a subsidy to exports. As indicated earlier, some industrialized countries also allow the remission of social welfare contributions related to production for export, although this practice is listed as a subsidy in third place in GATT's enumeration.

There is some confusion in both theory and practice as regards the distinction between direct and indirect internal taxes, and the incentives relating to their application, exemption or refund. (Direct internal taxes are levied on the profits of an enterprise or individual, while indirect taxes are imposed on the production, sale, purchase, transfer or consumption of a product or its components.) The usual practice, particularly among groups of countries comprising economic integration areas, is to authorize the refund of indirect taxes in order to correct imbalances in the competitive conditions of the different countries, whereas the refund

[19] GATT, *Basic instruments and selected documents*, Ninth Supplement, pp. 186-187.

of direct taxes is sanctioned in exceptional cases only or is not mentioned at all as an authorized practice.

Article 98 of the Treaty of Rome states: "With regard to charges other than turnover taxes, excise duties and other forms of indirect taxation, exemptions and drawbacks in respect of exports to other Member States may not be effected and compensatory charges in respect of imports coming from Member States may not be imposed, save to the extent that the measures contemplated have been previously approved for a limited period by the Council acting by means of a qualified majority vote on a proposal of the Commission".

Direct internal taxes are included among the charges for which exemptions or refunds are not permitted, save in exceptional cases and for limited periods.

GATT's position with respect to the practice of permitting the exemption or refund of direct charges to promote exports is set forth below:[20]

> "All the governments are therefore agreed on the exemption of indirect taxes, turnover taxes, and the like, but they reject practices which go beyond that, including the refund of direct taxes. They regard this as a genuine subsidy since direct taxes are part of the cost of production. Certain countries applied for a few years a system permitting producers to pay the tax on industrial and commercial profits or the income tax not on the whole of the production, but only on that part of their production which was sold on the domestic market; in other words, there was a refund or an exemption of the direct tax for that part of the turnover which related to export trade. That practice was regarded as a subsidy and it is one of those which are included in the list prepared by the OEEC and later by GATT, GATT hopes, however, that this practice will soon be eliminated completely." (The third point on the GATT list of subsidies is the remission of direct taxes.)

Despite GATT's views on the subject, the use of techniques of exemption from or refund of direct internal taxes in connexion with export promotion is common in a large number of countries, including several in Latin America. Some specific examples are given elsewhere in this study.

The provisions quoted highlight the importance of distinguishing between fiscal incentives for exports which are restricted to correcting price distortions due to import duties or internal taxes directly imposed on the product or its components, and those which in effect subsidize export prices. It is important to establish this distinction, not only for the countries that form part of integration or free-trade areas but also for those which are members of GATT and must therefore comply with its regulations, as well as other countries which wish or need to maintain trade relations and must therefore abide by the principles and practices generally accepted in international trade. However, one of the most difficult tasks of fiscal policy in the export sector is to ascertain the nature and effects of certain kinds or combinations of incentives in order to determine whether or not they are tantamount to a subsidy.

Lastly, it should be stressed that the General Agreement on Tariffs and Trade condemns the introduction of the products of one country into the commerce of another country at less than the normal value of the products if it causes or threatens material injury to an established industry in the territory of a contracting party or materially retards the establishment of a domestic industry. In other words, if no damage is done, and if the result is simply to enable the importing country to buy at a more favourable price, the subsidy is not condemned. Similarly, the Treaty of Montevideo prohibits subsidies that "disrupt normal competitive conditions in the area".

(b) *Problems of application*

Although the system of tax incentives for export is economically beneficial and, in most cases, has neither reduced tax revenue through fraud nor seriously diminished the fiscal income of the countries for whom export taxes are a major source of revenue, serious problems are often encountered in applying it.

One of the disadvantages of drawback, for example, is the difficulty of deciding exactly how much raw material and other inputs are contained in a new product; variants to the system have been introduced in order to circumvent this difficulty. In some cases, it has been found that the problem can be solved by drawing up a schedule for each product to serve as a guide in refunding duties. In order to simplify the drawback system and make it easier to apply, Argentina has legally established a method of "standardizing" the foreign inputs forming part of or used in the processing of the exportable product (Argentina also allows the refund of 6, 12 or 18 per cent of the f.o.b.

[20] GATT, *Training Manual*, vol. I, op. cit., p. 131.

value of exports paid under the head of internal taxes). In other countries, the practice is to reimburse a percentage of the f.o.b. value of the goods (at the port of embarkation), wherever imported raw materials or other inputs have been included or used in processing them. Peru has a similar system whereby the exporter, before shipment of the goods, requests the Department of Industry to determine the imported inputs contained or used in the processing of the product to be exported and the percentage of the f.o.b. value of the same goods to be refunded against import duties paid for the inputs.

Of all the Latin American countries, Argentina has paid the greatest attention to the problems of drawback, and has the most comprehensive legislation on the operation of the system. Decree No. 8051 of 10 August 1962[21] is a more orderly presentation of the provisions of previous decrees (Nos. 614/60 and 5931/61) and includes several new measures designed to accelerate the process of "standardization".

Article 1 lists the goods subject to the provisions of the decree, as follows:

Raw materials used in the processing of the goods exported and/or their packing, adaptation and/or containers;

Goods that, without undergoing any transformation, are included in the process of manufacture and/or assembly of the products to be exported, and/or their packing, adaptation and/or containers;

The packing, preparation, etc. of the goods to be exported.

The Division of Industry and Mining undertakes the general classification or "standardization" of inputs either on its own initiative or at the request of the parties concerned and determines the sums to be refunded under each head. Requests for standardization are addressed to the Division in the form of sworn statements giving net weight, measurements, technical and commercial specifications per unit of the product to be standardized for export, amount of imported raw material inputs, details of taxes, surcharges, and other charges imputable, cost and freight charges in foreign and local currency, etc.

Refunds are calculated on the basis of the inputs used in manufacture at the levels regarded as representing normal technological returns, and the value attributed for recovery of loss is deducted from the cost value. The refund is thus obtained from the application of a percentage of that net value equal to the percentage of the total cost of the raw materials represented by the sum of the supplementary duties, charges and quotas paid for their importation.

The Customs Office pays the refunds by withdrawing funds out of its daily revenue from import surcharges. All problems of classification or "standardization" should be settled within not more than ninety consecutive days from the date of submission of the relevant claim to the Division of Industry or from the date of the official ruling on the claim.

In some cases the refund of duties is of little practical value, because it has little effect on production costs. This was the case in Chile up to August 1966, when Act No. 16528 raised the amount refundable under the head of "taxes, contributions, duties and charges" to a maximum of 30 per cent of either the f.o.b. or c.i.f. value of the exports. In certain exceptional cases involving imports of machinery for manufacturing industry, the rebate may exceed 30 per cent. The refundable proportion of the value of exports varies from one product to another (within the maximum of 30 per cent), but the principle of the rebate applies to all products included on a list drawn up by the Government. The limited use made of drawback in Peru is also thought to be due to the insignificant effect of the rebate on production costs.

Another problem of drawback is the cumbersome procedure provided for in the legislation of some countries, which have made it of little practical value for exporters. Revenue offices are, by their very nature, equipped to collect rather than to refund taxes. Moreover, because of the time taken up in the processing of refund claims, the standard classification of the goods and the formalities to which the exporter is submitted in the revenue offices, many exporters (especially small businessmen) consider that it is not worth their while to try to obtain a refund of the duties paid. It has an equally discouraging effect on *entrepreneurs* starting business or businessmen anxious to launch new lines of goods on the world market.

Yet another difficulty is the time-lag between payment of duty by the importer and the refunding of that payment. The refund may not be made until the goods have been shipped and, although the lapse of time between shipment and refund may be only a matter of days, the interval between the importation of the goods and the date of refund, which covers the whole period of processing, can be anything from a few months to over a year. Where there is constant

[21] *Guía Práctica del Exportador e Importador* (Buenos Aires, August 1962), pp. 596-598.

and heavy inflationary pressure, as in many of the Latin American countries, producer-exporters suffer serious losses because of the delay in refunding duties paid. The compensatory importer system used in Brazil and Colombia has an advantage over the drawback system in that it does not entail this kind of loss. However, it does not overcome the difficulty of making a sufficiently accurate calculation of the import content of the goods exported, and also involves the new exporter in fairly high initial expenses. He becomes eligible for the exemption only when he imports for the second time, whereas his established competitors are already enjoying exemption.

It follows from the above consideration that, given the inflationary situation in a number of Latin American countries and the complicated nature of the refund formalities, the drawback system has little practical value. What usually happens is that some of them continue to use the system of temporary admission (Uruguay) or of bonded warehouses (Chile).

Although the system of temporary admission obviates some of the difficulties of drawback, in the case of re-export with modifications it involves tracing the goods which have entered the country and establishing the fact that they were used to produce the manufactures exported. This problem of control is particularly serious in big countries or countries with somewhat diversified industry. Consequently, temporary admission is usually applied only to separately identifiable products re-exported in the same state as that in which they entered the country, such as tourist vehicles in transit, wardrobe and scenery of theatrical companies, articles for fairs and exhibitions, materials and equipment for scientific expeditions, etc., a guarantee being given that payment will be in proportion to the duties levied. Except in Brazil, Mexico and Uruguay, this system is not applied to raw and other materials imported for subsequent processing and export as manufactured goods.

For the importation of materials to be manufactured or processed prior to re-export, the device of the free-zone in which customs control presents no problems is not an effective method of promoting sales of manufactured goods either. Industries would be compelled to establish themselves within the free zone often against their best interests as determined by the economic factors which govern optimum location.

The system of temporary admission should also allow for the possibility that the raw or other materials imported may eventually be sold on the home market upon payment of the requisite duties (without fine) if this proves expedient for the producer or if they have not been exported.

Another point to be noted is the situation created when a particular industry imports raw and other materials to be used in the processing of goods for export, when such materials are also produced locally. A number of countries have special provisions to cope with this situation. In Chile, for instance, the competent Ministry issues a certificate stating that there are no domestic industries producing raw or other materials in sufficient quantities which could be used to substitute for those needed to manufacture goods for export, that have the requisite technical specifications or could be produced at a price not exceeding the price of the imported goods when all duties and taxes have been paid. In Argentina, the Executive is legally empowered to exclude from the drawback system all raw and other materials for which refund of duties would be prejudicial to the production of similar goods within the country.

The refund of internal taxes as an incentive for exports presents certain problems which do not arise in connexion with the refund of customs duties and other import charges. The refund of those duties raises the difficult problem of identifying the imported raw material content in the exportable product, whereas the refund of internal taxes poses the even harder problem of assessing the incidence of the tax on the export product. This is a particularly knotty problem when a general cumulative tax is applied to production or sales, and its difficulty increases when the product has gone through a number of processing stages and the industry is not vertically integrated. The problem is less complicated when the refund simply consists of the amount of the tax on the sale of domestically-produced inputs, and when the manufacturer is both the buyer of the inputs and the exporter of the final product. The term "inputs" is broad, however, and may be construed as covering materials used in the course of processing but not included in the final product (e.g., fuels).

To sum up, the following problems arise in the application of the drawback system and other systems of fiscal incentives for exports:

System	*Problems*
Refund of import duties and charges	(*a*) The difficulty of calculating the imported raw material content in the

System	Problems
	case of relatively complex manufacturing processes; (*b*) The cumbersome formalities which discourage present and potential exporters; (*c*) The delay in refunding duties, which means a loss in the real value of the rebate, particularly in countries suffering from serious inflation
Temporary admission	The difficulty of controlling the movement of goods admitted free of duty, in order to ensure their re-exportation; consequently, in most countries this system is not applicable to raw and other materials which are to be transformed or processed
Free zones in which export industries are established ...	This system is little used because of the economic factors determining the optimum location of industries
Bonded warehouse procedure	Suitable only when the manufacturing process is relatively simple
Compensatory import system	(*a*) Under this system, as under that of refunding import duties and charges, it is difficult to calculate the imported raw material content when the manufacturing process is complex; (*b*) Involves the new exporter in fairly high initial expenses
Refund of internal taxes	(*a*) In the case of cumulative sales or consumer taxes, it is difficult to calculate the real incidence of taxes on the export item; (*b*) The delay in refunding taxes means a loss in the real value of the rebate, particularly in countries suffering from serious inflation

(c) *Factors influencing decisions to apply fiscal incentives to exports*

These factors relate mainly to attempts to estimate the benefits which the country's economy would derive from the application of such measures and to the desire to avoid a sacrifice of income if the same effects can be produced at lower cost or if fiscal incentives are not likely to step up exports. In the case of products already being exported without tax incentives, the result of applying the incentives would depend on the demand situation and how it is exploited. While the incentives might not reduce prices, they could result in higher profits for exporters than those obtaining currently without an increase in the volume of production or exports or in investment in this sector. In order to encourage exports of products that are not yet internationally competitive, fiscal incentives should make up the difference between local production costs (including local taxes) and world prices, or should be accompanied by other measures to counteract non-tax factors that may be increasing costs or otherwise preventing sales abroad. These factors may be unrelated to export industries (inadequate infra-structure, high wages, an overvalued exchange rate, the Government's failure to simplify export procedures, insufficient credit or export credit insurance, marketing and promotional deficiencies, etc.), or they may be attributable to inefficiency within the industry itself.

Fiscal incentives may fail to promote new exports unless remedial action is taken with respect to the non-tax factors mentioned. However, in stimulating exports of products that are not yet internationally competitive, the failure of fiscal incentives will not involve a loss of government revenue as a result of tax exemptions, since the products were not previously exported and the Government never collected taxes on them. On the other hand, where the products already have a foothold in foreign markets and are exempted from taxes, the Government might be sacrificing revenue to no avail if the exemption merely resulted in higher profits for the exporter, and was not accompanied by new investment in the sector or any increase in the volume of exports. Thus, the intelligent application of fiscal incentives to exports calls for some practical knowledge of the potential international demand situation for the exports it is hoped to generate.

Where tax exemptions and rebates are successful in encouraging exports of new products, there may also be an unnecessary loss of revenue if the rebate is considerably in excess of that required to make the price attractive to buyers. In this case, even with a good knowledge of the market, it is not easy to calculate the degree of tax incentive required because, being a new

export industry, its costs are difficult to estimate in advance.

While the decision to apply fiscal incentives to exports will depend on some of the same factors as influence the establishment of fiscal incentives for industry in general, there are some important differences to take into account. In the developing countries, for example, fiscal incentives for exports may be a decisive factor in stimulating investment in export activities, while incentives for industries producing mainly for the local market may not be equally effective. The reason lies in the potential effect of the incentives on prices and the fact that export prices must conform to those prevailing in world markets, whereas, under the more limited competitive conditions of production for local markets, the tax burden can be more easily absorbed; investment in this sector would probably be the same with or without fiscal incentives. This distinction should be borne in mind when fiscal incentives for industry seem to have discouragingly little effect on new investment in that sector.[22]

There is another important distinction between incentives for industry in general and incentives for exports particularly in developing countries: whereas the former are usually designed to stimulate specific types of industry (such as those designated as basic industries, or industries producing essential or intermediate goods) and possibly to limit consumption of what are considered non-essential goods, the latter have more general objectives. With some limitations a country hopes to export practically all the types of manufactured goods it can sell. One limitation would be the desire to avoid activities that might be competitive for a very short period, owing to some temporary disruption of the world market, where the additional investment required to take advantage of the situation might be too heavy as against the short-term gains obtainable. However, it is very difficult to evaluate this type of situation in advance, and it can hardly be taken into account in a general programme of tax incentives. Each case would have to be considered *a posteriori*, or at least only after it became evident.

In order to prevent unwarranted optimism concerning probable effects of tax incentives for exports from clouding decisions to adopt them, it would be well to consider that such effects might, in practice, be limited if tax evasion was already widespread. (On the other hand, the rebates would, in effect, be a form of subsidy.) Unless this possibility is taken into account, there is a danger of miscalculation in evaluating the relative importance of the tax and non-tax factors impeding exports of certain goods which are already produced for domestic consumption.

3. *Regional and international problems in applying fiscal incentives for exports in an economic integration process*

(a) *Harmonization of incentives and the objectives sought*

The fact that fiscal incentives for exports might constitute subsidies was discussed earlier as one of the most important difficulties in applying these measures. It was further stated that the regulations of GATT and other international agreements among groups of countries prevent incentives of this kind from developing into subsidies, and, in the event that they do, the importing countries might go so far as to apply anti-dumping or countervailing duties. This problem is particularly serious in economic integration programmes because the aim of a free trade area or a customs union is to prevent the effects of export subsidies which might distort normal competitive conditions between one member country and the other members of the group.

ALALC has banned export subsidies and endeavoured to establish standard definitions and norms for the application of fiscal and other systems for refunding duties and taxes. The common standards proposed at the first meeting of the Advisory Committee on Trade Policy were intended to harmonize virtually all the salient features of those systems. They would establish a ceiling on the percentage of the f.o.b. value of each product refundable in respect of taxes paid. Thus, the question is no longer whether or not fiscal policies in the export sector should be harmonized, but what is the best way of harmonizing them.

The main problem is to define the type and degree of harmonization and then to see whether the techniques proposed for attaining it are feasible. The first step in determining the nature and scope of the desired type of harmonization is to define the common objectives sought. They might be summarized as follows:

(1) To bring about the balanced growth of all countries in the area, with due regard for

[22] For an interesting discussion of tax incentives for industry, see Jack Heller and Kenneth M. Kauffman, *Tax Incentives for Industry in Less Developed Countries* (Cambridge, Harvard Law School, 1963).

the need to provide special incentives for the relatively less developed countries;

(2) To avoid subsidies or other measures which may distort normal competitive conditions;

(3) To harmonize the incentives for investment in export industries and thus avoid the adverse effects of uncontrolled competition among countries to attract investment capital;

(4) To remove as many obstacles as possible to free trade among countries;

(5) To bear in mind the need for each country to co-ordinate its fiscal policy on exports with its general fiscal and economic development objectives.

The first two objectives will obviously have to be reconciled. While the first means that in practice certain forms of distortion in competitive conditions should be promoted as a means of benefiting the economically less developed countries of the region,[23] the second precludes measures of that nature. The first and third aims are also closely related, but there is no conflict between them. When the members of a group of countries or the various political regions of a country compete to attract new capital, the cost of that competition may be high in terms of unnecessary loss of fiscal revenue.

The fourth objective implies that fiscal and other charges should not inflate export prices to a degree which would impede the expansion of exports from one country of the region to the others, and should justify the establishment of fiscal incentives for exports. It also implies that the common standards adopted in this connexion should not involve cumbersome formalities which might cause delays and complications detrimental to the export process.

The fifth objective concerns the co-ordination of fiscal incentives with other economic policies designed to achieve the same ends. In correcting distortions arising from different tax practices in the various Latin American countries, other fundamental differences in competitive conditions which may have been created by those different practices are sometimes overlooked. For example, countries A, B and C have the same internal tax structure and rates. To enable certain products to compete on the world market, A is refunding to exporters about 50 per cent of the indirect internal taxes levied on those same products when sold on the home market; B is refunding 100 per cent, on the grounds that it pays much higher wages than A and other competing countries, or perhaps that A's currency is undervalued. C, on the other hand, bases its fiscal incentives on the relatively higher domestic transport costs, possibly because its transport subsidies are lower than in countries A and B.

Any attempt to standardize or harmonize tax practices among the countries should take into account the fact that trade is more likely to be influenced by the non-tax factors which distort competitive conditions.

Subsidies to related export services (transport, credit, promotion, information services, etc.) can have the same effect as tax incentives in boosting exports. If harmonization of tax incentives for exports is to be more than an administrative exercise or a legal principle and is to have the economic aim of preventing distortions in competitive conditions, then it will have to be determined, in specific cases, to what extent tax incentives may be compensating for the effects of other distorting influences. This is a particularly important measure since many of those other influences may have been produced by government policies which can be changed, just as the fiscal incentives themselves can be changed.

In considering the possibility of harmonizing fiscal incentives for exports, ALALC suggested the following procedure. Bearing in mind the general principle that drawback of import duties and refund of internal taxes should not exceed the amount of the charges actually paid, a ceiling should be set on the percentage of the value of an export item which may be refunded to the producer or exporter in compensation for such charges; the ceiling, which would vary from product to product, would be the same for all countries in a free trade area. The suggestion was probably based on the assumption that if the cumulative tax burden for an export product

[23] ALALC resolution 100 (IV) states that the programme for co-ordinating economic policies and harmonizing the instruments for regulating foreign trade established under resolution 75 (III) is intended to create favourable conditions for the establishment of a Latin American common market, in accordance with article 54 of the Treaty, and that special attention should be devoted to the problems affecting countries at a relatively less advanced stage of economic development, with a view to seeking solutions which will assure them of a genuine and direct share in the benefits deriving from trade liberalization and industrial development in the Area.

Paragraph 7 of the operative part of the section on industrial development reads as follows: "To achieve an equitable distribution of integration benefits, given the differing structures and levels of development in the ALALC countries, the location of industries must be decided jointly on the basis of a clearly-defined programme." (Provisional translation.)

was higher than the ceiling in a given country, the Government would have to reduce it in order to maintain its competitive position on the external market. This would be a step towards tax harmonization, although in some cases it might conflict with industrialization policies. For example, if one country of a region that is in process of integration wishes to discourage or limit the production of a commodity for home consumption and encourage its exportation, the product could be made subject to relatively high internal taxes and a correspondingly high drawback of internal taxes for exports. On the other hand, the standardization of drawback rates would be futile so long as tax rates and practices were not uniform and differing economic policies and revenue needs would make it difficult to begin by achieving greater uniformity in these rates and practices. The desired harmonization could be brought about only by modifying other policies affecting exports so that the combined impact of government incentives and disincentives to exports in each country would be the same for all the countries of the region and would create reasonably fair competitive conditions.

If the relations between the various objectives of harmonization are taken into account, it is clear that in the Latin American countries harmonization does not imply merely the equalization of incentives. The intention is to harmonize the effects of the measures adopted with the objectives sought, and not necessarily to standardize the techniques used.

It is particularly difficult to determine the nature and degree of harmonization of fiscal incentives which would be suitable in the ALALC countries and in those likely to form part of the Latin American common market because: (*a*) agreement has not yet been reached concerning a feasible and desirable degree of economic integration; (*b*) the wide disparity between the levels of economic development attained by the various countries necessitates preferential treatment for some of them; and (*c*) the harmonization of fiscal incentives means that national aims would have to be brought into line with regional objectives, thus forfeiting some measure of national autonomy in tax questions.

The Central American countries sought harmonization of fiscal incentives within the sphere of industrial development itself. The Central American Agreement on Fiscal Incentives to Industrial Development, signed in July 1962,[24] provides for fiscal benefits which vary according to the category of industry. They include:

(*a*) Total or partial exemption from customs duties and related charges on machinery, raw materials and fuels;

(*b*) Exemption from income tax on earnings from the qualifying activities;

(*c*) Exemption from taxes payable on assets and net worth;

(*d*) Authorization to deduct from its profits subject to income tax, the sums reinvested in such machinery or equipment as serves to increase productivity.

Article 5 of the Agreement gives the following classification of enterprises:

Group A: those that (*a*) produce industrial raw materials or capital goods; or (*b*) produce consumer goods, containers or semi-finished goods, on condition that at least 50 per cent of the total value of those items are of Central American origin;

Group B: those enterprises that (*a*) produce consumer goods, containers or semi-finished goods; (*b*) bring about a substantial net improvement in the balance of payments and a high value added in the industrial process; and (*c*) use raw materials, containers, and semi-finished goods which, in terms of value, are wholly or mainly of non-Central American origin.

Group C: those enterprises that (*a*) do not meet the conditions for groups A and B; or (*b*) merely assemble, pack, package, cut or dilute products; or (*c*) form part of the industries specified in annex 1 to the Agreement.

Article 6 modifies article 5 in that it enables enterprises whose direct labour costs represent a high proportion of the total cost of production to be classified in group A instead of group B, "subject to a favourable technical opinion from the Permanent Secretariat of the General Treaty".

Enterprises are also classified as new or existing industries.

(b) *Lessons to be drawn from the European experience*

Although the problem of harmonizing fiscal incentives in the Latin American countries is

[24] The Agreement is still not in force because it has yet to be ratified by the Government of Honduras. It has recently been recognized that Honduras should be allowed to offer more substantial preferences, the amount to be established by protocol.

not quite the same as in the countries members of the big European economic blocs, there are lessons to be drawn for Latin America from the well-documented experience of the European Economic Community, which has similar problems.[25] At least this experience serves to demonstrate how to avoid the repetition of a number of initial errors made in Europe as a result of the lack of previous experience in economic integration problems and conflicts between theoretical ideals and practical possibilities.

(i) *Limitations and obstacles to the process of harmonizing fiscal systems in general.* In Europe, even where the political goal is to achieve the greatest possible degree of economic integration and equality of competition between the countries members of the area (which is not yet the case in Latin America), any attempt to achieve genuine equalization in so far as the incidence of taxes is concerned is doomed to failure. Since the same tax affects different enterprises in different ways, it would be a more realistic goal to reduce to a minimum the distortions resulting from taxes and tax procedures, the exemptions granted and even budgetary policy or the use of tax revenues. There are some who believe that the best way of achieving this goal, in the case of the EEC, would be by equalizing tax rates and, at the same time, allocating Community funds in such a way as to compensate for the distortions resulting from equalization.

In connexion with the limitations involved in harmonizing fiscal policies, it should be noted that the Fiscal and Financial Committee of the EEC has reached the conclusion that any attempt to unify completely the structure of taxation systems of the EEC member countries... is *a priori* doomed to failure.[26]

Moreover, it has been found that the greater the degree of harmonization of fiscal policies achieved, the greater the need to harmonize national development policies, in view of the fact that fiscal policy is one of the most important instruments of economic development policy. A high degree of harmonization of fiscal policies means important changes in tax incentives to industry, entailing corresponding changes in the structure of national industry. To avoid haphazard changes, a rational relationship must be established between international fiscal co-ordination and the aims of industrial development programmes in the individual countries.

Certain aspects of this subject are dealt with in various ALALC resolutions. Resolution 100 II F (IV), for example, provides that the organs of the Association shall undertake a study of the fiscal systems of the Contracting Parties in order to determine their effects on the economic policy co-ordination programme envisaged in that resolution.[27] Paragraph 4 (12) of the same resolution states that, in order to ensure the fulfilment of common sectoral policy, the countries where industries declared to be of interest to the area are planned should provide incentives to establish such industries on their territory, and that the remaining Contracting Parties should agree not to adopt any measures likely to vitiate the objectives pursued. Paragraph 9 (4) points to the need to establish financial and exchange procedures designed to obtain the greatest possible return on foreign investment for the region as a whole.

Resolution 75 (III) establishes that the Contracting Parties, in accordance with the provisions of articles 15 and 54 of the Treaty, should initiate the necessary studies with a view to preparing a programme for co-ordinating their economic and trade policies and harmonizing the instruments for regulating their foreign trade.

Although it is held that the ALALC countries do not have to work towards a high degree of co-ordination of fiscal policies, and indeed this may not even be feasible in the near future, the ALALC resolutions themselves recommend such a course.

It is interesting to read the analysis by Shoup[28] of the difference between the objectives and problems of Latin America and the European Common Market in efforts to harmonize tax policies. Some of the more significant differences may be summarized as follows:

[25] Of particular interest are: Dr. R. Regul and Dr. W. Renner, *Finances and taxes in European integration*, International Bureau of Fiscal Documentation (Amsterdam, 1966); Clara K. Sullivan, *The search for tax principles in the European Economic Community*, Harvard Law School (Cambridge, 1963); *Fiscal problems in relation to a common market*, op. cit., and reports of the Fiscal and Financial Committee of the EEC.

[26] *Finances and taxes in European integration*, op. cit., p. 124.

[27] ALALC, *Resoluciones, Conferencia III, II-E, IV*, Standing Executive Committee (Montevideo, 1965), p. 88 *et seq.* See also resolution 98 of the Standing Executive Committee (18 August 1966) recommending the secretariat of ALALC to prepare the study.

[28] Carl S. Shoup, "Tax problems of common markets in Latin America", *Readings on Taxation in Developing Countries*, edited by Richard Bird and Oliver Oldman (Baltimore, The Johns Hopkins Press, 1964).

1. The difference in trade within the market: trade among the countries of the Community already exists on a considerable scale, whereas trade among the Latin American countries exists only to a modest degree.

2. Trade among the Latin American countries moves largely by water. Since ports must continue to have customs offices to deal with goods that come from "third countries", Latin America has less incentive to remove the apparatus of border control than the EEC countries.

3. Export taxes are employed to a considerable degree in Latin America, but not at all by the European Common Market countries.

4. "... the EEC Common Market aims primarily at greater efficiency through heightened division of labour and through geographical flows of capital and labour, to equalize returns at the margins, while the Latin American countries are aiming first of all at development, which in this context seems to mean industrialization. In the European discussions, a strong flavour of economic neutrality pervades much of the analysis; although Europe, like everyone else, wants to 'grow', they do not view the Common Market primarily as a means of reducing unproductive consumption in order to increase the proportion of GNP going to gross investment. In so far as the Latin American countries do have such an aim, it is conceivable that their plans for harmonizing their tax-expenditure systems would carry what might be called uniformity in bias, a deliberate bias to promote certain currents of economic activity, and discourage others. In this event, a much stricter degree of harmonization will be necessary than in Europe; no one country within the market is likely to be permitted to let its consumers go on as before, while the others carry the temporary burden of providing internal funds for growth."

5. "... Europe does not, but Latin America does, need to look forward to a rising proportion of government expenditure to total GNP... Latin America's problems of public finance harmonization are small now, but will be growing indefinitely into the future."

6. "... the income tax laws of the EEC must be harmonized in a way that will reduce double taxation, or undertaxation, of shareholders and corporations combined... A Latin American common market country, in contrast, gets little of its capital from the other countries of its common market... Given the aim of rapid industrialization, the Latin American countries have to guard against the danger of 'tax wars' among themselves, in offering inducements to third-country capital by tax holidays, depreciation favours, and so on... In the EEC countries, it is the treatment of each other's investors that is important; in the Latin American countries, it is the comparative treatment of third-country investors that makes urgent the harmonization of taxation of investment income."

7. The Latin American economies, being more exposed *vis-à-vis* the third-country world than are the EEC economies, "are somewhat less able to control their domestic employment and price levels by ordinary fiscal policy measures than are the EEC countries... Perhaps... because the Latin American countries can do somewhat less, it is important that they coordinate even more closely than the European countries the measures that they can utilize. Moreover, there is clearly more room for improvement from the existing situation in the former group of countries than in the latter... The pattern of fiscal measures utilized may well differ appreciably between the two groups."

The conclusion to be drawn from the foregoing considerations is that there appear to be even stronger reasons for harmonizing fiscal incentives among the Latin American countries than among the European countries. Moreover, since the former are more vulnerable to the third-country world, some of the measures which it may be desirable to harmonize may be expected to follow different patterns in Latin America and in Europe, particularly those related to monetary, price and wage policies.

(ii) *Limitations in the application of compensatory taxes.* A certain degree of of tax harmonization is found in the EEC system of "border equalization" by means of compensatory taxes. Under this system, an importer country is authorized to apply import duties equivalent to the internal tax levied on the same product produced locally and to grant exemptions for export products to the extent to which such products have been subject to those internal taxes.

An analysis of experience in the application of the border equalization system[29] (compensatory taxes) shows that it has serious limita-

[29] This system follows the principle of "country of destination", which means that all goods with a common destination, whatever their origin, should be subject to the same taxes, which would be collected in the country of destination. Under the principle of "country of origin", all taxes would be levied in the exporting country, which would mean the abolition of compensatory border taxes.

tions, which have prompted a number of countries (notably the Federal Republic of Germany) to propose that another system should be adopted. These limitations stem from: (*a*) the technical difficulty of calculating compensatory import taxes and export refunds where the internal taxes compensated are of the cumulative type; (*b*) the taxes are not fully reflected in the prices of the goods; the extent to which the taxes affect prices depends partly on supply and demand conditions and the marketing methods used; (*c*) save in the exceptional and temporary cases referred to in article 98 of the Treaty of Rome, compensatory taxes are calculated to take into account only the effect of indirect taxes on the prices of the goods marketed. This is presumably because "the application of the destination principle to direct taxes is conceptually complicated" and because of "technical difficulties of computing equalizing measures for direct taxes";[30] and (*d*) the application of a compensatory border tax is considered contrary to the spirit underlying the efforts to liberalize trade among the Community countries.

With regard to the difficulty of calculating the compensatory tax where the internal taxes compensated are of the cumulative type, the EEC countries are considering the application of a common system of taxes on value added.[31] As explained above, the value-added tax (VAT) would be levied at each stage of the manufacturing and distribution processes, and would be payable on the basis of the sales value minus the value of inputs and services purchased. However, the enterprise which exports the product manufactured would not have to pay the VAT and would also receive a refund of the VAT paid by its suppliers on raw materials and other inputs. This type of tax not only avoids the double taxation inherent in cumulative taxes, but also makes it possible to compute the tax on the product more accurately. Moreover, it has the advantage that, unlike cumulative taxes, it does not favour highly integrated industries, which are paying less in taxes because they retain control from the raw material to the finished product. The EEC countries are deeply interested in the value-added system because they are seeking a common method of taxation which will make it possible to establish the limits of legitimate compensation and the criteria for determining what tax modifications would lead to undesirable distortions in competitive conditions. The EEC Commission has found that far too many distortions have occurred in practice and that they represent a serious problem. The EEC countries are also contemplating a standstill on changes in import charges and drawback rates. (In theory, the standstill has been in operation since 1960.)

Article 97 of the Treaty of Rome provides for the establishment of average equalization rates (lump-sum taxes) for specific products or groups of products, in view of the fact that it is impossible to compute compensatory taxes and rebates accurately where the indirect taxes are cumulative. However, one disadvantage of these average rates is that some enterprises might have to pay more than the average and others less, to the detriment of the former's competitive position.

4. *Summary and conclusions*

It has been seen that the problems arising from the establishment of fiscal incentives at the national level are essentially the same as those encountered in promoting exports in the context of an economic integration programme. Most of them stem from the difficulty of determining the imported input content of the finished products and the incidence of taxes on export prices, the possibility that rebates may exceed charges and thus constitute subsidies and that certain types of rebates and exemptions may be condemned as subsidies by other countries, the lack of any clear agreement, even among industrialized countries, concerning some types of exemptions and the fact that other incentives and disincentives to exports are operating simultaneously to enhance or diminish the possibilities of achieving the established goals. These complex problems are further complicated at the level of regional integration by the potential effects of subsidies on competitive conditions, the desire to harmonize fiscal incentives for exports and the fact that these incentives must be based not only on the co-ordinated economic policies of the countries applying them but on the economic policies of competitor and client countries.

The difficulty of determining the incidence of tax charges on export prices is closely related to the problem of subsidies, and some of the methods used make it imperative to come to grips with the latter. For example, the practice of refunding to the exporter a certain percentage

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[30] Clara K. Sullivan, *The search for tax principles in the European Economic Community* (Cambridge, Harvard Law School, 1963).

[31] As this article was being completed (10 February 1967), *The New York Times* (Paris) announced that the EEC had decided to adopt a uniform system of indirect taxes based on the value added.

of the f.o.b. value of exports to cover taxes paid can easily develop into a subsidy, since this practice was developed precisely because of the difficulty of determining the incidence of the taxes. On the other hand, if a subsidy is not prejudicial to other countries and is not distorting normal competitive conditions, it is acceptable under the terms of the GATT and the Treaty of Montevideo.

It has also been seen that the degree of complexity of processing has a bearing on the feasibility of certain types of fiscal incentives and on the calculation of the incidence of charges to be refunded. Similarly, the degree of inflation prevailing in a country influences the real value of rebates and the choice of this practice over others, such as compensatory imports. Thus, in different countries and different situations one technique is likely to be preferred to another. Countries which have had relatively limited experience with fiscal incentives for exports and are faced with the increasing technical complexity of manufacturing processes might wish to study Argentina's practice of establishing standard categories for its exports of manufactured products for purposes of determining taxable inputs and the corresponding rebates. On the other hand, countries in which the real value of rebates is reduced by inflation and by the time-lag in effecting refunds might wish to apply the technique of compensatory imports in addition to fiscal incentives for exports. However, this would not alter the effect of inflation on the value of the refunds of internal taxes.

The value of those incentives may be negligible or decisive depending not only on the degree and manner of their implementation but also on the existence of other obstacles or stimuli to exports. In a country which refunds an average of 5 to 10 per cent of the value of exports to the exporter to compensate for taxes paid and at the same time maintains an exchange rate which is overvalued by 20 per cent, the rebate is no longer an incentive. In another country where the exchange rate is neither overvalued nor undervalued, but where the ratio of the wage level to productivity is higher than in competitor countries, tax incentives alone may be unable to overcome this disadvantage. The effectiveness of tax incentives can be assessed only as one element in the over-all result of the various policies and conditions affecting exports.

With respect to the solution of the problems encountered in harmonizing tax incentives for exports at the regional level, the choice appears to lie between an ambitious programme for creating optimum competitive conditions through the co-ordination of all government policies affecting export prices, and more limited steps gradually to improve and perfect the harmonization that already exists. In view of the dangers of partial harmonization described above, a middle-of-the-road course (such as that of trying to harmonize rebates or even the rates of taxes on export commodities) could cause even greater distortions in competitive conditions by changing only some of the government policies affecting export prices. On the other hand, a programme for achieving maximum co-ordination represents a long-term undertaking which would be contingent upon difficult policy decisions. The minimum which might be accomplished in the near future would aim: (*a*) to ensure, as far as possible, that exemptions and refunds of duties and taxes do not in practice exceed the actual charges paid; and (*b*) to seek an agreed definition of the taxes which are subject to exemptions and refunds when a product is exported and how those incentives can be utilized. It is not clear, for example, what is considered acceptable in the way of exemptions from direct internal taxes on the value of exports, nor are such exemptions the general practice. It is difficult, if not impossible, to estimate the incidence of direct internal taxes on prices so that the drawback will actually reimburse the producer or exporter for the indirect internal taxes he has paid. Some Governments, however, have managed to avoid this technical problem and promote exports by offering exemption from direct tax on export earnings. Moreover, it has not yet been made clear whether the internal taxes on fuels and machinery and the social security contributions paid by exporters are refundable.

In seeking a uniform definition of these items, it should be borne in mind that subsidies which have no harmful effects on the economies of the countries concerned will not call for preventive measures.

The countries members of the EEC have announced the adoption of a technique which will help to mitigate the inconveniences of the cascade effects of multiple taxes (a common system of taxes on value added) and will eliminate some of the disparities and bring the value of the refunds into closer relation to the value of the charges actually paid. While the cost accounting practices necessary for this system are less automated and less developed in Latin America than in the European countries, the advantages afforded by the system itself indicate that it deserves further study.

Lastly, while harmonization of general fiscal policies (which are linked with fiscal incentives for exports) may be even more necessary in the Latin American countries than in Europe, it is likely to be a more difficult process in Latin America because the countries of the region are more vulnerable to outside economic influences and will have to adopt different price, wage and monetary policies in response to those influences.

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LATIN AMERICA'S HYDROELECTRIC POTENTIAL

Approximately half of the total output of electric power in Latin America (which amounted to 100,000 million kWh in 1965) is hydroelectric in origin and valued at some 600 million dollars per year. In recent years the importance of water resources in total ouput has required an average annual increase of 1 million kW in the installed capacity of hydroelectric plants and investment at a rate of about 400 million dollars per year.

Past trends and the programmes adopted or recommended in the Latin American countries for expanding electrification indicate that water power, which now has an annual average growth rate of almost 9 per cent, will continue to increase or, at the very least, to maintain its present level.

The purpose of this study is to arrive at a tentative measurement of Latin American hydroelectric potential and it is clear from the outset that its volume is tremendous in view of the hydro-meteorological and, particularly, the topographical features (marked changes in elevation) of the region. One estimate made on a world-wide basis by the United States Geological Survey suggests that Latin America has almost one fourth of world hydroelectric potential.[1]

In view of the fact that Latin America represents only 15 per cent of the earth's habitable surface and only 7 per cent of the world's population, it obviously enjoys a privileged position as regards hydroelectric resources. Despite the abundance of those resources in most Latin American countries, generally speaking very little is known about them.

Research undertaken by ECLA for the Latin American Seminar on Electric Energy held at Mexico City in 1961 showed that in almost all the countries there are many widely differing estimates of hydroelectric potential. Even on the basis of data from what appeared to be most reliable sources, it was found, for example, that the most optimistic appraisal was six times larger than the most pessimistic for a country with one of the highest potentials, and in several countries it was four times larger. The great disparity between the different estimates is indicative of how little is known about the water power potential of Latin America, and arises from the fact that the local authorities are not fully aware of the impact of an abundant supply of cheap power produced by the most modern techniques on economic and social development. The competent public authorities are carrying out systematic and effective research and studies to assess their river potential in very few Latin American countries.

ECLA has repeatedly drawn attention to the inadequacy of hydrometeorological observations and measurements, particularly with regard to stream gauging.[2] For the great majority of rivers, either no rate-of-flow measurements are taken or they are taken so infrequently and under such dubious circumstances that they have little or no value.

Taking Latin America as a whole, there is a similar shortage of contour maps and plans with scales sufficiently detailed for the type of studies required.[2] Moreover, sufficiently detailed altimetrical data covering most of the river's course are available for very few rivers.

As a result, data are lacking on the two factors of river potential—flows and changes in elevation—required for direct and over-all assessments of the resources of a large area or of a whole country.

The problem has yet another negative aspect. Estimates have been made for the same rivers or river systems on the basis of the same data, which vary considerably according to the criteria used by the expert or institution carrying out the study. Until recently, this lack of uniformity in methodology and in the technico-economic terminology used in the presentation of the re-

[1] See: United States Department of the Interior, Geological Survey, *Developed and potential water power of the United States and other countries of the world*, Circular 367, 1954 (reprinted 1958).

[2] See "Hydro-electric resources in Latin America: their measurement and utilization", *Economic Bulletin for Latin America*, vol. VII, No. 1 (February 1961), and the country studies in the series "Water resources in Latin America" (already published: Chile, Venezuela, Bolivia, and Colombia; in preparation: Argentina, Peru, Uruguay and Paraguay).

sults of the different studies was apparent even in more developed countries.

Following the concepts and guidelines drawn up by the United Nations economic commissions for Europe and for Asia and the Far East, the Latin American Seminar on Electric Energy held at Mexico City considered and recommended a methodology worked out by ECLA for standardizing the evaluation of water resources in the Latin American countries, having particular regard to the scarcity of basic data and at the same time the need to make evaluations covering wide areas for planning purposes.

This paper is a preliminary attempt to apply the above-mentioned methodology to the standard evaluation of the hydroelectric potential of all Latin American countries.

1. *Definitions adopted in respect of hydroelectric potentials*

In order to define the scope and limitations of this study, the basic definitions for over-all hydroelectric evaluations are given below:

(*a*) The *theoretical potential* (sometimes called gross potential) fully measures the resources for estimating the annual output of power of a basin or river system in their natural state, i.e. without any alterations produced by installations constructed for purposes of activating that power. Thus, all water above sea level is regarded as capable of producing electric power, with a 100 per cent yield;

(*b*) The *technical potential* (also called "exploitable potential" or "practical potential") measures resources in terms of existing installations and those which could be built at any time by conventional technical methods for this type of construction, without exceeding a previously determined ceiling for the cost of installed kW.

It should be pointed out that the theoretical potential, as defined earlier, is a constant for each basin unaffected by the intervention of man,[3] unlike evaluations dependent upon what is technically or economically feasible.

Theoretical potential should be divided into two parts:

(i) The *gross surface run-off potential*, which measures the theoretical annual output of energy (or its mean potential) by unit of area (kWh/km^2 or kW/km^2) derived from the water of a basin or region, allowance being made for the losses occurring in the initial run-off, each unit of area being measured at its altitude above sea-level.

Rain water falling on an area may be carried off by any of the following three natural processes:

1. Evaporation and plant transpiration;
2. Surface run-off;
3. Infiltration and underground run-off.

The gross surface potential of a basin should preferably be estimated by "surface run-off", provided that there are adequate hydrological data or enough general information on which to base an adequate indirect estimate of the run-off coefficient (ratio of volume of run-off to volume of precipitation).

(ii) The *gross river potential*—on river beds —which measures the potential of the mean flow (or annual energy) along the course of each waterway and thus yields the kW (or annual kWh) for the whole river or for each unit of length.

Similarly, part of the technical potential is usually identified separately under the heading of *economic potential*, in order to define the potential that can be used on a short or medium-term basis within the framework of the general economic development of the country concerned. The economic potential therefore excludes from the technically exploitable potential that part of the installations or proportion of annual output to which an over-all economic analysis assigns no priority in the event of conflict with other uses of water. It also excludes those sources incapable of supplying the same kind of power (load factor, reliability of service, etc.) at the same or less cost than other sources of electric power.[4] The economic potential varies in accordance with a number of variable factors: competitive price of power, cost of equipment, interest rates, construction costs, etc.

2. *Methods of calculation used*

The criticism that theoretical potentials have no practical use since they merely represent unattainable ceilings is valid if the problem is considered only from that standpoint. Granted that fact, they are, however, useful in an over-all approach to the problem. These limits should be

[3] Except for changes in the rain pattern which may be produced by inducing "artificial rainfall" (increase in moisture nuclei by such agents as silver iodide).

[4] The cost of hydroelectric power in a multi-purpose development must obviously be determined after a judicious distribution of investment among the several consumers. Similarly, in each specific case, the delay before the plant goes into operation and the foreign exchange investment are factors which must be borne in mind.

regarded as yardsticks against which to measure the actual progress achieved within a country or region in the utilization of potential. In practice, the same is true of the theoretical limit of thermo-dynamic efficiency (also unattainable) in the steam cycle. Moreover, the theoretical potential is the only one that can be evaluated directly and on an over-all basis for the whole of Latin America, since it is the only one for which basic information covering the whole region is available: precipitation and contour maps.

As the theoretical potential of each basin is more or less a constant and is not affected by the intervention of man, the results arrived at would be subject to subsequent modification only to the extent that the elements used were improved, i.e., more detailed contour maps (on a larger scale) and isohyetal lines of mean annual precipitation were drawn up on the basis of more extensive statistical series and included recent observations.

The operational procedure used was the following:

First, the "gross surface potential from precipitation" was calculated on the basis of the total annual amount of water fallen on each point, without regard for any loss. On the basis of that potential, *estimates of the economic potential* were made using coefficients obtaining in Europe and mean run-off coefficients for extensive areas generalizing from those established for a limited group of basins.[5]

The study by the Economic Commission for Europe, entitled "Hydroelectric potential in Europe and its gross, technical and economic limits" (E/ECE/EP/131) and published in 1953, indicates that the ratio between present economic potential and "gross surface run-off potential" for the eight European countries studied ranged from 0.17 to 0.20. Similarly, the paper by the Economic Commission for Asia and the Far East, entitled "Report of the working party on assessment of hydroelectric potential to the sub-committee on electric power" (E/CN.11/I & NR/Sub.1/2) and published in 1956, indicates that specific studies revealed that the ratio between present economic potential and "gross river potential" ranged approximately from 0.33 to 0.40.

[5] The mean run-off coefficient of a basin is the quotient of the volume of flow along the river draining the basin and the volume of precipitation falling on the basin, taking into account the figures for each year for which records are available.

Indirect estimates of economic potential include, therefore, elements which—unlike "gross surface run-off potential"—are partly subjective and open to an appreciable margin of error. However, for planning purposes and taken as a whole, these estimates have more coherence than a list drawn up on the basis of individual national estimates, which are extremely heterogeneous.

3. *Data used*

(a) *Topographical data*

The basic working map used was the one prepared by the United States Air Force for aeronautical purposes on a scale of 1: 1,000,000, since it had the most detailed altimetrical information covering the whole of Latin America (standardization of basic data).

The contour lines drawn on the charts were as follows: 500, 1,000, 2,000, 3,000, 5,000 7,000, 9,000, 12,000, 15,000 and 18,000 feet.

(b) *Hydro-meteorological data*

There was no single map for the whole region, showing mean annual isohyetal lines for one period, which was sufficiently large in size. This difficulty was partly overcome by using precipitation maps which were already available for each country and which—relating to recent periods—covered at least 15 years. In many cases the map used was the only one available.

It should be pointed out that, in Latin America, there are zones, some of them relatively extensive, in which precipitation is not measured; in such cases the corresponding isohyetal lines were extrapolated from those established for neighbouring regions, having due regard for topographical characteristics and meteorological conditions.

Consequently, modifications in a number of national rainfall maps are to be expected when measurements are taken in zones not previously covered and when the period of observations is standardized.

4. *Details of the calculation*

Isohyetal lines were drawn on the contour maps (1: 1,000,000) in order to have the mean annual precipitation and the elevation above sea level for each point on a single map.

The gross surface potential from precipitation, generally to sea level, for each basic area (that area enclosed by two successive isohyetal precipitation lines and two successive contours) in each basin was determined by applying the formula:

$$Ps = \frac{V \times H}{367}$$

assuming full utilization and a 100 per cent yield. *Ps* is that potential, expressed as an annual mean, in millions of kWh; *V* is the volume of the annual mean precipitation falling on the area in millions of cubic metres, and *H* is the average elevation of the area above sea level in metres. The potential for larger areas (basins, regions or countries) was obtained by adding together the individual values given by the formula. In the case of enclosed basins, which do not drain into the sea, the value of *H* was determined in relation to the lowest point in each basin. In the particular case of the Lake Titicaca-Lake Poopó basin (Peru and Bolivia), utilization of the potential down to sea level was also considered possible.

5. *Criteria adopted for the distribution of potential in international basins*

Among the international agreements in Latin America governing the utilization of waters belonging to more than one country are the 1933 Montevideo Declaration on the industrial and agricultural use and navigation of international rivers adopted by the VII Pan American Conference (24 December 1933) and a number of bilateral treaties drawn up to deal with specific cases.[6]

As potential is calculated by river basins and as the most convenient form of presentation was by countries, criteria had to be adopted for the distribution of resources in international basins.

The following standard and simplified criteria were adopted solely for purposes of the theoretical calculation, and are in no way binding on the United Nations with regard to specific sovereignty issues:

1. For countries in which an international basin (or the tributary of an international river) originates, the corresponding potential is no longer calculated with reference to sea level but with reference to the point at which the river crosses the frontier or at which, without leaving the country of origin, it constitutes the border between the two countries.

2. The potential of countries receiving a flow of water from an incoming river is defined as the flow between the two extremes of elevation of the river occurring within their own territory, plus the potential created by precipitation on their own territory.

3. When there is a change in elevation for the part of a river constituting a common boundary between two countries, the latter share equally in the potential, regardless of the water's source.[7]

6. *Gross surface potential from precipitation*

Although this is a wholly theoretical concept, it is a good general indicator of the distribution of the exploitable hydroelectric potential because it is calculated throughout Latin America with a high degree of uniformity and accuracy.

The results of the evaluation are given by countries in table 1. The regional total is 40,694 TWh, with a mean of 2.0 GWh per square kilometre and an allocation of 164 MWh per person.[8]

The distribution by countries shows that a large proportion of the total is concentrated in a few countries. Brazil alone accounts for 42.4 per cent (17,023 TWh), and with Colombia, Mexico, Peru and Venezuela added, the five represent 72.3 per cent (30,864 TWh) of the regional figure.

The mean density of hydroelectric potential by unit of area and by country is given in coulmn (4) of table 1. Costa Rica ranks highest with 5.0 GWh/km^2, followed by Guatemala, Ecuador, Panama and Venezuela with 4.5, 4.2, 3.8 and 3.7 GWh/km^2 respectively. They are all more than 80 per cent above the regional average. The density is lowest in Cuba and Paraguay (0.5 GWh/km^2).

The last column of the table indicates the mean *per capita* distribution of the gross potential which varies greatly in relation to the regional average of 164 MWh/*per capita*.

7. *Assessment of present economic potential in Latin America*

In order to estimate the "present economic potential" on the basis of the previous figure, it was necessary to make a number of assumptions.

As mean run-off coefficients have not yet been worked out for all the major river basins in the region, some generalizations and supposi-

[6] See ECLA, *Preliminary review of questions relating to the development of international river basins in Latin America* (E/CN.12/511).

[7] In the case of the River Courantyne the total potential was attributed to Surinam because the frontier with Guyana runs along the left bank.

[8] 1 MWh = 1,000 kWh;
1 GWh = 1,000,000 kWh;
1 TWh = 1,000,000,000 kWh.

Table 1

LATIN AMERICA: GROSS SURFACE ENERGY FROM PRECIPITATION[a]

Country	Population 1966 (thousands of persons) (1)	Area (1,000 km²) (2)	Gross surface energy		
			Total (TWh)[b] (3)	By km² (GWh/km²)[b] (4)	Per capita (MWh/per capita)[b] (5)
Argentina	23,380	2,777	2,340	0.8	100
Bolivia	4,234	1,099	1,640[c]	1.5	388
Brazil	83,670	8,512	17,020	2.0	204
Chile	8,771	742	1,570[d]	2.1	179
Colombia	18,298	1,138	3,850	3.4	210
Costa Rica	1,524	51	260	5.0	168
Cuba	7,675	115	60	0.5	8
Dominican Republic	3,715	49	90	1.8	24
Ecuador	5,199	284	1,200	4.2	231
El Salvador	3,008	21	50	2.6	18
French Guiana	36[e]	86	150	1.7	4,160
Guatemala	4,475	109	490	4.5	111
Guyana	647[f]	215	370	1.7	572
Haiti	4,751	28	50	1.8	10
Honduras	2,396	112	390	3.5	165
Jamaica	1,773[f]	11	30[g]	2.7	17
Mexico	44,174	1,973	3,420	1.7	77
Nicaragua	1,815	140	240	1.7	134
Panama	1,242	76	290	3.8	233
Paraguay	2,061	407	210	0.5	103
Peru	12,012	1,285	3,250[h]	2.5	271
Surinam	324[e]	143	260	1.8	793
Trinidad and Tobago	975[f]	5	13	2.6	13
Uruguay	2,677	187	110	0.6	40
Venezuela	9,030	912	3,330	3.6	368
Latin America	*247,862*	*20,477*	*40,694*	*2.0*	*164*

[a] Provisional figures.
[b] 1 MWh = 1,000 kWh;
1 GWh = 1,000,000 kWh;
1 TWh = 1,000,000,000 kWh.
[c] For the Lake Titicaca-River Desaguadero basin in relation to the mean level of Lake Coipasa. In relation to sea level, the figure is 2,044 TWh.
[d] From the River Copiapo southwards.
[e] 1964.
[f] 1965.
[g] Based on incomplete information.
[h] For the Lake Titicaca basin in relation to the mean level of the lake. In relation to sea level, the figure is 3,609 TWh.

tions had to be made for those on which no information of this kind was available. By applying these coefficients (determined by rule-of-thumb methods or estimated) it was possible to obtain the "gross surface run-off potential". The "present economic potential" could then be assessed from this figure by means of correlation coefficients drawn from the experience of certain European countries.[9]

Only two correlation coefficients were chosen on the basis of the same criterion. The coefficient adopted for water obtained from rainfall in one and the same country was 0.2, while that for water entering from another country in major international rivers was 0.35.[10] However, the latter coefficient was reduced to 0.3 for the tributaries of the Amazon basin that flow into Brazil, because the geomorphological characteristics (wide plains) are less suitable for energy production.

The results of the final calculation, which are somewhat open to challenge as regards the coeffi-

[9] Strictly speaking, this would be the potential when the economic and social development of the region reaches a level comparable to that of Europe in the fifties.

[10] The latter is actually the conversion of "gross river potential" to "economic potential".

cients used as a basis, can be found in table 2. In the first column, present economic potential is expressed in terms of mean annual energy in thousands of GWh, and in the second as the corresponding mean potential in GW, i.e., the second column is the result of dividing the figures in the first column by the number of hours in a year (8,760).

It is interesting to note that the European coefficients can be adapted quite successfully to Latin American conditions. In fact, in a few countries where hydroelectric resources have been studied for years on the basis of field work, the results are close to the calculations made in this paper.

In Chile, for instance, an inventory of the power plants in operation combined with a review of 187 possible power stations gives an estimated potential of 20.3 GW for the statistical mean flow[11] as against 22.5 GW in the present estimate for the same kind of flow.

In Uruguay an inventory covering, in addition to the two power stations operating on the river Negro, nine possible plants, including the relevant half of Salto Grande (Uruguay river),[12] indicates that there is an installable capacity of 1.0 GW with a mean annual potential of 0.7 GW[13] as against 0.85 in the present calculation. Lastly, the most recent direct estimates made in Mexico place the "economically installable" capacity at 15 GW.[14] With due regard for the plant utilization factor, this would signify a mean potential of about 8 GW in comparison with the present calculation of 11.1 GW.

It is not surprising that, in all three cases, the indirect estimate of potential should be greater than the direct estimate since an individual evaluation of each of the possible uses of hydroelectric energy is, in general, likely to have a smaller coverage than a comprehensive evalua-

[11] Empresa Nacional de Electricidad S.A. (ENDESA), *Plan de electrificación del país* (1956).

[12] International Argentine-Uruguayan projects.

[13] ECLA, *Los recursos hidráulicos del Uruguay* (in preparation).

[14] "Hydroelectric resources in Latin America: their measurement and utilization", op. cit.

Table 2

LATIN AMERICA: ESTIMATED PRESENT ECONOMIC POTENTIAL

Country	*Mean energy (10^3 GWh)*		*Mean potential (GW)*		*Mean potential per km²* (kW)		*Mean potential per capita* (kW)	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Argentina	96.0		10.9		4.0		0.47	
Bolivia	128.4	158.2	14.7	18.1	13.3	16.4	3.40	4.18
Brazil	900.5		102.7		12.2		1.24	
Chile	197.0		22.5		31.9		2.89	
Colombia	334.2		38.2		33.5		2.08	
Costa Rica	18.6		2.1		41.1		1.38	
Cuba	6.0		0.7		6.1		0.09	
Dominican Republic	7.0		0.8		16.3		0.22	
Ecuador	150.4		17.2		60.2		3.29	
El Salvador	3.8		0.4		20.5		0.14	
French Guiana	13.6		1.6		18.5		44.50	
Guatemala	38.4		4.4		40.3		0.99	
Guyana	40.8		4.7		21.8		7.27	
Haiti	3.8		0.4		15.4		0.09	
Honduras	30.8		3.5		31.3		1.46	
Jamaica	2.4		0.3		24.5		0.15	
Mexico	97.0		11.1		5.6		0.25	
Nicaragua	19.6		2.2		15.7		1.21	
Panama	21.2		2.4		31.6		2.12	
Paraguay	47.1		5.4		13.3		2.62	
Peru	286.8	313.4	32.7	35.7	25.5	27.8	2.73	2.98
Surinam	23.0		2.6		18.2		8.02	
Trinidad and Tobago	1.0		0.1		18.0		0.09	
Uruguay	7.5		0.9		4.9		0.34	
Venezuela	304.0		34.7		38.1		3.85	
Latin America	*2,778.9*	*2,835.3*	*317.2*	*323.6*	*15.5*	*15.8*	*1.28*	*1.31*

(*a*): The energy potential of the Titicaca basin was calculated in relation to the lowest level of the basin in the country concerned.

(*b*): The energy potential of the Titicaca basin was calculated in relation to sea level.

tion. The real economic potential of the whole region expressed in terms of mean potential is thus about 300 GW, of which Brazil accounts for roughly one third. Colombia, Venezuela and Peru follow in order of importance with 38, 35 and 33 GW respectively. In relation to their area, Ecuador, Costa Rica, Guatemala and Venezuela are the best endowed, with 60, 41, 40 and 38 kW/km² respectively in comparison with the regional average of about 16 kW/km². Argentina, Uruguay, Mexico and Cuba are the least favoured in this sense, with levels amounting to about a third of the average.

Lastly, French Guiana, Surinam and Guyana have a high mean potential in relation to the current population, mainly because of their low population density. The figure, which is around 1.3 kW/per person, is well above the regional average.

As empiric calculations of run-off coefficients are made for a larger number of river basins, and more knowledge of their hydroelectric potential is acquired by means of specific field studies, it will be possible to improve this method of indirect over-all evaluation based on these rudimentary elements of information, while progress is made in obtaining the basic data necessary for estimating the economic potential of whole countries and regions in a more realistic and direct fashion.

In order to show the volume of the hydroelectric resources calculated in this manner, table 3 lists the installed capacity of the hydro plants at the end of December 1965, their mean capacity estimated with a utilization factor of 0.5 and the ratio of this coefficient to the total amount of economic resources available. For Latin America as a whole this ratio is only 1.8 per cent, ranging from 0 for Cuba, Guyana, Haiti, Paraguay, Surinam, and Trinidad and Tobago to a maximum of 13.1 for Uruguay. It will be appreciated that the countries that have made the greatest relative use of their water power up to now are Uruguay, El Salvador and Mexico.

Table 3

LATIN AMERICA: UTILIZATION OF PRESENT ECONOMIC HYDROELECTRIC POTENTIAL

Country	*Capacity at end of 1965 (MW)*		*Present economic potential (MW)*	*Utilization of present economic potential (percentage)* $\frac{(2)}{(3)} \times 100$
	Installed	*Mean*		
	(1)	*(2)*	*(3)*	
Argentina	400	200	10,900	1.8
Bolivia	95	47	14,700	0.3
Brazil	5,391	2,695	102,700	2.6
Chile	710	355	22,500	1.6
Colombia	(850)	425	38,200	1.1
Costa Rica	105	52	2,100	2.5
Cuba	0	0	700	0.0
Dominican Republic	8	4	800	0.5
Ecuador	80	40	17,200	0.2
El Salvador	90	45	400	11.2
French Guiana	...	...	1,600	...
Guatemala	33	16	4,400	0.3
Guyana	0	0	4,700	0.0
Haiti	0	0	400	0.0
Honduras	32	16	3,500	0.5
Jamaica	...	...	300	...
Mexico	2,245	1,122	11,100	10.1
Nicaragua	51	25	2,200	1.1
Panama (including Canal Zone)	52	26	2,400	1.1
Paraguay	1	0	5,400	0.0
Peru	475	237	32,700	0.7
Surinam	0	0	2,600	0.0
Trinidad and Tobago	0	0	100	0.0
Uruguay	236	118	900	13.1
Venezuela	380	190	34,700	0.5
Latin America	*11,188*	*5,594*	*317,200*	*1.8*

SMALL-SCALE INDUSTRY IN THE DEVELOPMENT OF LATIN AMERICA*

I. Introduction

1. *General considerations*

A study of the industrialization of the developed countries shows clearly the dynamic contribution of small-scale industry to that process, how its characteristics and patterns have evolved and how it has adapted to a consolidated industrial system. In Latin America, however, its development has taken place under the stress of very different factors, such as shortage of capital, slow economic growth, unstable political and social conditions, the exclusion of large population masses from the monetary market altogether and the existence of a cottage industry sector engaged primarily in the production of simple goods by rudimentary techniques.

At the Latin American countries' present stage of industrial development, small-scale enterprise is concerned with what are known as the traditional industries, and co-exists with large-scale industry on what usually amounts to a directly competitive basis. In some cases, however, it carries out work that is either very specialized or on too small a scale to interest the medium- or large-scale enterprise.

Every industrialization policy should take into account the important social function of small-scale industry, namely, the drawing of large labour contingents into the production process. It has a particularly effective contribution to make in such activities as food processing, the production of certain types of textiles and wearing apparel and the manufacture of furniture, in which it can achieve a satisfactory level of efficiency with little capital. For instance, in the textile industry in Latin America small mills of low technological levels exist side by side and in competition with large-scale modern establishments.

On the other hand, small-scale industry in Latin America has been assured of a complementary role to large-scale industry by the system of sub-contracting. It is already performing this function in the more industrialized countries of the region such as Brazil and Mexico, where great progress in this respect has been made in the motor-vehicle industry.

Government concern over small-scale industry has so far resulted only in scattered assistance efforts, showing on the whole a traditional and fragmentary approach to the problem. In most of the countries, action has been taken in respect of credit, through financial entities or mechanisms; in others, short training courses at different levels have been instituted; and in a few, technical assistance services have been provided. This assistance has been on the whole insufficient and its results have not been proportionate to government efforts and expenditure in favour of small-scale industry.

2. *The concept of small-scale industry*

There is no definition of the concept of small-scale industry common to the different countries, either in the censuses, when this sector is distinguished, or in the programmes designed to promote it. Some of these programmes have emphasized the promotion of cottage industries and small factories; others have excluded the former and extended the definition to medium-scale industry; while some Governments have concentrated their efforts on the development of the artistic cottage industries, as a complement to their tourism plans.

In defining small-scale industry most of the Latin American countries have used as their criteria the number of persons employed per establishment and the capital of the enterprise, and occasionally the value of its sales (see table 1).

The heterogeneity of these criteria is due in part to the fact that the concept of small-scale industry is defined in accordance with the gen-

* Document ST/ECLA/Conf.25/L.17, prepared by the ECLA secretariat and presented at the Seminar on *Small-Scale Industry in Latin America* (Quito, Ecuador, 28 November-5 December 1966).

Table 1

LATIN AMERICA: DEFINITION OF SMALL-SCALE INDUSTRY IN THE PROGRAMMES OF SELECTED COUNTRIES

Country	*Number of persons employed*	*Capital of enterprises (dollars)*	*Annual value of sales (dollars)*	*Concept*	*Agency applying it*	*Year*
Argentina	10 workers or less	—	—	Small-scale enterprise	Industrial censuses	1965
	Not more than 15 workers	Not more than 20,000[a]	Less than 60,000[b]	Small-scale enterprise	Industrial Bank	
Brazil	—	Not more than 3,600,000[c]	—	Small- and medium-scale	Banco Nacional do Desenvolvimento Econômico	1966
Chile	Between 10 and 15	Between 7,900 and 39,300 (fixed investment)	Between 15,700 and 157,000[d] —	Small-scale enterprise	Technical Co-operation Service	1966
	Between 1 and 10	Up to 7,900		Artisan activity	Technical Co-operation Service	1966
Colombia	10 or over	31,250[e]	— —	Small-scale factory	Banco Popular	1966
	Less than 100	Between 31,250 and 125,000[f]		Medium-scale factory	Banco Popular	1966
Ecuador	—	11,000[g]	—	Small-scale industry	Legislation	1965
Mexico	—	Between 2,000 and 1,200,000 for the Federal District and between 4,000 and 1,200,000 for Monterrey[h]	—	Small- and medium-scale industry	Nacional Financiera S.A.	1965
Venezuela	Between 5 and 20	—	—	Small-scale industry	CORDIPLAN (Industrial Survey)	1962
	—	Not more than 22,000	—	Small-scale industry	National Committee for the Financing of Small- and Medium-Scale Industry	1965
		Between 22,000 and 220,000	—	Medium-scale industry		
Paraguay	Between 5 and 49	—	—	Small-scale industry	Ministry of Industry and Trade	1966
	Between 50 and 59	—	—	Medium-scale industry		

Table 1 (*conclusion*)

LATIN AMERICA: DEFINITION OF SMALL-SCALE INDUSTRY IN THE PROGRAMME OF *SELECTED COUNTRIES*

Country	*Number of persons employed*	*Capital of enterprises (dollars)*	*Annual value of sales (dollars)*	*Concept*	*Agency applying it*	*Year*
Uruguay	Between 5 and 49[i]	—	—	Small-scale industry	Comisión de Inversiones y Desarrollo Económico (CIDE)	1966
Central America	Between 5 and 14	—	—	Small-scale industry	Definition adopted by SIECA	1962

[a] 3.5 million Argentine pesos (1965), taking the exchange rate as 171.50 pesos to the dollar.
[b] 10 million Argentine pesos (1965).
[c] Value of immovable fixed assets. This represents 8,000 million cruzeiros and could in special cases cover enterprises capitalized at 12,000 million cruzeiros (5.5 million dollars). The exchange rate has been taken as 2,200 cruzeiros to the dollar, which was the rate in 1966.
[d] The figures given are the equivalent in dollars of the annual statutory minimum wage in the Department of Santiago, which was 3,141 escudos in 1966, or 785 dollars at the average free bank exchange rate of that year of 4.00 escudos to the dollar.
[e] 500,000 Colombian pesos, at the exchange rate of 16 Colombian pesos to the dollar.
[f] Between 500,000 and 2 million Colombian pesos.
[g] Value of fixed assets excluding land and buildings, 200,000 sucres, at the exchange rate of 18.18 sucres to the dollar.
[h] In Mexican currency: 25,000 pesos if the industry operates in the provinces and 50,000 pesos if it operates in the industrial zones of the Federal District and Monterrey; in neither case may the accounting capital exceed 15 million pesos, taking the exchange rate as 12.49 pesos to the dollar.
[i] Provisional classification.

eral conditions of the country concerned. Thus, industries considered as small-scale in highly developed countries with large markets may seem to be medium- or even large-scale industries in small countries at a low level of development. In the United States, for example, this term is applied to industries employing fewer than 250 persons; in Japan, where it has been given special attention, to those employing fewer than 300 persons and having a capital of up to 28,000 dollars; in India, where it has again been given great importance, to those employing up to 50 persons in establishments equipped with power for mechanization and up to 100 persons in those without such power, whose fixed assets do not exceed 100,000 dollars. On the other hand, in Trinidad and Tobago, a country with a much smaller population, industries employing 25 persons or more are regarded as large-scale industry.

Any attempt to define the concept of small-scale industry in Latin America is hampered by the shortage of statistical information obtainable from industrial censuses. To overcome this difficulty the technical agencies of the sector and the statistics offices must make national and sectoral surveys and include in the industrial censuses questions relating to small-scale industry. Once the quantitative significance of this stratum of industry is known for each country, it will be easier to establish the criteria for its development.

Nevertheless, for the purposes of appraising the stratum for Latin America as a whole, one may assume a certain uniformity in the concept of small-scale industry, since its situation in the economies of the different countries is in many respects similar and the obstacles to its transformation and development usually derive from the same causes. Consequently, for purposes of this study, small-scale industry will be defined as industrial units employing between 5 and 49 persons. In addition, the analysis of the problems of the stratum will concentrate on the small-scale industry of the modern type, which either has prospects of growing and turning into a medium-scale industry or which is likely to continue to be small-scale on account

of its structural characteristics, as in the case of enterprises working on sub-contracts and those performing very specialized work. The problems of the cottage industry sector will consequently not be analysed here, but will have a special study devoted to them at a later date.

3. *Small-scale industry's contribution to employment and to the industrial product*

Before analysing the problems of small-scale industry and the nature of its production programmes, it is worth examining certain statistics which show its position in industry as a whole. According to the latest censuses made in some of the Latin American countries, the great majority of factory establishments belong to the lower strata, while medium- and large-scale industry is concentrated in a small proportion of the total (see table 2 and figures I to IV). On the other hand, employment, value added and motor power are concentrated in the highest stratum (100 or more persons employed), a situation which is the more extreme in the countries of largest population and highest degree of development. In a few countries, however, the percentage of persons employed by small-scale industry is quite considerable.

The contribution of small-scale industry to total employment and the total industrial product could be calculated for Latin America as a whole on the basis of census information and the fragmentary data available for the other countries. For the purposes of the analysis the countries of the region[1] were divided into three groups according to their population and degree of relative development. Group I consists of Argentina, Brazil and Mexico, which account for 80 per cent of the total value added by industry; group II comprises Chile, Colombia, Peru, Uruguay and Venezuela, which have all reached a moderate degree of industrialization and together account for 16 per cent of the value added, and group III, the five Central American countries, Bolivia, Ecuador, Haiti, Panama and Paraguay, which contribute somewhat less than 4 per cent of the value added.

In the total of manufacturing employment in Latin America—amounting to over 9 million persons in 1960—cottage industry represented 48 per cent and factory employment 52 per cent.[2] In the latter the stratum employing 5 to 49 persons represented 31 per cent (1,535,000) or 16 per cent of total industrial employment.

The relative importance of small-scale industry as an instrument of labour absorption varied. In

[1] Cuba and the Dominican Republic have not been included owing to absence of information on those countries.

[2] See statistical annex, table G.

Table 2

LATIN AMERICA AND THE UNITED STATES: CHARACTERISTICS OF ESTABLISHMENTS EMPLOYING 5 TO 49 PERSONS, ACCORDING TO THE CENSUSES

	Brazil (1960)	*Central America (1962)*	*Chile (1957)*	*Colombia (1960)*	*Paraguay (1963)*	*Venezuela (1961)*	*United States (1964)*
Number of establishments	37,280.0	4,992.0	5,099.0	6,298.0	1,434.0	7,165.0	132,182.0
Persons employed	466,118.0	70,300.0	63,073.0	83,175.0	13,874.0	86,821.0	2,297,319.0
Value added[a]	119,507.0	100.9	63,483.0	855.8	1,653.0	1,316.0	14,004.0
Installed power (HP)	1,039,484.0	...	132,316.0	135,665.0	22,474.0	180,644.0	8,677,000.0
Persons employed per establishment	12.5	14.1	12.4	13.2	9.7	12.1	17.4
HP per establishment	27.9	...	25.9	21.5	15.7	25.2	65.6
Value added per person employed[b]	256.4	1,435.0	1,007.0	10,289.0	119.1	15,157.0	6,096.0
HP per person employed	2.2	...	2.1	1.6	1.6	2.1	3.8

SOURCE: see statistical annex.

[a] In millions of the monetary units of each country, except for Central America, for which it is in millions of dollars, and Chile, for which it is in thousands of escudos.

[b] In monetary units of each country, except for Brazil, for which it is in thousands of cruzeiros per person, Central America, for which it is in dollars per person, and Paraguay, for which it is in thousands of guaraníes per person.

Figure I

LATIN AMERICA: NUMBER OF INDUSTRIAL ESTABLISHMENTS IN MANUFACTURING, BY LABOUR FORCE EMPLOYED

(Percentage of total number of manufacturing establishments)

Natural scale

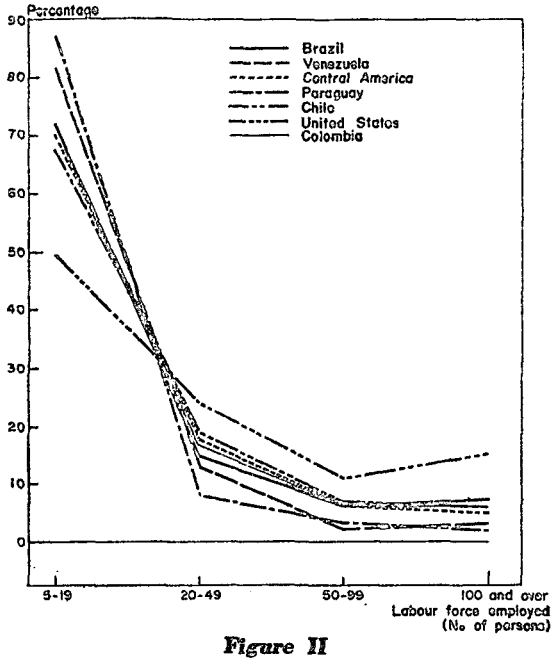


Figure II

LATIN AMERICA: LABOUR FORCE EMPLOYED IN MANUFACTURING, BY SIZE OF ESTABLISHMENTS

(Percentage of total labour force in manufacturing)

Natural scale

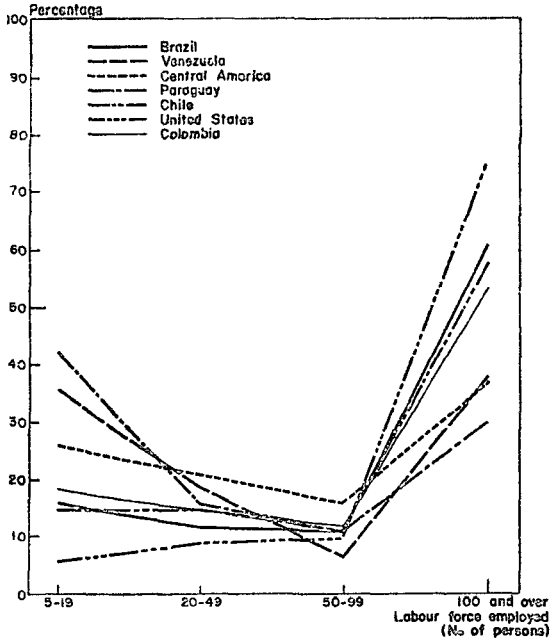


Figure III

LATIN AMERICA: VALUE ADDED IN MANUFACTURING, BY SIZE OF ESTABLISHMENTS

(Percentage of total value added in manufacturing)

Natural scale

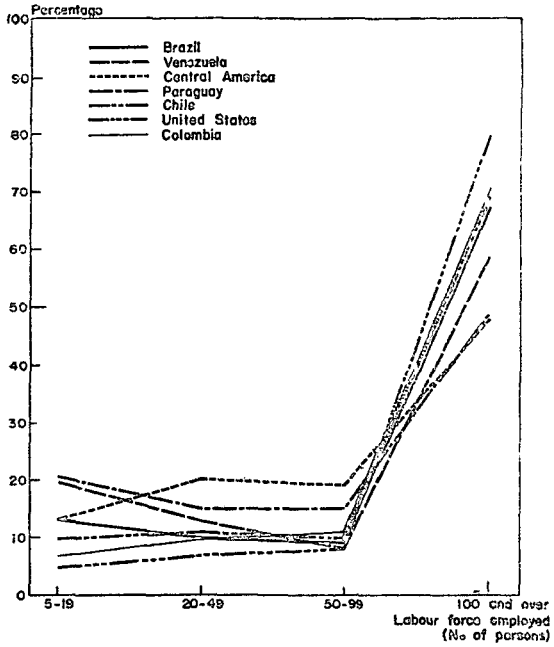
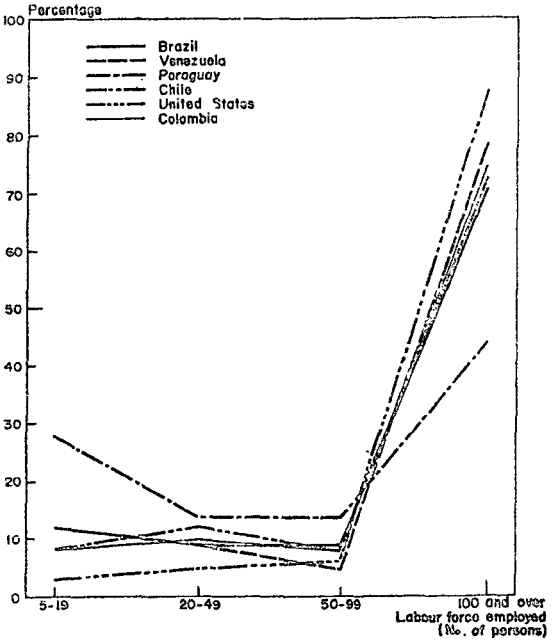


Figure IV

LATIN AMERICA: INSTALLED POWER IN MANUFACTURING, BY SIZE OF ESTABLISHMENTS

(Percentage of total power in manufacturing)

Natural scale



group III it absorbed 50 per cent of factory employment or 13 per cent of total manufacturing employment, in group II 38 and 18 per cent respectively, and in group III, which comprises the largest and most developed countries, 28 and 17 per cent respectively.

The importance of small-scale industry in employment thus diminished within the factory stratum as a result of the expansion of large-scale industry, but increased within total manufacturing employment (13 to 17 or 18 per cent), while that of the cottage industry sector declined in that total (from 75 to 51 and 41 per cent). If these three groups are regarded as successive historical stages, small-scale industry would appear to play a dynamic part in manpower absorption in Latin America.

Small-scale industry's contribution to the region's industrial product is not as significant, but is by no means negligible. Of the total manufacturing product of over 21,000 million dollars in 1960, 26 per cent was produced by cottage industry and 74 per cent by factory industry. Small-scale industry provided about 21 per cent of the factory product (about 3,340 million dollars), or 16 per cent of the total manufacturing product.

The importance of small-scale industry varied according to the level of development of each country. In the relatively less developed countries, it represented 34 per cent of the factory product and 20 per cent of the total manufacturing product; in group II these percentages fell to 24 and 17 per cent respectively, and in the most developed countries to 20 and 16 per cent.

Table 3 summarizes these estimates of small-scale industry's contribution to employment and the product.

Although small-scale industry's contribution to the product diminishes as the level of development rises, it is in every case of considerable importance. Even in the United States, with its advanced industrial development and a population almost equal to that of the whole of Latin America, the stratum of 5 to 49 persons employed represents 12 per cent of the factory product.[3]

The contribution to the factory product of the stratum of 50 to 99 persons—which may be taken as medium-scale industry in Latin America—also diminishes: from 18 per cent in group III to 10 per cent in group II and to 9 per cent in group I. As against this percentage diminution of small- and medium-scale industry, there is a relative increase in the contribution of the stratum of establishments employing 100 or more persons: from 48 per cent in group III to 66 per cent in group II and to 71 per cent in group I.

It can therefore be assumed that as the Latin American countries develop as a result of the expansion of their markets through regional integration or simply through population growth, the relative contributions of the different industrial strata will follow these trends. If this is so, in the next few years small-scale industry will come to play an important part in the generation of the product and, above all, in the absorption of manpower.

Manpower productivity in small-scale industry, measured in terms of value added per person employed, amounts to approximately 2,170 dollars per person, a figure much higher than that of cottage industry (1,220 dollars per person) and very similar to that of medium-scale industry (2,500 dollars per person). Large-scale industry, however, shows a much higher productivity of 3,940 dollars per person (see table 4).

The figures also show—making all necessary reservations concerning their validity—that there are considerable differences between groups of countries of different levels of development and population. The productivity of small-scale industry in group III (1,160 dollars per person on average) and group II (1,460 dollars per person) is much lower than in group I (2,580 dollars per person). Similar differences of lesser magnitude can be observed with regard to installed power per person employed: 1.8 HP in group III, 1.9 HP in group II and 2.3 HP in group I.

Table 3

LATIN AMERICA: CONTRIBUTION OF SMALL-SCALE INDUSTRY TO EMPLOYMENT AND PRODUCT OF FACTORY INDUSTRY AND MANUFACTURING INDUSTRY AS A WHOLE, 1960

(Percentages)

	Employment		*Product*	
	Factory	*Manufacturing*	*Factory*	*Manufacturing*
Group I	28.3	16.6	20.4	15.5
Group II	38.4	17.6	23.8	16.8
Group III ..	50.1	12.7	34.3	20.5
Total	*31.5*	*16.4*	*21.4*	*15.9*

[3] These estimates may be affected by the imprecision of the census data on which they are based, particularly with regard to cottage industry, but the orders of magnitude given may be taken as reasonable approximations (see the relevant tables in the Statistical Annex for the methodological explanation).

Table 4

LATIN AMERICA: CHARACTERISTICS OF THE MANUFACTURING STRATA, BY GROUPS OF COUNTRIES, 1960[a]

Groups of countries	Cottage industry	Factory strata					Manufacturing total
		5 to 19 persons	20 to 49 persons	50 to 99 persons	100 or more persons	Subtotal	
		A. *Employment (thousands of persons)*					
I	2,528	575	442	426	2,155	3,598	6,126
II	1,210	229	164	110	518	1,021	2,231
III	738	77	48	37	87	249	987
Sum	*4,476*	*881*	*654*	*573*	*2,760*	*4,868*	*9,344*
		B. *Value added (equivalent in millions of dollars)*					
I	4,157	1,376	1,248	1,120	9,079	12,823	16,980
II	996	303	269	234	1,590	2,396	3,392
III	282	66	79	75	205	425	707
Sum	*5,435*	*1,745*	*1,596*	*1,429*	*10,874*	*15,644*	*21,079*
		C. *Value added per person employed (dollars per person)*					
I		1,640	2,580	2,630	4,200	3,570	2,760
II		820	1,460	2,130	3,070	2,330	1,520
III		380	1,160	2,030	2,350	1,700	720
Average		*1,220*	*2,170*	*2,500*	*3,940*	*3,220*	*2,250*
		D. *Installed power per person employed (HP per person)*					
I		2.4	2.3	2.5	3.3		
II		1.2	1.9	2.0	4.0		
III		0.8	1.8	2.7	3.3		

SOURCE: see statistical annex.

[a] Group I comprises Argentina, Brazil and Mexico; group II Chile, Colombia, Peru, Uruguay and Venezuela; group III the five Central American countries: Bolivia, Ecuador, Haiti, Panama and Paraguay.

4. *The structure of small-scale industry by major groups*

To complete the analysis it is worth examining the situation of small-scale industry—as far as this can be gathered from the census results of a few countries—in respect of major groups of industrial products.[4]

Small-scale industry's contribution to total factory employment and value added is considerable in almost all major groups in the less developed countries, but smaller in the most developed countries. Only in certain major groups (20—food; 24—wearing apparel and footwear; 25—wood and cork; 26—furniture and fixtures; 28—printing, publishing and allied industries; 33—non-metallic minerals; 35—metal products) does it retain its importance in all countries (see table 5 and statistical annex, table G).

[4] The censuses analysed are for Chile, Colombia, Paraguay and Venezuela, with the United States added as a reference. The major groups mentioned are those given in the *International Standard Industrial Classification of all Economic Activities.*

When comparing the major groups, it also appears that in almost all the countries the major groups, i.e., 20—food; 24—wearing apparel and footwear; 25—furniture and fixtures; 28—printing, publishing and allied industries; 31—chemical products; 33—non-metallic minerals; and 38—transport material, account for the greater part of total employment (60 to 78 per cent) and value added (59 to 72 per cent) of the small-scale industry in each country (see table 6). At the other end of the scale group 22—tobacco; 23—textiles; 27—pulp and paper; 30—rubber; 32—petroleum products; and 34—basic metals, account for a very small proportion of these totals (3 to 14 per cent for employment and 7 to 12 per cent for value added). Small-scale industry's contributions in the other major groups (21—beverages; 29—leather and hides; 36—machinery; 37—electrical equipment; and 39—miscellaneous) is of varying importance, without any perceptible regularity.

The question whether the major groups of the first category have characteristics particularly favourable for small-scale production, while those

Table 5

CONTRIBUTION OF SMALL-SCALE INDUSTRY TO THE FACTORY VALUE ADDED IN SELECTED COUNTRIES BY MAJOR GROUPS OF PRODUCTS

(Percentages of the factory value added in each major group)

Major group	Paraguay 1963	Venezuela 1961	Colombia 1960	Chile 1957	United States 1954
20. Food	32	36	36	35	18
21. Beverages	29	11	6	20	
22. Tobacco	5	2	2	...	1
23. Textiles	10	14	6	15	8
24. Wearing apparel and footwear	93	80	40	31	32
25. Wood and cork	91	98	49	38	35
26. Furniture and fixtures	100	86	56	31	23
27. Pulp and paper	100	8	15	11	6
28. Printing, publishing and allied industries	34	54	33	23	23
29. Leather and hides	66	60	23	45	11
30. Rubber	100	11	6	9	4
31. Chemical products	31	41	19	22	10
32. Petroleum products	—	1	8	...	5
33. Non-metallic minerals	66	27	21	13	14
34. Basic metals	100	13	2	3	4
35. Metal products	100	34	33	23	18
36. Machinery	63	82	40	31	12
37. Electrical equipment	46	87	24	17	4
38. Transport equipment	75	78	34	38	2
39. Miscellaneous	70	82	33	43	13
Total	*36*	*33*	*19*	*21*	*12*

SOURCE: industrial censuses and surveys.

of the second are only suitable for larger scales, or whether this difference is merely the result of a historical process that in the latter case still gives rise to certain characteristics that may later be eliminated, can only be settled by a more thorough analysis.

It would be particularly useful to study the cases in which small-scale industry's contribution to employment and to value added tends to remain stable or grow as the level of development of the country rises. This would seem to be the case in major groups 28—printing and publishing; 35—metal products; and 36—machinery. It would be equally interesting to study why major groups 26—furniture and fixtures; and 38—miscellaneous, have a special importance in the countries at a less advanced stage of development and decline sharply in importance in the more developed countries.

Analysis of data on installed power per person employed shows that, in the last five major groups, mechanization is not a decisive factor, for in all the countries it remains in these groups at relatively low levels and only grows very slowly with advancing development in a few countries.

Differences in productivity in different strata (in terms of value added per person employed) indicate similar trends in various groups in different countries. Thus, productivity can generally be observed to increase with the stratum size. While this may be considered normal in most major groups, it is especially remarkable in 21—beverages; and 22—tobacco, possibly as a result of the monopolistic character which production usually assumes and also in 27—pulp and paper; 31—chemical products; 33—non-metallic minerals; and 34—basic metals.

It is, however, interesting to note that in certain major groups productivity remains the same, and in some cases even diminishes, as stratum size increases. This is so in the major groups 23—textiles; 24—wearing apparel and footwear; 25—wood and cork; 26—furniture and fixtures; 29—leather and hides; and 38—transport equipment. Even in the United States productivity in major groups 23 and 24 diminishes from 5,700 dollars per person employed in

Table 6

COMPOSITION OF THE VALUE ADDED BY SMALL-SCALE INDUSTRY IN SELECTED COUNTRIES, BY MAJOR GROUPS

(Percentages of the value added by small-scale industry in each country)

Major group	Paraguay 1963	Venezuela 1961	Colombia 1960	Chile 1957	United States 1956
20. Food	31	18	27	30	17
21. Beverages	6	4	5	4	
22. Tobacco	1	—	1	—	—
23. Textiles	4	3	5	9	3
24. Wearing apparel and footwear	5	18	10	11	12
25. Wood and cork	7	3	2	6	7
26. Furniture and fixtures	3	8	2	2	3
27. Pulp and paper	—	—	2	1	2
28. Printing, publishing and allied industries	3	5	5	4	10
29. Leather and hides	2	2	2	3	1
30. Rubber	—	1	1	1	1
31. Chemical products	11	9	10	8	7
32. Petroleum products	—	—	1	—	1
33. Non-metallic minerals	7	5	6	3	4
34. Basic metals	—	—	—	1	2
35. Metal products	4	3	6	4	9
36. Machinery	4	—	2	3	11
37. Electrical equipment	1	4	3	1	2
38. Transport equipment	8	13	5	4	2
39. Miscellaneous	2	2	4	3	6
Total	*100*	*100*	*100*	*100*	*100*

SOURCE: industrial censuses and surveys.

the stratum of 5 to 29 persons employed to a little over 4,000 dollars in that of 50 or more persons employed.

These trends go to show that there are certain major groups in which small-scale industry can continue to represent a very productive alternative to large-scale industry even at the highest levels of industrial development.

These observations are intended only to stress the importance of giving more extensive consideration to the characteristics of small-scale industry in the different branches. This type of analysis might provide guidance in the choice of future lines of development by identifying major groups or branches of industry where the sector could make significant contributions to the product and to employment without large inputs of capital. A more meticulous study, extending to the level of branches of industry and even of particular products, would probably reveal more clearly what is merely sketched in here in a very preliminary way.

5. *Difficulties confronting small-scale industry*

It may be said, generally speaking, that small-scale industry coexists with medium- and large-scale industry in most of the Latin American countries, which would seem to indicate that it has certain advantages precisely on account of its size. Nevertheless, its development has been held up by certain factors which, while constituting major difficulties for the whole industrial sector, are particularly acute for industries whose defence mechanisms are as flimsy as those of this stratum.

From the point of view of the individual enterprise these factors may be divided into those which are external and those which belong to its own internal operations.

(a) *External factors*

Among the most important of these are those deriving from the characteristics of the Latin American markets, which are largely composed of populations with low purchasing power and are plentifully supplied with imported products, in some cases under the protection of incentives granted to trading activity.

There are also external factors connected with production, such as the shortage of capital resources for buying machinery and equipment suitable for modern techniques, that weigh es-

pecially heavily on small-scale factory establishments, which are necessarily labour-intensive even in processes where it is not economically advantageous. The special difficulties confronting small-scale industries in buying raw materials may also be mentioned: since they require a relatively small volume they represent a rather unattractive prospect for the suppliers, who oblige them to pay higher prices in cash or at very short terms with high interest rates.

A further major difficulty arises in connexion with the availability of trained manpower. In all but a few cases small-scale industries are unable to offer wage levels as high as the rest of the factory sector, with the result that it is against the trained worker's interest to enter this type of activity. The majority of persons working in these industries, which in most Latin American countries are concentrated around the great cities, use the small-scale establishment or workshop as a training-ground in which to acquire the skills that will qualify them for better paid jobs in larger establishments, where, moreover, they will receive social security benefits, which are only rarely available in the small-scale sector. Most of the labour force available in the urban areas consists of the large masses of active population displaced from the rural areas and attracted by the prospects of work created by the rapid process of urbanization in the Latin American countries. In the rural areas themselves small-scale industry is free of these manpower difficulties, particularly manpower mobility, because the labour displaced from farming finds the local industrial wage better than that of the agricultural worker and has no prospects within the area of working in larger industries.

Marketing is another important area in which small-scale industry is in an unfavourable position with respect to the rest of the industrial sector. Market conditions and the nature of the sales channels discourage small-scale industrialists from analysing the trends of the market for which they produce and from trying to open up new markets. This discouragement is due to their almost total dependence on intermediaries, who market their products and to whose orders they have to adjust their production. These intermediaries often make bids only if they can derive advantages from obtaining a timely supply and if they are guaranteed exclusive distribution. They do not pay for the merchandise they receive at the time of the transaction and the periods allowed for them to do so, however short, are financially damaging to the small-scale industrialist. The small-scale establishment rarely possesses exhibition or sales rooms for its products or the means of selling them in areas distant from its place of operations and still less, in international markets.

A further external difficulty, though one which partly arises from the characteristics of small-scale *entrepreneurs* themselves, is the lack of connexion between small-scale industrial producers. Having no trade-union organization to keep them together, their bargaining power is weak, which prevents them from obtaining any large proportion of available financial resources, for example, or from taking common action in such vital matters as raw material supplies, marketing and formulation of policy.

(b) *Internal factors*

A number of obstacles to the development of small-scale enterprises derive from factors inherent in the enterprises themselves or are the consequences of their type of management and of the technological organization of their productive processes.

It appears that most small-scale *entrepreneurs* have acquired the training needed for their directorial functions empirically, in the day-to-day management of their establishments. Very often the small-scale *entrepreneur* has set himself up in his factory without any experience but good training as an operative in large-scale industry or a certain entrepreneurial skill developed in purely commercial activities. As a productive economic unit any small-scale industry is bound to be confronted with problems connected with market research and evaluation, product design and quality, decisions on the most suitable equipment for its technological process, etc. The small-scale *entrepreneur's* directorial functions hence comprise three basic aspects: the economic, administrative and technical, and as this threefold ability rarely exists, the small-scale enterprise necessarily requires for its normal development professional personnel who can complement the entrepreneurial aspect of the work where necessary. But regardless of his background and training the small-scale *entrepreneur* personally organizes the establishment's operations and usually does not distribute responsibility among the operatives themselves or delegate his authority, even where this is necessary to ensure the normal functioning of his factory or workshop.

In view of the difficulties of production on a small scale and the high costs of investment in infra-structural works, the buildings and installa-

tions of small-scale industries are far from what they might be. Their structure is not devised in accordance with any functional criterion and their energy and water supplies are inadequate; their working areas are not properly lit and their sanitary installations do not conform to the standards established by law. Most of their installations have been made in old buildings designed for other purposes, as a result of which the factory has a poor layout that generally affects its operations and lowers its productivity. Many of these buildings are only rented, putting the *entrepreneur* in a position of uncertainty with regard to the future, which tends to discourage him from undertaking plans for expansion.

In addition to these factors there are a number of problems connected with the actual process of production. While these should ultimately be studied in respect of each different major group of industries, taking into account all the complexity and diversity of the techniques and methods involved, the partial data at present available do reveal certain problems that are common to most of the small-scale sector. Chief among these in the fact that the manufacturing process is carried out under traditional methods with poor use being made of equipment capacity. The technology chosen or adapted from the different alternatives for making the product is usually not the most suitable for the conditions of the enterprise and of the country in which it operates. Again, small-scale enterprises usually do not keep quantitative records of production costs which would enable them to plan and control their production. They also do not possess the means for adapting their productive processes at any given moment to partial changes in the form or composition of their products. The small-scale industrialist frequently confines himself to traditional forms of production from simple ignorance of his own opportunities and usually lacks the guidance which he needs in order to introduce the changes required by industrial evolution.

So far no definite decision seems to have been taken to seek solutions to these problems, which so seriously limit the development prospects of small-scale industry. Within the body of measures, laws, organizations and official agencies that determine industrial policy in Latin America there are hardly any specifically concerned with assistance and guidance for the development of this sector. Government action in this connexion has generally been undertaken in a very incomplete fashion through programmes of limited scope, and in very few cases have the agencies employed sufficient legal powers and authority to act on a national scale in aid of the sector as a whole despite its importance in the industrial structure of Latin America.

Government industrial policy on small-scale industry has not corresponded to the sector's needs. Its peculiarities, as well as the environment in which it is developing, demand special treatment based on fiscal mechanisms that will help it to show a good economic output while enabling it to maintain its role as a socially beneficial factor. This is not to say that policy for industry in general should be revised or replaced merely to benefit small-scale industry, that the latter should complement the former and that the disadvantages which a broad stratum of industry suffers on account of its characteristic size should be neutralized. In the following section an account will be given of the information compiled concerning the measures taken in this connexion in the different countries including the programmes already under way and the future projects established by the Governments, many of which recognize the need to assign to small-scale industry a dynamic role in the industrial sector.

II. Latin American experience in the development of small-scale industry

1. *Development planning*

(a) *The integration of the small-scale enterprises into national plans*

In the last few years the Latin American countries have made considerable progress in development planning. But though most of them have prepared medium- and long-term general industrial development plans framed in over-all models, hardly any of these have given special treatment to small-scale industry. Figures on cottage industry—usually very rough estimates obtained by deduction from census information —are nearly always included, but no special mention is made of small-scale industry. The policy measures suggested to achieve the targets established in these plans refer to manufacturing industry as a whole and only as an exception

are provisions made for artisan activity or small-scale industry.

Action to increase employment and assist small-scale industry to overcome the problems arising from its size and its low productivity would have to include programmes in aid of small-scale and cottage industry and provisions for carrying them out in industrial plans.

In *Ecuador* something has been done in this direction. Its development programme for manufacturing industry envisages the transformation of cottage operations into factory forms of production, converting those which offer the best prospects into small-scale industries and creating new industries to complement them.

In Ecuador there are a number of cottage industries with small prospects of development which will have to be replaced by more modern forms of production, especially in the manufacture of articles of common use that can be produced more cheaply by factory industry. Cottage industry's present ability to compete with the factory strata depends on its very low wages, a situation which it is not desirable to continue.

The transformation of the structure of the industrial sector is reflected in the plan in the different growth rates assumed. In 1964-73 factory industry is expected to grow at a rate of 10.5 per cent a year and its production to increase by 147 per cent, while cottage industry is to grow at only 5.4 per cent a year, with a production increase of 61 per cent. However, attention has been paid to the need to provide the opportunities and incentives necessary for cottage industry to adapt to the new forms desired.

(b) *Regional programmes*

The location of small-scale industry may be of enormous importance for developing countries and constitute an efficient means of carrying out a policy of industrial decentralization; but it must be remembered that vast areas in the Latin American countries lack the economic and social infrastructure which would make them suitable for promoting the establishment of small-scale industries.

A policy of developing small-scale industries in the most backward regions would have the advantages of requiring less capital resources, creating sources of employment capable of absorbing the labour force displaced from agricultural work, promoting better use of natural and economic resources and producing a type of industry better suited to market sizes.

In *Peru* the departmental development corporations have established promotion and assistance measures in their programmes, including industrialization plans, for small-scale industry. In December 1961 the Corporation for the Development and Social and Economic Promotion of Puno was set up for improving the standard of living in that department. In carrying out its plans it is being assisted by international organizations and the Industrial Bank of Peru. Another corporation of this type that has established an assistance programme for small-scale industry is the Arequipa Rehabilitation and Development Board, which has granted loans on a small scale to cottage industries and small-scale industrialists of the department. Arequipa and Tacna both have programmes for the promotion of industrial development groups and the Economic Rehabilitation and Development Corporation of the Department of Moquegua is specifically concerned with the promotion of small-scale industry.

In *Ecuador* the regional industrial development plans include a series of measures for promoting the installation of small-scale industrial plants, supported by specific projects. The relevant plans are for the provinces of Azuay and Cañar, Martú, Corchi, Imbabura and Esmeraldas.

In *Chile* the Technical Co-operation Service has set up regional programmes for the north of the country and for the province of Magallanes in the extreme south. In both cases the installation of new industrial enterprises is being studied. Thirty-three industrial projects have been or are being studied for the north and the preparation of 12 projects for Magallanes has recently begun.

(c) *Industrial estates*[5]

Industrial estates for the establishment of small- or medium-scale enterprises can constitute an important element in industrial decentralization policies and in regional planning. Thus, they contribute to the absorption of manpower in suburban areas and in the most backward regions; they possess installations and basic common services which favour the activities of the small-scale *entrepreneur*; they do not require large investments in infrastructure works and

[5] An industrial estate is defined as: "A district planned to ensure compatibility between the industrial operations therein and the existing activities and character of the community in which it is located". For further information, see United Nations publication *Establishment of Industrial Estates in Under-Developed Countries* (ST/ECA/66) (New York, 1961).

make for space-saving in the construction of buildings and installations for the supply of power. The location of several industries in a single place makes for the concentration of advisory services and considerably assists industrial decentralization.

From the '50's onwards large numbers of industrial estates have been built in all parts of the world, including the industrialized countries. The experience gained in the United Kingdom, the United States and Italy,[6] as also in the Far East,[7] has been especially significant.

In Latin America, however, there has in general been little experience in this field. Ecuador, Brazil, Chile, Mexico and Venezuela have made some progress in it but only the first and the last have so far drafted industrial zone policies and established finance mechanisms, in which certain public agencies are associated with private ones.

In accordance with its regional development plans, in *Ecuador* three industrial estates are being established in different cities.

(i) *Tulcan Industrial and Cottage Industry Estate* consists of seven industrial sheds where small-scale workshops for footwear and wearing apparel manufacture, carpentry, metal-transforming, hard fibre manufacture, etc., are to be installed with one central shed for administration and a cafeteria. It represents an investment of 100,000 sucres which have been provided by provincial organs and the Government;

(ii) *Ibarra Industrial and Cottage Industry Estate* is already in operation. It consists of three industrial sheds of 1,500 square metres each, in which three industries have been installed: for footwear, furniture and metal work. An expansion to include other activities is envisaged. Its capital is 1,300,000 sucres, provided by provincial organs, production co-operatives and the Government;

(iii) *Cuenca Industrial Estate.* The assistance of the United Nations Special Fund has been requested for the installation of this estate. The investment involved is estimated at 40 million sucres. The Government of Ecuador has acquired 40 hectares of land and the urbanization and water supply works have already been carried out. About 50 industrial units will be installed and common services will be provided.

[6] The Italian Government set up a regional industrial development plan for the south of the country in 1957, which gave special attention to industrial estates.

[7] See United Nations, *Industrial Estates in Asia and the Far East* (ST/ECA/73) (New York, 1963).

The *Venezuelan* industrial estates programme is being carried out by Venezuelan Development Corporation (CVF), the Venezuelan Guayana Corporation (CVG), the municipalities and, in some cases, private initiative. The main industrial zones that are being established are the following:

(i) *Industrial plots in Santo Tomé de Guayana.* In order to stimulate the development of small- and medium-scale industry, the Venezuelan Guayana Corporation has planned the construction of three sites for industrial plots, the first of which is already finished and the other two being built. The size of the plots varies between 3,000 and 50,000 square metres, and the sales price of land between 3 and 7 bolivares[8] the square metre. The services supplied by the Corporation and included in the value of the plots are paved access roads and distribution systems for water and energy. The plots have all been purchased by enterprises manufacturing building materials or running repair and maintenance workshops for building machinery and equipment. The price fixed by the Corporation is intended to recover the costs of installing the services, plus one bolivar per square metre. The form of payment stipulated is 10 per cent on signing the contract and the balance in 20 equal six-monthly instalments, the first of which must be paid 6 months after the urbanization works are brought into use. A 6 per cent annual interest is paid on the amount owed. The purchasers are under obligation to begin the construction of their factories during the six months following the completion of the urbanization works and to finish it during the following year;

(ii) *Maracaibo Industrial Zone* was established for the installation of new plants by the Venezuelan Development Corporation in collaboration with the Municipal Council of the city, through an enterprise—CONDIMA—specially created to finance the common services. In addition to the services provided—which include purchase of the land—special advantages have been offered the users in the form of exemption from municipal taxes and low gas, water and power rates. The industrial zone has a special sector in which public services are located;

(iii) *Barquisimeto Industrial Zone.* The Company for the Development of the Barquisimeto Industrial Zone (COMDIBAR) was set up to execute this project under an agreement between the Venezuelan Development Corporation

[8] The exchange rate is 4.5 bolivares to the dollar.

and the Municipality of the Iribarren district, the latter supplying land equal in value to the Corporation's investment. The Corporation has granted an additional loan to the company for the provision of services;

(iv) *Maracay Industrial Zone* is at present in the project stage. Its implementation will be in the hands of the Corporation for Development of the Maracay Industrial Zone, which will be constituted with a contribution in land from the Municipal Council of the Girardot District, the equivalent in cash from the Venezuelan Development Corporation and the capital resulting from shares purchased by persons or enterprises through the Aragua State Chambers of Commerce and of Industry;

(v) *Guarenas Industrial Zone.* This is intended for the installation of new small- and medium-scale enterprises and for facilitating the establishment of factories outside the metropolitan area of Caracas. It will have water, sewage, electricity, telephone, paving services, etc.

In 1965 the Venezuelan Development Corporation began a programme for the construction of 50 industrial buildings to be rented to *entrepeneurs.* This project will help to promote the development of small- and medium-scale industries by facilitating their establishment in the interior of the country, by being adaptable to most types of industry and much more economical than other sites, and by reducing the financial contribution required from private promotors.

Experience in the construction of industrial buildings has led to the adoption of the idea of a single type of building adaptable to the purposes of practically all light and traditional industries; the modifications or adaptations which may have to be made in each case do not alter the conception and structure of the building.

The "standard" building is approximately 1,000 square metres with twice that area, 2,000 square metres, available for expansion. In addition to the "standard" buildings, "multi-factory" buildings will be constructed which will contain three or four shops of 500 square metres each for small-scale industries.

The buildings are being or will be constructed on plots of land purchased by the Corporation in the CONDIMA, COMDIBAR and eastern Puerto Santa Cruz industrial zones; on plots in private industrial zones; and on plots of land belonging to municipalities, regional governments, the national Government and autonomous institutes, which will donate the land under special arrangements.

The total cost of the construction and rental programme for industrial buildings is estimated at 11,750,000 bolivares, of which 1,250,000 represents land and 10,500,000 building costs.

Different rent charges per square metre will be applied under a scale which is to vary in relation to the degree of industrialization, unemployment, population income levels and prices of industrial land prevailing in each region. The scale will operate in such a way as to apply the lowest charge in the industrially most backward regions.

Chile has a project for installing an industrial estate in the province of Osorno. This will provide for the installation of ten to fifteen industries with common technical assistance and accounting services, workshops, classrooms, and testing and quality control laboratories.

2. *Financial assistance*

The shortage of capital for Latin America's industrial development particularly affects small-scale industry, retarding its growth by precluding the punctual replacement of equipment and machinery and the purchase of new items for expansion and modernization purposes. It also influences the available supply of circulating capital, especially in countries where inflation exists, and prevents small-scale industry from taking advantage of economies of scale through wholesale purchases and marketing, often compelling it to resort to middlemen, with the consequent increases in its operational costs.

Moreover, small-scale industry seldom has access to external credit. Only in a few cases can this source of financing be drawn upon through development corporations or other intermediaries, which usually demand rates of interest higher than the bank rate, and add surcharges to equipment and machinery prices.

Recognizing the financial disadvantages under which it labours, various Latin American countries have established credit machinery for small-scale industry, whose patterns and procedures vary according to the economic situation in the individual countries concerned. In some of them—Mexico and Venezuela, for instance—special funds and agencies have been set up to provide financial assistance for small enterprises; elsewhere, a special régime for small-scale industry has been established in the existing credit agencies.

In 1954, the Ministry of Finance of the Federal Government of Mexico instituted a Guarantee and Development Fund for Medium- and Small-scale Industry (Fondo de Garantía y Fomento a la Industria Mediana y Pequeña), which represents a substantial government subsidy and is managed as a trust fund by the Nacional Financiera. The Fund guarantees repayment of credits (up to 200,000 pesos, i.e., 16,000 dollars) granted by savings banks and finance corporations to industrialists operating on a small or medium scale. It is also empowered to underwrite and purchase any securities issued by such industrialists up to a maximum of one million pesos in each case, to purchase bonds from financing institutions, and to discount equipment and replacement loans[9] extended by banks or finance corporations to small- or medium-scale industrial *entrepreneurs*.

Loan maturity periods range from three to six years, which seems to be about the right length of time for the operations carried out. Up to mid-1965, credits of this type had been received by about 3,300 industrial enterprises, employing some 130,000 workers in all. The establishment of the Fund has enabled private credit institutions to bring small- and medium-scale *entrepreneurs* into the bank credit system without drawing upon their own resources, and with the advantage of reaching all the different parts of the country through the national network of establishments.

By February 1964, the Fund's resources amounted to 21 million dollars,[10] from the following sources: government contributions, 45.6 per cent; Fund gains, 15.9 per cent; and a loan from the Inter-American Development Bank (IDB), 38.5 per cent.

In Venezuela, a National Financing Commission for Small- and Medium-scale Industry (*Comisión Nacional de Financiamiento a la Pequeña y Mediana Industria*)[11] was established in 1959. It operates as part of the Ministry of Development, on the basis of public-sector budget allocations. The sums at its disposal amount to 40 million bolivares (8.9 million dollars) for medium-term loans to artisan and small-scale industry, and 25 million bolivares (5.6 million dollars) for credits to medium-scale industry. It acts through regional commissions set up in the various states, which receive and report on applications from *entrepreneurs* and transmit them to the National Commission for final approval or rejection. The funds are pro-rated among the twenty states of Venezuela.

The Commission carries out two financing programmes. Under one of these, in favour of cottage and small-scale industry, loans are granted for a maximum period of five years plus one grace year (which may subsequently be extended by eighteen months), and up to a maximum sum of 25,000 bolivares (5,600 dollars). The operation is effected by means of a loan contract, and the Banco Industrial acts as depositary of the funds. The annual interest rate is 6 per cent, and a commission (0.5 per cent of the amount of the loan) is payable in a single instalment. For the purposes of this credit programme, the term "small-scale" is taken to apply to industries whose capital does not exceed 100,000 bolivares (22,200 dollars). Under the other programme, for medium-scale industry, the maximum maturity periods are six years in the case of loans for the purchase of machinery and equipment and three years in the case of credits to be used as working capital. Loans may not exceed 250,000 bolivares (56,000 dollars) at an annual rate of interest of 7.5 per cent. They are issued through the commercial banks and are guaranteed by the National Commission, which receives a commission equivalent to 1 per cent of the amount of the loan. Medium-scale enterprises are defined for the purposes of the programme as those whose book capital falls between 100,000 bolivares (22,200 dollars) and 1,000,000 bolivares (222,000 dollars).

The Venezuelan Development Corporation (Corporación Venezolana de Fomento) is responsible for yet another financial assistance programme to benefit small- and medium-scale industry, namely, the "plan for renting or leasing fixed assets with an option to purchase" ("*plan de arrendamiento de activos fijos, con opción de compra*"), which operates on very special lines. Venezuela is the only country to apply it in Latin America, and perhaps in the world. Established for industrial promotion purposes, it is primarily designed to encourage the installation of small- and medium-scale enterprises, and represents a form of long-term credit.

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[9] Equipment credits (*créditos para habitación o avío*) are intended to cover the working capital requirements of industrialists operating on a small or medium scale, while replacement credits (*créditos refaccionarios*) are used for the purchase and installation of machinery and equipment, for buying, constructing and expanding the requisite immovables, and, in general, for improving production conditions in the enterprises concerned.

[10] That is, 262.8 million Mexican pesos.

[11] Established by Decrees Nos. 152 (9 October 1959) and 646 (13 November 1961).

Once a project has been studied, the Development Corporation offers the *entrepreneur* the long-term lease of a factory, with an option to purchase. The Corporation assumes responsibility for buying the site, building the premises and purchasing and installing the machinery and equipment on the sole condition that the *entrepreneur* contribute in cash the working capital required for the initial financing of the concern. The purchase regulations in force for immovables differ from those applicable to machinery and equipment. Sites and buildings are leased for a period of ten years at a monthly rent equivalent to 1 per cent of their cost. Of this rental the Development Corporation earmarks 6 per cent per annum as interest and 1.5 per cent to cover taxes, administrative overheads and charges. The balance is entered on account as an amortization payment against the value of the real estate, in favour of the industrial firm holding the option to purchase. Machinery and equipment are hired for a period of eight years, at a rate of 12.32 per mil of their total cost (in bolivares); the Development Corporation computes 6 per cent of these payments as annual interest on its investment, and the balance is entered on account as an amortization payment against the value of the equipment, in favour of the enterprise holding the option to purchase.

Despite the obvious advantages of the plan for renting or leasing fixed assets, only a relatively small number of *entrepreneurs* have had recourse to it, apparently because of the shortage of projects in Venezuela, where it was not until the 1950's that a rapid and steady industrialization process began.

In Brazil, a move on the part of the Banco Nacional do Desenvolvimento Econômico (BNDE) led, in 1965, to the establishment of a financing programme for small- and medium-scale undertakings (Programa de Financiamento á Pequeña e Mediana Emprêsa—FIPEME), the purpose of which was to issue loans for the establishment of small and medium-sized enterprises and grant credits to those already in operation, mainly to finance purchases of fixed capital.

FIPEME's sources of funds are BNDE itself, a 27-million-dollar loan from the Inter-American Development Bank (IDB), and credits granted to Brazil by the Federal Republic of Germany for an amount equivalent to 8 million dollars.

The branches of activity that have derived most benefit from the programme are the dynamic industries, such as the metallurgical and metal-transforming, the manufacture of electrical and communications equipment, chemical products, fertilizers, insecticides and fungicides, and the pulp and paper industry, and a few traditional activities, such as the wood, textiles and hides and leather industries, vegetable fibre processing, the manufacture of rubber appliances and plastics, and the extraction and processing of ores.

Since May 1965, operations under the programme, whether carried out directly by BNDE or through transfers of resources to other credit institutions, have been regulated on the basis of the IDB loan funds. These funds are used to finance investment in domestically-produced or imported fixed assets, and, in part, to obtain technical services in connexion with the preparation of projects and studies likely to increase the productivity of the recipient enterprises.

The implementation of the agreement with IDB is in the hands of the FIPEME Executive Group, which established priority criteria for the allocation of credits, taking into account regional economic development; potential contribution to the domestic product; improvement of supplies of current consumer goods; complementarity among the various branches of industry established in Brazil; continuity of Brazil's economic development process; increases in domestic demand conducive to the more efficient utilization or the expansion of installed capacity in the production goods industry; and promotion of exports.

To publicize these objectives, every six months FIPEME prepares a list of industries that fulfil those requisites thus channelling economic activity into the sectors whose development should be most rapidly promoted.

These loans carry an annual interest rate of 8 per cent of the debit balance, plus a 0.5 per cent auditing fee, as well as a commission on the opening of the credit equivalent to 1 per cent of the total amount loaned. A currency adjustment rate not exceeding 25 per cent per annum is applied. Where the funds are transferred to credit institutions, the bank charges an interest rate of 6 per cent.

The loans mature in a maximum of four years, including the grace period, but may be extended to six years in special cases.

In addition to FIPEME, the Banco do Brasil, through its Agricultural and Industrial Credit Portfolio, provides financing for small- and medium-scale industry out of funds provided by the Agency for International Development (AID).

Argentina's financing machinery, established with a view to the decentralization of industry, consists in a system of special loans handled by the Banco Industrial de la República.[12] These loans are intended for the "installation, expansion and improvement of small industries in the interior of the country". The Federal Capital and the surrounding areas, the Department of Rosario in the Province of Santa Fe, and the Department of Capital in the Province of Cordoba are expressly excluded from this credit system.

Its objectives are to promote the use of local raw materials; to provide employment opportunities for the labour force; to meet local needs, or requirements elsewhere; and to make an effective contribution to the development of regional economies.

The loans mature in periods varying from three to five years, and amortization payments fall due twice a year.

Another special credit line maintained by the Banco Industrial which can assist small-scale industry to some extent is a system of loans for specialists in industrial techniques who have taken their degrees in Argentina. These are personal loans, usable either for the purchase of instruments or basic equipment, or in order to place the specialist in a financial position to take out a partnership in small and medium-sized industries which are not managed by university-trained technical personnel.

The aim of the financial assistance programme of Chile's Technical Co-operation Service (Servicio de Cooperación Técnica—SCT) is to promote, study and—for the purposes of their final approval—report on applications for the medium- and long-term loans granted by the Development Corporation (Corporación de Fomento de la Producción—CORFO) for the purchase of equipment and raw materials. Two credit lines have been established, one for cottage and one for small-scale industry.

Loans for cottage industry mature within five years when they are intended for the purchase of capital goods, and within two years when they are to be used for buying raw material. They are not subject to review, and the interest payable represents a percentage of the bank rate in force during the previous six months, scaled as follows: 70 per cent in the first two years; 80 per cent in the third year; 90 per cent in the fourth year; and in the fifth year, 100 per cent. During the three years in which the programme has been in operation, 941 loans have been approved, totalling 4,571,000 escudos.

The loans to small-scale industry differ from the credit lines opened for cottage industry. The amortization periods are longer (from six to eight years), the rate of interest is 6 per cent, and adjustments are made on the basis of the wholesale price index for local industrial products. In some cases, small industries can import equipment directly, and deferred-payment terms are granted in respect of customs duties, as well as for the loan issued. Working-capital loans mature in twelve months. Since this credit line was brought into effective operation a year ago, 70 applications for loans, amounting to 3,577,000 escudos, have been approved.

CORFO is the agency responsible for financing the credit lines, establishing regulations, approving or rejecting applications, and issuing and recovering loan payments; the Technical Co-operation Service prepares the technico-economic report, provides technical assistance for the borrower and supervises his operations.

The loans are granted in the light of selective criteria based on the benefits that may accrue to the national economy from foreign exchange earnings or savings, sub-contracting and provision of specialized services. Moreover, the CORFO regulations establish priorities for quite a wide range of activities, giving preference to enterprises which contribute to regional development, and to folk arts and crafts.

The credit programme operates all over the country through agents in the different provinces.

In Colombia, the Banco Popular has a special section to deal with the requirements of medium- and small-scale industry, but hitherto the amount of funds at its disposal for that purpose has been very small. However, this bank shows particular interest in co-ordinating financial and technical assistance, so that such resources as are available can be turned to the best possible account.

Financial assistance for small-scale industry in Ecuador is handled by two institutions: the Banco Nacional de Fomento and the National Financing Corporation (Corporación Financiera Nacional).

The Banco Nacional de Fomento has established two credit lines for small industrialists, i.e., bank credit and training loans. The latter constitute a form of supervised credit, which is offered on easier terms than bank credit.

[12] See circulars Nos. 3027 (18 July 1965) and 3143 (6 February 1964). The latter supersedes circulars Nos. 2433 and 3040.

Loans granted under the two systems in 1965 amounted to 25 million sucres.

The National Financing Corporation maintains a "Guarantee Fund" for underwriting small industrialists' operations with the various credit institutions.

3. *Technical assistance*

In developing countries technical and advisory assistance to small industries acquires particular significance, because, as a rule, the small *entrepreneur* finds it very difficult to tackle the complex problems of running his establishment without adequate help from outside. Such assistance is even more necessary for purposes of expanding or modernizing an enterprise and attaining satisfactory levels of efficiency.

Technical assistance activities may take various forms. Their essential aim is to improve the efficiency of administrative organization and production, but in many cases they also tackle marketing problems.

These services are provided mainly at the level of the factory, where their object is to improve organizational and administrative techniques in the small enterprise and at the level of branches of industry, where they also frequently cover technological research, standardization and other matters connected with entrepreneurial organization and marketing. However, technical assistance may also be designed to serve enterprises pertaining to different branches of industry in a single centre or region, and may take the form of preparing studies and manuals of general interest on various topics, knowledge of which can be spread by means of published material, conferences, seminars and so forth.

Technical assistance can be supplemented by foreign aid given by multilateral agencies or on the basis of bilateral agreements with countries that are particularly experienced in this type of activity. Some details follow on the external technical assistance provided to small-scale industry.

In Latin America, this has been neither intensive nor complete in its coverage. The type of aid given by Governments has been mainly financial, no doubt because it is a complex task to set up efficient technical assistance machinery.

In many Latin American countries, most of the technical assistance is given by the suppliers of machinery and equipment and has all the limitations inherent in that system.

So far, Chile has done most to give technical assistance to small-scale industry through its Technical Co-operation Service—a subsidiary of the Development Corporation—which has been doing useful work in this field since 1953.

For some years the SCT has been carrying out studies and surveys on the structure and problems of small-scale industry in order to provide better operational conditions by instituting programmes to improve and modernize the plants.

The SCT's current work on small-scale industry covers the improvement of production methods; the institution of accounting and cost systems; sales organization and promotion; marketing problems and legal and administrative questions.

Up to August 1966 SCT had given technico-administrative assistance to 416 small industries in different branches of activity throughout the country. Its reports and recommendations dealt with such subjects as production planning and control, costs, materials control, distribution of plant and equipment and methodology.

For technical assistance purposes, it used three groups of specialists who gave help to 203 enterprises. The metal-transforming group was concerned with projects, product design, the improved use of cutting tools, matrix design, technical processes, etc.; the chemical group advised the food industry, the finishing materials industry (paints, chrome and nickel) and the chemical industry in general; while the metallurgical group dealt with moulding processes, the correct use of moulding sand for smelters, fusion processes, design and construction of furnaces, ovens, etc.

The SCT has a programme of studies and projects comprising general studies to gear the development of small-scale and cottage industry to the plans for industry as a whole (forty-one projects have already been prepared); feasibility studies to determine new industries required by preparing draft projects and feasibility studies for the products themselves (150 studies of this kind have been carried out including those rejected); feasibility studies for third parties undertaken at the request of the industrialists themselves once the need for such studies had been established; and regional projects as part of a regional development plan, which was launched in August 1965 with technical assistance provided under the Chile-California Programme.

In addition, the SCT Information and Co-operation Office conducts a programme which is mainly designed to bring small enterprises into the national economy by enabling them to cope more effectively with conjunctural or external conditions. Between March 1964 and June 1966, 2,200 requests for information were answered in Santiago and 1,300 in the provinces, and publications dealing with associations, co-operatives, tenders, sub-contracting, credits, the establishment of new enterprises and taxes were distributed in Santiago and elsewhere (5,400 and 7,200 respectively). In addition, fifty courses, attended by 860 small-factory owners, were held in Santiago and six of the provincial capitals on administrative and commercial questions.

Another salient aspect of the programme is the promotion of co-operatives through special courses on the co-operative movement, socio-economic studies, and advisory services to established or new co-operatives. Thirty-six co-operatives and associations of small-scale industrialists were launched in that way.

The SCT has also paid special attention to sub-contracting and sales promotion for small-scale industry, and intends to establish a design centre for small and cottage industry.

Ecuador is another country which gives special emphasis to technical assistance for small-scale industry: the assistance is administered by the Division for Industrial Extension Services of the Development Centre (CENDES). Help is given on the spot in the workshops and plants, and feasibility studies are prepared for specific projects.

4. *International assistance*

Special mention should be made of the programmes that are being applied with the aid of the United Nations Development Programme Special Fund, the International Labour Organisation (ILO) and the Netherlands Government, through the Delft Research Institute for Management Science.

The ILO's contribution is usually in the field of professional and vocational training, and its programmes in Latin America are being implemented in collaboration with the Special Fund. The most recent example of this form of co-operation is to be found in Chile, where the SCT, working closely with the ILO and Special Fund, has organized special training courses for instructors and foremen. The ILO and Special Fund have been asked to step up their aid to a programme for providing the advisory services and technical equipment needed for advanced training courses and fellowships offering specialized training to SCT technicians.

In Panama, the ILO and Special Fund are co-operating with the Government in the organization of an official service to carry out a large-scale programme of aid and promotion for small-scale and cottage industry.

In Colombia, the Special Fund and the Technological Research Institute are conducting a joint programme of assistance for small-scale industry, mainly in food processing, metal-transforming, chemicals and agriculture. The aims of the programme are as follows:

To provide technical assistance to develop operational methods for making better use of raw materials and equipment;

To help in the establishment of systems of control that would ensure a uniform and acceptable level of quality in small-scale industry;

To study the possibility of manufacturing new products in line with market demand, the raw materials available and the supply of domestic capital and labour;

To teach appropriate techniques with the aid of printed and visual information material, particularly in the fields in which technical know-how is lacking;

To assist private and government industrial development agencies in efforts to raise productivity;

To act in co-ordination with industrial development organs or government and private lending agencies in investing in small- and medium-scale industry.

The ILO and the Agency for International Development (AID) give technical assistance to cottage and small-scale industry in Ecuador. ILO assists Ecuador's National Planning Board in programme preparation, and also assists the executing agencies of the Cottage and Small-scale Industry Programme of the General Development Plan. AID has lent CENDES two experts in pottery and footwear manufacture who have held courses in these two branches. In addition, the Ecuadorian Organization for Trade in Artisan Goods (OCEPA) has a group of six advisers who have specialized in industrial design, co-operatives, production, accounting and organization.

Every year since 1955, the Delft Research Institute in Management Science has held an international post-graduate course on problems of small-scale industry. Fellowships have been given to Latin American professionals to enable them to attend the course. The State of São

Paulo (Brazil) plans to organize similar courses on small-scale industry on the basis of an agreement concluded between the Delft Institute, the Federation of Industries of São Paulo and the University of São Paulo.

The Inter-American Development Bank (IDB) recently created a Pre-Investment Fund for Latin American Integration to promote programme studies and project preparation. One of the programmes to be promoted by the Fund will consist in a region-wide drive to strengthen small- and medium-scale industry (including cottage industry) in Central America and the countries at a relatively less advanced stage of development and with insufficient markets, in particular in such aspects as technology, manpower training and the organization of common services.

5. *Other forms of aid*

A number of other measures have also been taken to further the development of small-scale industry. These have varied in kind and degree according to the particular circumstances of each country, but have generally been ineffectual in comparison, for instance, with the financial assistance given.

(a) *Manpower training*

Although most of the Latin American countries have been making a great effort for some years in this field, they have not been able to keep pace with the growing requirements of industrial development. In technical education and vocational and professional training, the aim of the Latin American Governments is to cover some of the demand for skilled labour and intermediate level personnel in medium- and large-scale industry. However, they have not prepared any special programmes for small-scale industry, despite this sector's special capacity to absorb manpower.

The problem is so extensive and complex that the official agencies in each country should undertake to examine it in the light of their respective systems of industrial training. In this connexion, they should explore the possibility of establishing training units in areas earmarked for planned development and thus help to decentralize manufacturing industry.

(b) *Organization of self-help systems*

The promotion of self-help for small-scale industry has also been inadequate. Some countries have special agencies for developing the co-operative system. These are usually responsible to the Ministries of Development or Economic Affairs, but in most cases their powers are limited to the formation of consumer co-operatives. The establishment of production and distribution co-operatives or credit co-operatives is on a much smaller scale.

The promising results achieved in a number of European and Middle Eastern countries offer encouraging prospects for this type of activity in relation to small-scale industry.

With few exceptions,[13] small industrialists have not formed associations or joined organizations. Nor are they affiliated with associations or societies of manufacturers in which the major role is played by large-scale industry, whose problems and characteristics are very different from those of small-scale industry.

Association of *entrepreneurs* of small-scale industry could be extremely useful, because joint action could help it in marketing both to secure raw materials or outlets for its products (in some cases abroad), and to obtain technical and financial aid.

(c) *Sub-contracting*

On the assumption that industrialization requires plants of all sizes and that the larger plants must be linked up with the smaller, sub-contracting assumes special importance. This form of complementarity has made good progress in a number of industrialized countries. In Latin America, it is most developed in Argentina, Brazil and Mexico, particularly in the motor-vehicle industry, and as industrialization progresses, it is becoming easier and its advantages are better appreciated.

It would be practicable to meet diversified demand for small quantities of goods requiring a highly specialized production process but one that can easily adapt itself to market changes by setting up small plants which, by meeting these requirements, compensate for the higher costs of small-scale production.

(d) *Other measures*

Other steps have also been taken to stimulate the development of small-scale industry in Latin America.

In Argentina, for instance, the Secretariats of Industry, Trade and Agriculture may, with the authorization of the Advisory Committee on Imports,[14] grant special franchises for imports of machinery for small- and medium-scale in-

[13] Chile, Venezuela, etc.
[14] Decree No. 5339 of 1963, article 24.

dustrial projects. Enterprises are also compelled by law to buy some of their inputs of materials locally, to give tariff protection to capital goods that can be produced on a small scale, to exempt small enterprises from payment of national and municipal taxes, and to lift the customs duty on certain capital goods and raw materials used by small industry.

Statistical annex follows overleaf

Statistical annex

Table A

LATIN AMERICA AND UNITED STATES: CHARACTERISTICS OF MANUFACTURING ESTABLISHMENTS, BY SIZE CATEGORIES

	Cottage industry (1-4 persons employed)	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*				*Total*
		5-19	*20-49*	*50-99*	*100 or more*	
Brazil[a]						
1. Number of establishments	66,301.0	30,771.0	6,509.0	2,501.0	2,775.0	108,857.0
2. Number of persons employed	152,741.0	268,733.0	197,385.0	172,869.0	1,005,109.0	1,796,837.0
3. Value added (millions of cruzeiros)	24,283.0	65,239.0	54,268.0	49,043.0	355,826.0	548,659.0[b]
4. Motive power (HP)	362,730.0	586,140.0	453,344.0	423,748.0	3,335,834.0	5,161,796.0
5. Value added per person employed	158,981.0	242,763.0	274,935.0	283,700.0	354,017.0	305,347.0
6. Motive power per person employed (HP)	2.4	2.2	2.3	2.5	3.3	2.9
7. Motive power per establishment (HP)	5.5	19.0	69.6	169.4	1,202.1	47.4
8. Number of persons per establishment	2.3	8.7	30.3	69.1	362.2	16.5
Central America[c]						
1. Number of establishments	...	3,965.0	1,027.0	346.0	255.0	5,593.0
2. Number of persons employed	211,103.0	38,225.0	32,075.0	24,048.0	55,598.0	149,946.0
3. Value added (thousands of dollars)	126,378.0	39,377.0	61,489.0	58,482.0	148,744.0	308,092.0
4. Value of electric power consumed (thousands of dollars)	...	1,910.0	1,753.0	1,328.0	4,455.0	9,446.0
5. Value added per person employed (dollars)	599.0	1,030.0	1,917.0	2,432.0	2,675.0	2,055.0
6. Value of power consumed per person employed (dollars)	...	50.0	55.0	55.0	80.0	63.0
7. Expenditure on power per establishment (dollars)	...	481.0	1,707.0	3,838.0	17,471.0	1,689.0
8. Number of persons employed per establishment	...	9.6	31.2	69.5	218.0	26.8
Chile[d]						
1. Number of establishments	—	3,970.0	1,129.0	388.0	367.0	5,854.0
2. Number of persons employed	—	31,793.0	31,280.0	25,360.0	118,268.0	206,701.0
3. Value added (thousands of escudos)	—	29,549.0	33,934.0	31,498.0	208,417.0	303,398.0
4. Motive power (HP)	—	52,715.0	79,601.0	53,679.0	463,189.0	649,184.0
5. Value added per person employed (escudos)	—	929.0	1,085.0	1,242.0	1,762.0	1,468.0
6. Motive power per person employed (HP)	—	1.7	2.5	2.1	3.9	3.1
7. Motive power per establishment (HP)	—	13.3	70.5	138.3	1,262.1	110.9
8. Number of persons per establishment	—	8.0	27.7	65.4	322.3	35.3

Colombia[e]

1. Number of establishments	3,285.0
2. Number of persons employed	9,352.0
3. Value added (millions of pesos)	72.2
4. Motive power (HP)	13,900.0
5. Value added per person employed (pesos)	7,720.0
6. Motive power per person employed (HP)	1.5
7. Motive power per establishment (HP)	4.2
8. Number of persons per establishment	2.8

Mexico[f]	*Own-account workers, and establishments with 1-5 persons employed*
1. Number of establishments	89,143.0
2. Number of persons employed	187,971.0
3. Value added (millions of pesos)	1,702.0
4. Consumption of electric energy (millions of kWh)	178.0
5. Value added per person employed (pesos)	9,054.0
6. Consumption of energy per person employed (kWh)	947.0
7. Consumption of energy per establishment (kWh)	1,997.0
8. Number of persons per establishment	2.1

Paraguay[g]

1. Number of establishments	4,297.0
2. Number of persons employed	11,018.0
3. Value added (millions of guaraníes)	679.0
4. Motive power (HP)	9,139.0
5. Value added per person employed (guaraníes)	61,626.0
6. Motive power per person occupied (HP)	0.8
7. Motive power per establishment (HP)	2.1
8. Number of persons per establishment	2.6

Venezuela[h]

1. Number of establishments	—
2. Number of persons employed	—
3. Value added (millions of bolivares)	—
4. Motive power (HP)	—
5. Value added per person employed (bolivares)	—

5,077.0	1,221.0	438.0	425.0	10,446.0
45,715.0	37,460.0	29,338.0	132,235.0	254,100.0
382.2	473.6	483.2	3,238.5	4,649.7
60,310.0	75,355.0	56,427.0	541,462.0	747,454.0
8,360.0	12,643.0	16,470.0	24,490.0	18,299.0
1.3	2.0	1.9	4.1	2.9
11.9	61.7	128.8	1,274.0	71.6
9.0	30.7	67.0	311.1	24.3

6-25 persons employed		*26-100 persons employed*		
6,978.0		3,535.0	1,615.0	101,271.0
89,184.0		180,143.0	555,354.0	1,012,652.0
1,634.0		3,980.0	18,135.0	25,451.0
183.0		610.0	4,721.0	5,692.0
18,322.0		22,093.0	32,655.0	25,133.0
2,052.0		3,386.0	8,501.0	5,621.0
26,225.0		172,560.0	2,923,220.0	56,206.0
12.8		50.9	343.9	10.0

1,309.0	125.0	38.0	29.0	5,798.0
10,185.0	3,689.0	2,674.0	6,966.0	34,532.0
971.0	682.0	675.0	2,203.0	5,210.0
14,906.0	7,568.0	7,214.0	23,231.0	62,058.0
95,336.0	184,874.0	252,431.0	316,250.0	150,875.0
1.5	2.1	2.7	3.3	1.8
11.4	60.5	189.8	801.1	10.7
7.8	29.5	70.4	240.2	6.0

6,216.0	949.0	170.0	196.0	7,531.0
57,488.0	29,333.0	11,690.0	58,427.0	156,938.0
793.0	523.0	305.0	2,378.0	3,999.0
90,557.0	90,087.0	47,765.0	765,077.0	993,486.0
13,794.0	17,830.0	26,091.0	40,700.0	25,481.0

Table A (*continued*)

	Cottage industry (1-4 persons employed)	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*				*Total*
		5-19	*20-49*	*50-99*	*100 or more*	
	Own-account workers, and establishments with 1-5 persons employed	*6-25 persons employed*		*26-100 persons employed*		
6. Motive power per person employed (HP)	—	1.6	3.1	4.1	13.1	6.3
7. Motive power per establishment (HP)	—	14.6	94.9	281.0	3,903.5	131.9
8. Number of persons per establishment	—	9.2	30.9	68.8	298.1	20.8
	Number of persons employed					
United States[i]	*1-4*	*5-19*	*20-49*	*50-99*	*100 or more*	
1. Number of establishments	106,960.0	89,384.0	42,798.0	21,091.0	26,584.0	286,817.0
2. Number of persons employed	258,219.0	937,228.0	1,360,091.0	1,474,907.0	11,620,811.0	15,651,256.0
3. Value added (millions of dollars)	1,554.0	5,653.0	8,351.0	9,662.0	91,692.0	116,912.0
4. Motive power (thousands of HP)	2,492.0	3,157.0	5,520.0	6,234.0	90,959.0	108,362.0
5. Value added per person employed (dollars)	6,018.0	6,032.0	6,140.0	6,551.0	7,890.0	7,470.0
6. Motive power per person employed (HP)	9.7	3.4	4.1	4.2	7.9	6.9
7. Motive power per establishment (HP)	23.3	35.3	129.0	295.6	3,421.6	377.8
8. Number of persons per establishment	2.4	10.5	31.8	69.9	437.1	54.6

SOURCES AND NOTES:

[a] Industrial Census, Brazil, 1960.

[b] This total differs from the census figure because it includes a sum of 867 million cruzeiros corresponding to the value added in 1,482 establishments classified as "Non-respondents".

[c] *Encuesta industrial centroamericana, 1962* (provisional text).

[d] Third National Census of Manufacturing Industry, 1957.

[e] Industrial survey, 1960, covering 10,446 establishments in which more than 5 persons were employed or the value of production exceeded 24,000 pesos; *Boletín Mensual de Estadística*, No. 151, Bogotá, October 1963.

[f] Seventh Industrial Census, 1961.

[g] Industrial Census, Paraguay, 1963.

[h] Central Co-ordination and Planning Office (*Oficina Central de Coordinación y Planificación* — CORDIPLAN). *Encuesta Industrial 1961*, November 1963 (provisional text).

[i] Industrial Census, 1954.

Table B

LATIN AMERICA AND UNITED STATES: PERCENTAGE DISTRIBUTION OF TOTAL NUMBER OF FACTORIES, BY FACTORY SIZE CATEGORIES

Country or area	Factory size categories[a] (Number of persons employed per establishment)				
	5-19	20-49	50-99	100 or more	Total
Argentina	58[b]	21[c]	11	10	100
Brazil	72	15	6	7	100
Central America ..	71	18	6	5	100
Chile	68	19	7	6	100
Colombia	71	17	6	6	100
Mexico	58[d]	29[e]		13	100
Paraguay	87	8	3	2	100
Peru	65		35[f]		100
Venezuela	82	13	2	3	100
United States ...	50	24	11	15	100

SOURCE: table A. For Argentina: Industrial Census, 1954; for Peru, First National Economic Census, 1963.

[a] Establishments in which more than 5 persons are employed are classified as factories (i.e., in the manufacturing industry stratum).

[b] From 11 to 25 persons employed.

[c] From 26 to 50 persons employed.

[d] From 6 to 25 persons employed.

[e] From 26 to 100 persons employed.

[f] 20 or more persons employed.

Table C

LATIN AMERICA AND UNITED STATES: PERCENTAGE DISTRIBUTION OF PERSONS EMPLOYED IN MANUFACTURING INDUSTRY, BY FACTORY SIZE CATEGORIES

Country or area	Factory size categories[a] (Number of persons employed per establishment)				
	5-19	20-49	50-99	100 or more	Total
Argentina	16[b]	13[c]	13	58	100
Brazil	16	12	11	61	100
Central America ..	26	21	16	37	100
Chile	15	15	12	58	100
Colombia	19	15	12	54	100
Mexico	11[d]	22[e]		67	100
Paraguay	43	16	11	30	100
Peru	16		84[f]		100
Venezuela	36	19	7	38	100
United States ...	6	9	10	75	100

SOURCE: table A. For Argentina: Industrial Census, 1954; for Peru, First National Economic Census, 1963.

[a] Establishments in which more than 5 persons are employed are classified as factories (i.e., in the manufacturing industry stratum).

[b] From 11 to 25 persons employed.

[c] From 26 to 50 persons employed.

[d] From 6 to 25 persons employed.

[e] From 26 to 100 persons employed.

[f] 20 or more persons employed.

Table D

LATIN AMERICA AND UNITED STATES: PERCENTAGE DISTRIBUTION OF VALUE ADDED IN MANUFACTURING INDUSTRY, BY FACTORY SIZE CATEGORIES

Country or area	Factory size categories[a] (Number of persons employed per establishment)				
	5-19	20-49	50-99	100 or more	Total
Argentina	—	—	—	—	—
Brazil	13	10	9	68	100
Central America ..	13	20	19	48	100
Chile	10	11	10	69	100
Colombia	8	10	1	71	100
Mexico	7[b]	17[c]		76	100
Paraguay	21	15	15	49	100
Peru	—	—	—	—	—
Venezuela	20	13	8	59	100
United States ...	5	7	8	80	100

SOURCE: table A. For Argentina: Industrial Census, 1954; for Peru, First National Economic Census, 1963.

[a] Establishments in which more than 5 persons are employed are classified as factories (i.e., in the manufacturing industry stratum).

[b] From 6 to 25 persons employed.

[c] From 26 to 100 persons employed.

Table E

LATIN AMERICA AND UNITED STATES: PERCENTAGE DISTRIBUTION OF INSTALLED POWER IN MANUFACTURING INDUSTRY, BY FACTORY SIZE CATEGORIES

Country or area	Factory size categories[a] (Number of persons employed per establishment)				
	5-19	20-49	50-99	100 or more	Total
Argentina	...	...	...	...	...
Brazil	12	9	9	70	100
Central America ..	...	...	...	...	...
Chile	8	12	8	72	100
Colombia	8	10	8	74	100
Mexico	...	...	...	...	...
Paraguay	28	14	14	44	100
Peru	...	...	...	...	...
Venezuela	9	9	5	77	100
United States ...	3	5	6	86	100

SOURCE: table A.

[a] Establishments in which more than 5 persons are employed are classified as factories (i.e., in the manufacturing industry stratum).

Table F

LATIN AMERICA: ESTIMATES OF THE MANUFACTURING PRODUCT, BY INDUSTRIAL STRATA AND FACTORY SIZE CATEGORIES, AND BY GROUPS OF COUNTRIES, 1960

(Millions of dollars at 1960 prices)

Country	Product of cottage industry	Product of manufacturing industry, by factory size categories (Number of persons employed per establishment)					Total manufacturing product
		5-19	20-49	50-99	100 or more	Sub-total	
Group I							
Argentina	1,542.0	469.0	426.0	384.0	2,984.0	4,263.0	5,805.0
Brazil	2,005.0	667.0	513.0	462.0	3,491.0	5,134.0	7,139.0
Mexico	610.0	240.0	308.0	274.0	2,604.0	3,426.0	4,036.0
SUB-TOTAL	4,157.0	1,376.0	1,248.0	1,120.0	9,079.0	12,823.0	16,980.0
Group II							
Chile	240.0	69.0	76.0	70.0	480.0	695.0	936.0
Colombia	369.0	37.0	46.0	50.0	325.0	458.0	827.0
Peru	192.0	49.0	41.0	37.0	247.0	374.0	566.0
Uruguay	60.0	47.0	40.0	36.0	238.0	362.0	421.0
Venezuela	135.0	101.0	66.0	41.0	299.0	507.0	642.0
SUB-TOTAL	996.0	303.0	269.0	234.0	1,590.0	2,396.0	3,392.0
Group III							
Bolivia	43.2	5.3	5.6	5.3	14.8	31.0	74.0
Central America	97.1	25.1	38.6	36.6	92.6	193.0	290.0
Ecuador	73.2	17.3	18.3	17.3	48.7	102.0	175.0
Haiti	19.1	3.4	3.6	3.4	9.8	20.0	39.0
Panama	5.3	6.8	7.2	6.8	19.3	40.0	45.0
Paraguay	43.8	8.3	5.9	5.9	19.3	39.0	83.0
SUB-TOTAL	282.0	66.0	79.0	75.0	204.0	425.0	707.0
Total[a]	*5,435.0*	*1,746.0*	*1,596.0*	*1,429.0*	*10,873.0*	*15,644.0*	*21,079.0*

SOURCE: the estimates were based on figures for the gross industrial product in 1960, at factor cost, obtained from the respective countries' national accounts, and converted into dollars (at 1960 prices) by the application of estimated parity rates of exchange. (For fuller details, see *The process of industrial development in Latin America, statistical annex* (E/CN.12/716/Add.2), mimeographed edition, December 1965.) The gross industrial product, which includes the product of both cottage and manufacturing industry, was broken down by those two strata of activity on the basis of manpower productivity ratios between artisan establishments and factories, measured in terms of value added per person employed (see table F). These productivity ratios were obtained from the national industrial censuses, surveys and plans of the countries for which data were available. In cases where the information to hand was insufficient, average productivity ratios for countries at similar stages of industrial development were applied.

The share of the various factory size categories (including small-scale industry) in the manufacturing product was estimated on the basis of percentage relations obtained from national industrial census and surveys (see table D). In cases where no data were available, the contributions of the various size categories were estimated to be the same as in countries with similar characteristics. Owing to the method of calculation adopted, the figures presented in table F cannot be taken as accurate in respect of specific individual countries, but can be regarded as reasonably safe estimates for the country groupings.

[a] Excluding Cuba and the Dominican Republic because data are not available.

Table G

LATIN AMERICA: ESTIMATES OF EMPLOYMENT IN MANUFACTURING INDUSTRY, BY STRATA AND FACTORY SIZE CATEGORIES, AND BY GROUPS OF COUNTRIES, 1960

Country or area	*Employment in cottage industry*[a]	*Employment in manufacturing industry, by factory size categories*[b] *(Number of persons employed per establishment)*					*Total employment*[a] *in manufacturing industry*
		5-19	*20-49*	*50-99*	*100 or more*	*Sub-total*[a]	
Group I							
Argentina	722	159	130	130	579	998	1,720
Brazil	1,250	256	192	176	976	1,600	2,850
Mexico	556	160	120	120	600	1,000	1,556
SUB-TOTAL	2,528	575	442	426	2,155	3,598	6,126
Group II							
Chile	207	36	36	29	139	240	447
Colombia	496	48	38	30	136	252	748
Peru	330	47	33	23	103	206	536
Uruguay	59	34	23	16	73	146	205
Venezuela	118	64	34	12	67	177	295
SUB-TOTAL	1,210	229	164	110	518	1,021	2,231
Group III							
Bolivia	162	8	4	3	8	23	185
Central America	217	33	26	20	46	125	342
Ecuador	201	17	9	7	17	50	251
Haiti	83	6	3	3	6	18	101
Panama	11	5	3	2	5	15	26
Paraguay	64	8	3	2	5	18	82
SUB-TOTAL	738	77	48	37	87	249	987
Total[c]	*4,476*	*881*	*654*	*573*	*2,760*	*4,868*	*9,344*

[a] Figures taken from a study on manpower in Latin America in course of preparation.

[b] Figures calculated from percentage estimates for each size category based on census data for Argentina and Brazil, Chile, Colombia and Venezuela, and Central America and Paraguay.

[c] Excluding Cuba and the Dominican Republic, for which no data were available.

Table H

COLOMBIA: NUMBER OF PERSONS EMPLOYED IN INDUSTRY, BY INDUSTRIAL STRATA AND FACTORY SIZE CATEGORIES, AND BY BRANCHES OF ACTIVITY, 1960

ISIC major group[a]	Cottage industry (1-4 persons employed)	Manufacturing industry, by factory size categories (Number of persons employed per establishment)				Total manufacturing sector
		5-19	20-49	50 or more	Total factory industry	
20. Food	2,747	10,788	7,370	17,970	36,128	38,875
21. Beverages	100	725	1,305	12,346	14,376	14,476
22. Tobacco	112	1,089	758	2,446	4,293	4,405
23. Textiles	393	1,576	2,451	39,821	43,848	44,241
24. Footwear, other wearing apparel and made-up textile goods	2,241	8,577	5,498	13,367	27,442	29,683
25. Wood and cork	410	1,971	890	2,638	5,499	5,909
26. Furniture and fixtures	400	1,839	1,067	1,700	4,606	5,006
27. Paper and paper products	13	405	733	2,828	3,966	3,979
28. Printing, publishing and allied industries	293	2,573	2,153	5,868	10,594	10,887
29. Leather and hides	321	916	715	2,513	4,144	4,465
30. Rubber products	6	333	238	5,228	5,799	5,805
31. Chemicals and chemical products	338	1,999	2,472	11,649	16,120	16,458
32. Petroleum products	—	88	204	1,782	2,074	2,074
33. Non-metallic mineral products	856	4,361	3,521	13,867	21,749	22,605
34. Basic metal industries	10	111	83	2,975	3,169	3,179
35. Metal products, except machinery and transport equipment	269	2,472	3,333	7,644	13,449	13,718
36. Machinery, except electrical machinery	163	1,200	409	1,542	3,151	3,314
37. Electrical machinery	81	911	931	4,244	6,086	6,167
38. Transport equipment	453	2,736	1,916	7,427	12,079	12,532
39. Miscellaneous manufacturing	146	1,045	1,413	3,718	6,176	6,322
Total	*9,352*	*45,715*	*37,460*	*161,573*	*244,748*	*254,100*

SOURCE: *Boletín Mensual de Estadística*, No. 151, Bogotá, October 1963.
[a] International Standard Industrial Classification of all Economic Activities.

Table I

COLOMBIA: VALUE ADDED IN INDUSTRY, BY INDUSTRIAL STRATA AND FACTORY SIZE CATEGORIES, AND BY BRANCHES OF ACTIVITY, 1960

(Millions of pesos)

ISIC major group[a]	Cottage industry (1-4 persons employed)	Manufacturing industry, by factory size categories (Number of persons employed per establishment)				Total manufacturing sector
		5-19	20-49	50 or more	Sub-total	
20. Food	23.0	108.4	123.3	403.8	635.5	658.5
21. Beverages	0.8	8.1	34.3	650.4	692.8	693.6
22. Tobacco	0.4	3.5	2.9	252.7	259.1	259.5
23. Textiles	1.9	22.6	22.3	681.6	726.5	728.4
24. Footwear, other wearing apparel and made-up textile goods	12.5	51.8	37.3	132.1	221.2	233.7
25. Wood and cork	2.9	14.8	3.4	21.2	41.4	44.3
26. Furniture and fixtures	2.6	11.4	8.6	16.0	36.0	38.6
27. Paper and paper products	0.3	4.1	9.0	71.6	84.7	85.0
28. Printing, publishing and allied industries	2.0	17.8	23.7	87.0	130.5	132.5
29. Leather and hides	2.4	8.3	6.8	49.6	84.7	67.1
30. Rubber products	...	4.4	2.7	107.0	114.1	114.1
31. Chemicals and chemical products	3.2	26.2	61.2	313.2	470.6	473.8
32. Petroleum products	—	6.2	7.1	149.7	163.0	163.0
33. Non-metallic mineral products	4.4	24.1	31.1	211.9	267.1	271.5
34. Basic metal industries	...	2.3	1.0	154.0	157.3	157.3
35. Metal products, except machinery and transport equipment	1.8	19.1	34.7	109.8	163.6	165.4
36. Machinery, except electrical machinery	9.0	10.0	2.8	18.9	31.7	40.7
37. Electrical machinery	0.7	8.7	28.3	83.7	110.7	111.4
38. Transport equipment	2.6	20.4	13.1	75.3	114.8	117.4
39. Miscellaneous manufacturing	1.7	10.0	20.0	62.2	92.2	93.9
Total	*72.2*	*382.2*	*473.6*	*3,721.7*	*4,577.5*	*4,649.7*

SOURCE: *Boletín Mensual de Estadística*, No. 151, Bogotá, October 1963.
[a] International Standard Industrial Classification of all Economic Activities.

Table J

CHILE: NUMBER OF PERSONS EMPLOYED IN INDUSTRIAL ESTABLISHMENTS, BY SIZE CATEGORIES, 1957

ISIC major groups[a]	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*			
	5-19	*20-49*	*50 or more*	*Total*
20. Food	8,640	7,498	18,912	35,050
21. Beverages	509	668	3,997	5,174
22. Tobacco	41	—	1,165	1,206
23. Textiles	2,789	4,278	30,522	37,589
24. Footwear, other wearing apparel and made-up textile goods	5,530	4,562	16,565	26,657
25. Wood and cork	2,012	2,312	6,581	10,905
26. Furniture and fixtures	1,375	956	2,490	4,821
27. Paper and paper products	402	456	2,569	3,427
28. Printing, publishing and allied industries	983	1,079	4,888	6,950
29. Leather and hides	696	852	1,623	3,171
30. Rubber products	206	107	1,634	1,947
31. Chemicals and chemical products	1,387	1,583	9,073	12,043
32. Products of petroleum and coal	25	26	1,109	1,160
33. Non-metallic mineral products	1,427	1,028	10,279	12,734
34. Basic metal industries	462	491	10,494	11,447
35. Metal products, except machinery and transport equipment	1,577	1,679	9,583	12,839
36. Machinery, except electrical machinery	1,009	757	3,108	4,874
37. Electrical machinery	453	444	2,339	3,236
38. Transport equipment	1,392	1,594	3,963	6,949
39. Miscellaneous manufacturing	878	910	1,734	3,522
Total	*31,793*	*31,280*	*143,628*	*206,701*

SOURCE: III National Manufacturing Census, 1957.

[a] International Standard Industrial Classification of all Economic Activities.

Table K

CHILE: VALUE ADDED IN INDUSTRY, BY FACTORY SIZE CATEGORIES, 1957

(Thousands of escudos)

ISIC major groups[a]	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*			
	5-19	*20-49*	*50 or more*	*Total*
20. Food	9,106	10,204	35,629	54,939
21. Beverages	1,106	1,591	11,012	13,709
22. Tobacco	—	—	—	16,327
23. Textiles	2,275	3,616	34,306	40,197
24. Footwear, other wearing apparel and made-up textile goods	4,050	3,166	16,426	23,642
25. Wood and cork	1,640	1,999	5,901	9,540
26. Furniture and fixtures	791	759	3,375	4,925
27. Paper and paper products	318	335	5,087	5,740
28. Printing, publishing and allied industries	1,184	1,410	8,577	11,171
29. Leather and hides	705	1,002	2,107	3,814
30. Rubber products	225	119	3,421	3,765
31. Chemicals and chemical products	2,254	2,874	18,635	23,763
32. Products of petroleum and coal	—	—	—	9,643
33. Non-metallic mineral products	1,062	1,012	13,784	15,858
34. Basic metal industries	395	509	32,112	33,016
35. Metal products, except machinery and transport equipment	1,338	1,493	9,500	12,331
36. Machinery, except electrical machinery	842	764	3,550	5,156
37. Electrical machinery	352	500	4,181	5,033
38. Transport equipment	1,046	1,673	4,396	7,115
39. Miscellaneous manufacturing	738	875	2,099	3,712
Total	*29,549*	*33,934*	*239,915*	*303,398*

SOURCE: III National Manufacturing Census, 1957.

[a] International Standard Industrial Classification of all Economic Activities.

Table L

PARAGUAY: NUMBER OF PERSONS EMPLOYED IN INDUSTRIAL ESTABLISHMENTS, BY SIZE CATEGORIES, 1963

ISIC major groups[a]	Artisan industry (1-4 persons employed)	Manufacturing industry, by factory size categories (Number of persons employed per establishment)				Total manufacturing sector
		5-19	20-49	50 or more	Total	
20. Food	2,421	3,396	782	3,037	7,215	9,636
21. Beverages	181	632	140	641	1,413	1,594
22. Tobacco	5	82	60	674	816	821
23. Textiles	37	120	148	1,516	1,784	1,821
24. Footwear, other wearing apparel and made-up textile goods	1,293	817	112	133	1,062	2,355
25. Wood and cork	521	976	364	69	1,409	1,930
26. Furniture and fixtures	533	470	52	—	522	1,055
27. Paper and paper products	9	14	37	—	51	60
28. Printing, publishing and allied industries	65	190	173	504	867	932
29. Leather and hides	323	201	102	69	372	695
30. Rubber products	35	18	—	—	18	53
31. Chemicals and chemical products	1,898	658	408	1,457	2,523	4,421
32. Petroleum products	3	—	—	—	—	3
33. Non-metallic mineral products	2,241	1,244	531	633	2,408	4,649
34. Basic metal industries	24	47	—	—	47	71
35. Metal products, except machinery and transport equipment	120	189	124	—	313	433
36. Machinery, except electrical machinery	171	209	210	221	640	811
37. Electrical machinery	158	131	36	123	290	448
38. Transport equipment	612	574	377	379	1,330	1,942
39. Miscellaneous manufacturing	368	217	33	184	434	802
Total	*11,018*	*10,185*	*3,689*	*9,640*	*23,514*	*34,532*

SOURCE: Industrial Census, 1963.

[a] International Standard Industrial Classification of all Economic Activities.

Table M

PARAGUAY: VALUE ADDED IN INDUSTRY, BY SIZE CATEGORIES, 1963

(Millions of guaraníes)

ISIC major groups[a]	*Cottage industry (1-4 persons employed)*	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*				*Total manufacturing sector*
		4-19	*20-49*	*49 or more*	*Total*	
20. Food	180.1	283.3	224.0	1,076.1	1,583.4	1,763.5
21. Beverages	49.7	82.4	15.9	238.3	336.6	386.3
22. Tobacco	0.1	8.2	7.4	319.4	335.0	335.1
23. Textiles	29.2	21.2	37.4	508.9	567.5	596.7
24. Footwear, other wearing apparel and made-up textile goods	72.5	67.6	13.3	6.4	87.3	159.8
25. Wood and cork	41.3	92.4	35.5	12.1	140.0	181.3
26. Furniture and fixtures	31.7	40.0	5.6	—	45.6	77.3
27. Paper and paper products	1.3	1.2	4.6	—	5.8	7.1
28. Printing, publishing and allied industries	8.1	23.7	25.0	93.0	141.7	149.8
29. Leather and hides	24.5	18.2	16.9	17.9	53.0	77.5
30. Rubber products	3.0	3.7	—	—	3.7	6.7
31. Chemicals and chemical products	42.7	80.2	110.9	423.4	614.5	657.2
32. Petroleum products	0.6	—	—	—	—	0.6
33. Non-metallic mineral products	69.8	64.8	45.1	57.4	167.3	237.1
34. Basic metal industries	4.4	9.1	—	—	9.1	13.5
35. Metal products, except machinery and transport equipment	13.8	21.4	40.6	—	62.0	75.8
36. Machinery, except electrical machinery	20.1	34.0	35.9	41.2	111.1	131.2
37. Electrical machinery	14.9	18.8	5.4	28.5	52.7	67.6
38. Transport equipment	49.3	76.1	55.9	43.4	175.4	224.7
39. Miscellaneous manufacturing	21.7	24.5	3.0	12.0	39.5	61.2
Total	*678.8*	*970.8*	*682.4*	*2,878.0*	*4,531.2*	*5,210.0*

SOURCE: Industrial Census, 1963.

[a] International Standard Industrial Classification of all Economic Activities.

Table N

VENEZUELA: NUMBER OF PERSONS EMPLOYED IN INDUSTRIAL ESTABLISHMENTS, BY SIZE CATEGORIES

ISIC major groups[a]	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*			
	5-20	*21-50*	*51 or more*	*Total*
20. Food	11,111	4,113	13,420	28,644
21. Beverages	1,866	878	6,534	9,278
22. Tobacco	406	196	2,251	2,853
23. Textiles	966	921	12,797	14,684
24. Footwear, other wearing apparel and made-up textile goods	9,133	6,626	4,008	19,767
25. Wood and cork	1,858	1,305	169	3,332
26. Furniture and fixtures	6,481	3,088	1,331	10,900
27. Paper and paper products	697	367	3,106	4,170
28. Printing, publishing and allied industries	2,771	1,311	1,904	5,986
29. Leather and hides	1,162	420	863	2,445
30. Rubber products	939	650	2,166	3,755
31. Chemicals and chemical products	2,001	1,276	4,178	7,455
32. Petroleum products	45	31	6,893	6,969
33. Non-metallic mineral products	3,897	1,176	4,833	9,906
34. Basic metal industries	242	208	1,406	1,856
35. Metal products, except machinery and transport equipment	2,450	1,032	1,917	5,399
36. Machinery, except electrical machinery	205	222	71	498
37. Electrical machinery	1,649	1,528	247	3,424
38. Transport equipment	8,388	2,812	1,694	12,894
39. Miscellaneous manufacturing	1,221	1,173	329	2,723
Total	*57,488*	*29,333*	*70,117*	*156,938*

SOURCE: Industrial Survey, 1961.

[a] International Standard Industrial Classification of all Economic Activities.

Table O

VENEZUELA: VALUE ADDED IN INDUSTRY, BY SIZE CATEGORIES, 1961

(Millions of bolivares)

ISIC major groups[a]	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*			
	5-20	*21-50*	*51 or more*	*Total*
20. Food	173	62	420	655
21. Beverages	30	25	461	516
22. Tobacco	4	1	229	234
23. Textiles	17	18	219	254
24. Footwear, other wearing apparel and made-up textile goods	126	104	60	290
25. Wood and cork	27	14	1	42
26. Furniture and fixtures	63	47	18	128
27. Paper and paper products	6	3	107	116
28. Printing, publishing and allied industries	31	32	53	116
29. Leather and hides	18	7	17	42
30. Rubber products	6	8	98	122
31. Chemicals and chemical products	66	54	169	289
32. Petroleum products	3	1	510	514
33. Non-metallic mineral products	38	23	165	226
34. Basic metal industries	1	3	27	31
35. Metal products, except machinery and transport equipment	24	10	66	100
36. Machinery, except electrical machinery	4	5	2	11
37. Electrical machinery	25	31	8	64
38. Transport equipment	108	60	46	214
39. Miscellaneous manufacturing	15	16	7	38
Total	*793*	*523*	*2,683*	*3,999*

SOURCE: Industrial Survey, 1961.

[a] International Standard Industrial Classification of all Economic Activities.

Table P

UNITED STATES: NUMBER OF PERSONS EMPLOYED IN INDUSTRIAL ESTABLISHMENTS, BY SIZE CATEGORIES, 1954

ISIC major groups[a]	*Manufacturing industry, by factory size categories (Number of persons employed per establishment)*				*Total manufacturing sector*
	4-19	*20-49*	*50 or more*	*Total*	
20. Food 21. Beverages	36,519	153,447	214,362	1,242,872	1,610,681	1,647,200
22. Tobacco	495	1,052	1,825	91,491	94,368	94,863
23. Textiles	3,228	21,937	50,823	961,449	1,034,209	1,037,437
24. Footwear, other wearing apparel and made-up textile goods	20,618	109,114	234,522	825,804	1,169,440	1,190,058
25. Wood and cork	49,721	122,596	115,738	357,880	596,214	645,935
26. Furniture and fixtures	9,827	33,226	47,981	249,659	330,866	340,693
27. Paper and paper products	1,798	12,994	34,336	481,046	528,376	530,174
28. Printing, publishing and allied industries	39,067	106,147	106,450	552,674	765,271	804,338
29. Leather and hides	3,193	13,663	25,549	314,172	353,384	356,577
30. Rubber products	901	3,967	6,967	234,655	245,589	246,490
31. Chemicals and chemical products	9,157	36,529	59,342	634,223	730,094	739,251
32. Petroleum products	702	4,614	6,220	204,289	215,123	215,825
33. Non-metallic mineral products	10,398	37,094	49,440	394,870	481,404	491,802
34. Basic metal industries	2,913	16,731	35,287	1,062,070	1,114,088	1,117,001
35. Metal products, except machinery and transport equipment	19,020	79,429	114,980	805,876	1,000,285	1,019,305
36. Machinery, except electrical machinery	23,280	89,088	113,037	1,316,224	1,518,349	1,541,629
37. Electrical machinery	3,506	15,704	29,179	910,311	955,194	958,700
38. Transport equipment	3,905	15,300	24,849	1,660,447	1,700,596	1,704,501
39. Miscellaneous manufacturing	19,971	64,650	89,204	794,535	948,389	968,360
Total	*258,219*	*937,282*	*1,360,091*	*13,094,547*	*15,391,920*	*15,650,139*

SOURCE: manufacturing census, 1954.

[a] International Standard Industrial Classification of all Economic Activities.

Table Q

UNITED STATES: VALUE ADDED IN INDUSTRY, BY SIZE CATEGORY, 1954

(Millions of dollars)

ISIC major groups[a]	Cottage industry (1-4 persons employed)	Manufacturing industry, by factory size categories (Number of persons employed per establishment)				Total manufacturing sector
		4-19	20-49	50 or more	Total	
20. Food 21. Beverages	218	925	1,448	10,810	13,183	13,401
22. Tobacco	1	4	6	977	987	988
23. Textiles	23	127	251	4,349	4,727	4,750
24. Footwear, other wearing apparel and made-up textile goods	142	617	1,005	3,383	5,005	5,147
25. Wood and cork	207	495	541	1,946	2,982	3,189
26. Furniture and fixtures	55	181	267	1,464	1,912	1,967
27. Paper and paper products	12	80	211	4,278	4,569	4,581
28. Printing, publishing and allied industries	251	687	726	4,602	6,015	6,266
29. Leather and hides	19	64	110	1,444	1,618	1,637
30. Rubber products	7	28	48	1,819	1,895	1,902
31. Chemicals and chemical products	75	336	596	8,436	9,368	9,443
32. Petroleum products	9	49	68	2,455	2,572	2,581
33. Non-metallic mineral products	52	222	325	3,223	3,770	3,822
34. Basic metal industries	20	106	232	9,016	9,354	9,374
35. Metal products, except machinery and transport equipment	127	528	802	6,139	7,469	7,596
36. Machinery, except electrical machinery	171	638	848	10,681	12,167	12,338
37. Electrical machinery	24	105	195	7,080	7,380	7,404
38. Transport equipment	22	93	165	13,645	13,903	13,925
39. Miscellaneous manufacturing	121	368	507	5,607	6,482	6,603
Total	*1,556*	*5,653*	*8,351*	*101,354*	*115,358*	*116,914*

SOURCE: manufacturing census, 1954.

[a] International Standard Industrial Classification of all Economic Activities.

Table R

LATIN AMERICA AND THE UNITED STATES: PARTICIPATION OF SMALL-SCALE INDUSTRY IN MANUFACTURING EMPLOYMENT IN INDUSTRY, BY GROUPS AND COUNTRIES

(Percentage of value added in manufacturing in each group)

ISIC major groups[a]	*Paraguay*	*Venezuela*	*Colombia*	*Chile*	*United States*
20. Food	57	53	50	46	23
21. Beverages	55	30	16	23	
22. Tobacco	17	21	43	3	3
23. Textiles	9	13	9	19	7
24. Footwear, other wearing apparel and made-up textile goods	57	80	52	38	29
25. Wood and cork	96	95	52	40	57
26. Furniture and fixtures	100	89	63	47	25
27. Paper and paper products	100	25	29	25	9
28. Printing, publishing and allied industries	41	68	45	30	28
29. Leather and hides	81	65	39	49	11
30. Rubber products	100	42	10	16	5
31. Chemicals and chemical products	42	44	28	24	13
32. Petroleum products	—	1	14	4	5
33. Non-metallic mineral products	74	51	36	19	18
34. Basic metal industries	100	24	6	8	5
35. Metal products, except machinery and transport equipment	100	65	43	25	19
36. Machinery, except electrical machinery	65	85	51	36	13
37. Electrical machinery	58	93	30	28	5
38. Transport equipment	71	87	38	43	2
39. Miscellaneous manufacturing	58	88	40	51	16
Total	*59*	*55*	*34*	*30*	*15*

SOURCE: tables H, J, L, N and P.

[a] International Standard Industrial Classification of all Economic Activities.

Table S

LATIN AMERICA AND THE UNITED STATES: DISTRIBUTION OF EMPLOYMENT IN SMALL-SCALE INDUSTRY, BY GROUPS AND COUNTRIES

(Percentage of total employment in small-scale industry)

ISIC major groups[a]	*Paraguay*	*Venezuela*	*Colombia*	*Chile*	*United States*
20. Food	30	18	22	26	16
21. Beverages	6	3	2	2	
22. Tobacco	1	1	2	—	—
23. Textiles	2	2	5	11	3
24. Footwear, other wearing apparel and made-up textile goods	7	18	17	16	15
25. Wood and cork	10	4	3	7	10
26. Furniture and fixtures	4	11	3	4	4
27. Paper and paper products	—	1	1	1	2
28. Printing, publishing and allied industries	3	5	6	3	9
29. Leather and hides	2	2	2	2	2
30. Rubber products	—	2	1	—	—
31. Chemicals and chemical products	8	4	5	5	4
32. Petroleum products	—	—	—	—	—
33. Non-metallic mineral products	13	6	9	4	4
34. Basic metal industries	—	—	—	2	2
35. Metal products, except machinery and transport equipment	2	4	7	5	8
36. Machinery, except electrical machinery	3	—	2	3	9
37. Electrical machinery	1	4	2	1	2
38. Transport equipment	7	13	6	5	2
39. Miscellaneous manufacturing	2	3	3	3	7
Total	*100*	*100*	*100*	*100*	*100*

SOURCE: tables G, J, L, N and P.

[a] International Standard Industrial Classification of all Economic Activities.

Table T

LATIN AMERICA AND THE UNITED STATES: VALUE ADDED PER PERSON EMPLOYED IN SMALL-SCALE INDUSTRY, BY GROUPS AND COUNTRIES

(Thousands of currency units of each country per person employed)

ISIC major groups[a]	*Paraguay*	*Venezuela*	*Colombia*	*Chile*	*United States*
20. Food	121	15.4	12.8	1.20	6.5
21. Beverages	127	20.1	20.8	2.21	
22. Tobacco	110	8.3	3.5	...	3.5
23. Textiles	218	18.5	11.1	0.83	5.2
24. Footwear, other wearing apparel and made-up textile goods	87	14.6	6.3	0.72	4.6
25. Wood and cork	95	13.0	7.1	0.84	4.3
26. Furniture and fixtures	87	11.5	6.9	0.67	5.5
27. Paper and paper products	114	8.5	11.5	0.77	6.2
28. Printing, publishing and allied industries	134	15.4	9.2	1.26	6.6
29. Leather and hides	116	15.8	9.3	1.10	4.4
30. Rubber products	205	8.8	12.4	1.10	6.9
31. Chemicals and chemical products	179	36.7	19.5	1.73	9.7
32. Petroleum products	—	53.0	45.5	...	10.8
33. Mon-metallic mineral products	62	12.0	7.0	0.85	6.3
34. Basic metal industries	193	8.9	17.0	0.95	6.5
35. Metal products, except machinery and transport equipment	198	9.8	9.3	0.87	6.8
36. Machinery, except electrical machinery	167	21.0	8.0	0.91	7.4
37. Electrical machinery	145	17.6	14.6	0.95	6.7
38. Transport equipment	138	15.0	8.5	0.91	6.5
39. Miscellaneous manufacturing	110	13.0	12.2	0.90	5.7
Total	*119*	*15.2*	*10.3*	*1.00*	*6.1*

SOURCE: tables H to Q.

[a] International Standard Industrial Classification of all Economic Activities.

Table U

LATIN AMERICA AND THE UNITED STATES: INSTALLED POWER PER PERSON EMPLOYED IN SMALL-SCALE INDUSTRY, BY GROUPS AND COUNTRIES

(HP per person employed)

ISIC major groups[a]	*Paraguay*	*Venezuela*	*Colombia*	*Chile*	*United States*
20. Food	1.5	2.9	2.3	2.3	4.7
21. Beverages	1.0	1.4	4.1	1.4	
22. Tobacco	1.1	0.3	0.1	...	1.0
23. Textiles	7.2	1.3	1.5	1.0	2.8
24. Footwear, other wearing apparel and made-up textile goods	0.2	0.6	0.2	0.4	...
25. Wood and cork	4.1	1.4	3.6	3.7	7.7
26. Furniture and fixtures	1.0	3.5	1.0	1.0	2.1
27. Paper and paper products	5.4	1.1	1.8	1.6	8.2
28. Printing, publishing and allied industries	0.4	1.1	0.8	0.9	0.8
29. Leather and hides	1.8	4.0	3.8	3.0	1.5
30. Rubber products	4.6	1.7	2.2	2.8	6.1
31. Chemicals and chemical products	2.2	2.8	1.5	6.1	9.9
32. Petroleum products	—	6.7	22.0	...	15.3
33. Mon-metallic mineral products	0.8	2.3	1.5	1.3	7.0
34. Basic metal industries	1.7	5.9	3.8	2.5	9.4
35. Metal products, except machinery and transport equipment	2.6	3.8	1.8	2.1	3.7
36. Machinery, except electrical machinery	1.4	7.2	2.9	1.7	3.6
37. Electrical machinery	0.3	1.2	1.0	0.8	1.4
38. Transport equipment	0.7	1.7	0.8	0.7	3.7
39. Miscellaneous manufacturing	1.0	1.1	1.2	10.2	1.4
Total	*1.6*	*2.1*	*1.6*	*2.1*	*3.8*

SOURCE: data from the respective censuses.

[a] International Standard Industrial Classification of all Economic Activities.

RECENT ACTIVITIES OF ECLA

I

Latin American Seminar on Small-scale Industry

(Quito, Ecuador, 28 November-3 December 1966)

The Latin American Seminar on Small-scale Industry was held at Quito from 28 November to 3 December 1966, under the joint sponsorship of the Economic Commission for Latin America (ECLA) and the United Nations Centre for Industrial Development and Bureau of Technical Assistance Operations (BTAO), and with the co-operation of the Government of Ecuador.

It was attended by fifty-seven experts from the following states members of ECLA: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, France, Guatemala, Guyana, Haiti, Honduras, Mexico, the Netherlands, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, the United States of America, Uruguay and Venezuela. Also present were twenty-four observers from Ecuador and eight observers in all from the International Labour Organisation (ILO), the Inter-American Development Bank (IDB), the Organization of American States (OAS), the Organisation for Economic Co-operation and Development (OECD) and the Permanent Secretariat of the General Treaty on Central American Economic Integration (SIECA).

The main topics discussed were the contribution of small-scale industry to Latin America's development, technical assistance, financing, and regional and international co-operation in small-scale industry.

During the discussion of the first topic it was pointed out that small-scale industry in Latin America had developed under economic and social conditions different from those prevailing in developed countries. Typical features of this development were shortage of capital, sluggish economic growth, political and social instability, the non-participation of large sectors of the population in the money market, and an artisan industry using primitive techniques to produce simple goods. Small-scale industry had none the less acquired some economic importance in the region. The 1960 industrial censuses revealed that over 1.5 million workers were employed in this type of industry (16 per cent of total employment in industry that year) and that its value added amounted to some 3,300 million dollars (16 per cent of the region's aggregate manufacturing product).

Although small-scale industry could play a dynamic role in economic development, no particular strategy had been defined for this sector in Latin America, government action taking the form of unrelated measures based on a traditional piecemeal approach to the problem. Steps had been taken to protect small industry rather than to encourage its modernization so that it could compete with larger units on more favourable terms.

The over-all medium- and long-term industrial development plans, contained in a global model, which most of the Latin American countries had devised in recent years, had generally failed to give special treatment to small-scale industry. Hence the need to formulate over-all plans for promoting small industry, which would establish priorities with regard to sectors and means of action. Since circumstances and needs varied from country to country, it was impossible to generalize on this subject. The situation in the Central American or Caribbean countries, for example, differed from the situation in Argentina, Brazil, Chile or Mexico. Each country needed different development programmes with different kinds of instruments to solve problems, create incentives, establish priorities and develop small-scale industry in appropriate regions and sectors.

It was pointed out that technical assistance for the development of small-scale industry, which included the promotion of entrepreneurial initiative, the provision of technical advisory

services, the improvements of design, quality and standards, assistance in administrative aspects, marketing techniques and industrial research, and the establishment of a sub-contracting system, was intended to provide information and instruction for the established or prospective small *entrepreneur* and help him increase his productivity, improve the quality of his products and reduce his production costs. The participants urged all countries of the region where facilities for rendering such assistance were limited or non-existent to strengthen and expand existing services or establish new facilities, with a view to providing as many of the services required by small-scale industry as possible. Where several specialized institutions were set up, care should be taken to avoid any overlapping and to ensure proper co-ordination and co-operation.

In discussing the form which co-operation and self-help might take, the Seminar emphasized that in some countries the idea was gaining ground that small industries might combine to undertake certain functions which they could not perform individually because of their size. One of the most successful forms of association was the co-operative, which had proved very useful in solving marketing and purchasing problems.

With reference to industrial estates, it was stated that, in spite of their obvious advantages in the development of small-scale industry, only Jamaica and Venezuela had actually established such estates, composed of standard plants constructed on the basis of anticipated demand. Although many Latin American countries had considered the establishment of industrial estates for small industry and had even incorporated the idea in some of their development plans, none of the projects had yet materialized. The Seminar recommended that Latin American Governments should include such projects for small-scale industry in their development plans, since the success of industrial estates depended on whether measures had been taken to promote entrepreneurial initiative, whether financing was supplied on liberal terms, and whether technical and administrative assistance and the necessary facilities for training, etc., were provided. Without those supplementary measures, industrial estates would remain vacant or would have great difficulty in finding tenants.

As regards the financing of the development of small-scale industry, a description was given of the credit machinery and systems operating in this sector in each individual country and the main problems were outlined. The funds generated by the enterprises themselves were insufficient to promote growth, since, because of the low productivity and the high costs resulting from the small scale of production, few profits were available for reinvestment. Moreover, sources external to the enterprise did not compensate for the weakness of its internal sources, and even if they did, the repayment periods bore no relation to production needs, interest rates were high, the guarantees required too severe, and either no technical assistance was provided or there was no co-ordination between technical and financial aid.

Lastly, in reviewing the nature of international and regional co-operation in small-scale industry, the Seminar emphasized the fact that the Latin American countries had taken little advantage of the technical co-operation offered by international organizations, particularly the United Nations. The Seminar was informed that, at the request of Governments, the services of experts, fellowships, donations and certain types of equipment for a wide range of small-scale industry projects could be provided under the United Nations Development Programme, the regular technical assistance programmes of the specialized agencies and the United Nations Special Industrial Services Programme.

To avoid dispersion of effort in research and activities at the purely national level, the Seminar stressed the need to set up a Latin American institution for the development of small-scale industry, which would be mainly concerned with research, technical assistance and training. It was agreed that ECLA and the Centre for Industrial Development should be requested to carry out a study of the organization and structure of the proposed institution, enlisting to that end the co-operation of IDB, ILO, UNESCO and OAS.

II

Latin American Seminar on Industrial Statistics

(Quito, 7-16 December 1966)

The Latin American Seminar on Industrial Statistics, jointly sponsored by the Economic Commission for Latin America (ECLA), the Statistical Office of the United Nations, the Inter-American Statistical Institute (IASI) and the United Nations Bureau of Technical Assistance Operations (BTAO), was held in Quito from 7 to 16 December 1966. The Government of Ecuador, through the National Planning Board, acted as host.

The Seminar was attended by thirty-nine experts from twenty-five countries and ten accredited observers from government agencies in Ecuador and from international organizations.

The main purpose of the Seminar was to study the present status of industrial statistics in each country, review the experience gained during the 1963 census programmes and, on the basis of that information, consider ways and means of overcoming present difficulties and discuss research programmes more in line with practical possibilities in the Latin American countries.

During the discussion of industrial censuses, it was emphasized that industrial censuses constitute the bench-marks of the integrated system and the basis for annual and more frequent surveys and should therefore be taken into account in both the planning and execution of the censuses. The taking of mining, manufacturing, construction and electricity censuses simultaneously raised difficult problems. For some countries it would be preferable, more advantageous and more economical to take the censuses simultaneously in order to avoid omissions and duplications. However, despite the loss of comparability, it might in some cases be necessary to complete the enumeration in successive stages. Countries should have a permanent office, with proper financial backing, responsible for the planning and execution of industrial censuses and surveys and an up-to-date directory of industrial establishments to provide a framework for carrying them out.

The discussion of current industrial statistics centred on two objectives; first, the improvement and extension of current industrial statistics and, secondly, the provision of information to help in the formulation of international recommendations on annual and more frequent industrial statistics, as requested by the United Nations Statistical Commission at its thirteenth session.

It was felt that the experience gained during the 1963 census programme provided an excellent basis for the establishment of more frequent surveys.

Among the more important conclusions reached were the following:

(*a*) Annual and more frequent inquiries served a wide range of purposes, the most important being the use of current statistics for development planning, short-term decision-making and the preparation of indexes of production;

(*b*) Although it was not possible to make definite recommendations, the most important criterion in deciding on coverage was to include initially those units from which reliable data could be obtained; and

(*c*) Since several of the items of data to be gathered in annual surveys would be difficult to enumerate in some countries, the problem could best be solved by establishing two priorities, the lower priority being applied to those items which presented difficulties for some countries.

The Seminar also considered the tabulations of section VIII (Industry) of the Inter-American Programme of Basic Statistics (PIEB) and existing definitions that had been recommended, in order to obtain views on: (*a*) the necessity and desirability of introducing a number of changes; and (*b*) the extent to which the definitions were applicable. After reviewing the actual experience in applying the definitions, the Seminar reached the conclusion that they were still valid and that their application presented no difficulties.

In its discussion of indexes of industrial production, the Seminar indicated that countries which do not have such an index should begin to prepare them as soon as possible, and that countries which prepare a manufacturing production index should, so far as possible, include mining and electricity and, despite the problems involved, plan to include construction as well. Countries which calculate annual indexes only should consider the possibility of preparing them on a monthly or, at the very least, quarterly basis, and the data included in the

index should be classified in accordance with the International Standard Industrial Classification (ISIC), the indexes being calculated at least at the level of the ISIC (2-digit) major groups. The base year of the indexes should be changed to 1963 or thereabouts. Similarly, the offices calculating industrial production indexes should review the stages of preparation and take steps to make the monthly indexes available between three and six weeks after the reference month and the annual indexes between three and six months after the reference year.

The United Nations Statistical Commission, recognizing the need for international recommendations on minimum lists of manufactured and mining products, had requested the preparation of a basic list of commodities for which industrial production data should be compiled and had pointed to the advisability of preparing such a list after consultations in regional seminars or working groups. In its discussion of the lists of products submitted, the Seminar agreed that they constituted a valuable tool for carrying out industrial censuses or inquiries and, in particular, for preparing production indexes. Moreover, they made it possible to compare production statistics with foreign trade statistics and could be used to establish commodity balances and analyse import substitution.

The Seminar also considered that there was a great demand for internationally comparable production data on goods included in a standard list of manufactured products, in order to meet the needs of the agencies responsible for promoting regional integration efforts.

With regard to construction statistics, the Statistical Commission had confirmed its recommendation that they should be dealt with separately from other industrial statistics in view of the specific problems involved. The purpose of the Seminar's discussion of this subject was to analyse the problems of basic and current construction statistics and, at the same time, to make recommendations on such statistics which could apply to all countries.

The scope of construction censuses in most countries is "the construction industry proper", which includes all enterprises primarily engaged in construction work. Several countries include, in addition to construction enterprises, the construction work of government organizations. Another possibility is to extend the scope to all projects for which permits are issued or to carry out special surveys on public works.

A number of different solutions were suggested for dealing with the problems of subcontracting, e.g., that the enterprise should be asked to estimate the value of the work done by its own labour, excluding the work of subcontractors. The Seminar felt that it would be more feasible to ask every enterprise to report all the work done as a main contractor and as a sub-contractor, and to make a separate request to ascertain the amount paid by the enterprise to sub-contractors.

Emphasis was laid on the necessary relationship between the different surveys in an integrated system of industrial statistics and a number of methodological aspects were discussed. It was pointed out that the more comprehensive surveys served as a basis or framework for the annual and more frequent inquiries. They provided information which could be used to establish an industrial directory, data on the kind of activity and size of the statistical unit, weights for the different indexes and a framework for sample surveys. Annual inquiries could be used to update the information obtained in comprehensive surveys and could also serve as a basis for organizing monthly or quarterly inquiries. These, in their turn, provided data for updating and calculating provisional annual figures.

The Seminar agreed that a national programme in industrial statistics should be based on the following considerations: (*a*) recognition of the importance of industrial statistics and the need for a national policy in this field; (*b*) the need to examine the status of industrial statistics and requirements in the light of the human and financial resources available; (*c*) the establishment or improvement of an integrated system of industrial statistics; (*d*) research and studies on industrial statistics programmes in relation to basic censuses or inquiries, current and special inquiries and the use of sampling; and (*e*) training courses for personnel and information campaigns.

III

Seminar on the Latin American Petroleum Industry

(Santiago, Chile, 15-23 February 1967)

Organized jointly by the Economic Commission for Latin America and the Resources and Transport Division and the Bureau for Technical Assistance Operations of the United Nations, this Seminar was attended by twenty-five experts from eleven countries in their personal capacity. The main purpose of the Seminar was to discuss a number of topics of special interest in determining development policy in the major sectors of the Latin American petroleum industry. To that end, eleven documents were prepared by the secretariat and presented as background material, and will subsequently be combined in a single study on petroleum in Latin America which will review recent trends in the industry and its role in Latin American development, make production and consumption projections and analyse both the size of the technical and financial contribution needed to ensure an adequate supply of hydrocarbons and policy choices for the development of the sector.

The Seminar's discussions centred on the following topics:

National petroleum policies and their characteristics. It was pointed out that these policies could not be uniform or synchronized for countries, since they were determined by economic, technical, financial and tax variables. It was felt that petroleum policy should be an integral part of over-all economic policy and of planning systems where they exist, although it should be flexible enough to allow for efficient co-operation between private enterprise and the State, which retained sovereignty over the natural resource. In this respect, the mixed enterprise makes it possible for the public sector to increase its share of the profits and gives it easier access to technical know-how, capital and, possibly, marketing systems. A study should be made of the economic and social factors justifying the establishment of state petroleum enterprises, which now operate as efficiently as private enterprises in several Latin American countries. It was proposed that ECLA should undertake a comparative study of the various kinds of state and mixed enterprises, with particular emphasis on their legal and organizational structure, an evaluation of their administration and management, and the programming and financing of the petroleum sector.

Investment policy. The main sources of financing for the petroleum industry are the internal resources of each enterprise or country. If the enterprise is an integrated international organization, it provides its own funds; if it is a state enterprise, external financing is more limited. There is also the possibility of obtaining financing from the United Nations Development Programme for preliminary or pre-investment surveys. For the purpose of estimating investment and production costs, which is particularly risky for the exploration and extraction of petroleum, a differential methodology was suggested for calculating such costs in the stages of exploration, development and operation. It was felt to be of great importance that ECLA, with the help of the member countries, should undertake a study of investment in the petroleum industry, distinguishing clearly between the different stages, from prospecting to refining and transport, and indicating the financial requirements in terms of both national currency and foreign exchange. It was emphasized, in addition, that in certain countries a growing proportion of the equipment needed by the petroleum industry is supplied by local industries.

Price policies. It was felt that international petroleum prices are likely either to level off or to decline. The view that prices would remain stable was based, *inter alia*, on the slackening in the rate of deterioration in Venezuela's export prices, the fact that conditions in the Middle East would not allow prices to fall much further and on increased demand. The opposite view was supported by the incorporation of new petroleum-producing areas, the sharp reduction in freight costs and improvements in yield. Internal price policies are motivated by economic, social and other factors and mainly affect the tax burden and the proportion of income withheld by the companies. In the case of most petroleum products consumption-price elasticity is low, but the demand for competing products reacts rapidly to price differences (or to excessive subsidies or tax exemptions), causing abrupt changes in the structure of consumption. Emphasis was laid on the desirability of establishing integrated energy policies and consumption patterns that would reduce the social cost to a minimum. Attention was also drawn to the effect on prices of such factors as the exchange rates,

inflationary pressures and taxes lacking a sound foundation. The Seminar suggested that a critical and constructive study should be made of the systems used to fix the prices of hydrocarbons within the context of energy policy in Latin America as a whole.

Reserves of hydrocarbons and their rational development. In view of the diversity of definitions and the lack of contact between technical experts, it was suggested that ECLA should do further work on this subject by collecting data directly from the enterprises and then hold a symposium on the basis of the information collected. This symposium could be attended by Latin American experts from both state and private enterprises, who would study in depth the technical and economic factors affecting the reserves. It was hoped that specific recommendations would be formulated and standards and procedures updated. Rational development policies should be based on optimum conservation, leading to maximum economic recovery from each reservoir and the introduction of cheaper secondary recovery methods, for which trained technical personnel would be needed.

Petroleum and the economic integration of Latin America. It was felt that there are possibilities of regional complementarity—sometimes marginal or seasonal in nature—for certain products, but that it should be preceded by an integrated programming of petroleum activities. The inclusion of equipment and material in intra-area trade might accelerate the process of integration as would the adoption of specific complementarity measures, preferably by the competent national or international agencies.

IV

Meeting of the Group on the Application of Science and Technology to Development

(Santiago, Chile, 27 February-1 March 1967)

The Advisory Committee on the Application of Science and Technology to Development was established in 1963, a few months after the conclusion of the conference on the subject in Geneva. It is composed of eighteen members, nine from the developed countries and nine from the developing countries, three for each region. The regional group for Latin America consists of Dr. Carlos Chagas (Brazil), Mr. Francisco García Olano (Argentina) and Mr. Oliverio Phillips Michelsen (Colombia).

The Latin American regional group met at Santiago, Chile, to examine the World Plan of Action for the Application of Science and Technology to Development submitted to the Economic and Social Council by the Advisory Committee, and to make new suggestions and comments, in particular regarding Latin America's most pressing needs.

The group's conclusions dealt with the following subjects:

Human nutrition. It was recommended that the Advisory Committee should undertake a study as a basis for promoting plans to ensure that industrial protein-producing plants would be operating throughout the region within a few years.

Industrialization. It was proposed that the Commitee, in conjunction with the United Nations Development Programme and other agencies, should see that new inventions and discoveries are applied to industry; although Latin America is assimilating new techniques more rapidly than any other region, industrial development in the steel and petrochemical industries, for example, is still hampered by the lack of technical know-how.

Natural resources. It was pointed out that there are still many deficiencies in natural resources, although Chile is an example of what can be done in timber. Natural gas was cited as warranting further exploration because it had definite possibilities.

Scientific policy. The group considered that the question of scientific training, which is of vital importance in the application of science and technology to development, has not been given due attention by Governments, in spite of the work which UNESCO and OAS are doing in this field. Educational efforts should not be concentrated exclusively on the University, but should extend to the lower educational levels as well.

A related problem is the flight of technical personnel, which cannot be controlled until the scientist is given his proper place in the national economies, although it can be partly mitigated by international action, notably that of the United Nations Development Programme (Special Fund Component).

ACTIVITIES OF THE LATIN AMERICAN INSTITUTE FOR ECONOMIC AND SOCIAL PLANNING

NINTH MEETING OF THE GOVERNING COUNCIL

(Santiago, Chile, 23-24 February 1967)

The Governing Council of the Latin American Institute for Economic and Social Planning held its ninth meeting at Santiago, Chile, on 23 and 24 February 1967. The Report of the Director-General of the Institute (INST/53), which deals with the Institute's training, research and advisory activities during 1966, was presented at the meeting.

The report describes the general orientation and outlook for the Institute's activities and the action being taken to extend them, a subject which was also discussed by the Governing Council.

During 1966, the Institute consolidated its activities in order to cope with what is required of it at its present stage of development. In view of its many responsibilities in so vast and difficult a field as that of planning, the Institute first had to sort through and organize ideas already formulated, bring into use a new set of technical instruments, as yet incomplete, and extend its action into hitherto unbroken ground. Thus, with regard to social questions, the Institute initiated work on specific sectors such as health and education, and expects to start research on social change as a basic factor of development. In the course of plan implementation, new problems arose with which the Institute dealt in turn; they included such diverse subjects as natural resources, procedures for establishing a relationship between economic integration and planning, the application of budgetary and administrative techniques, and so forth.

Once a certain stage had been reached, it became necessary to build a single frame of reference for this wide range of activities. Thus, in 1966 the Institute began to fit its work into the framework constituted by the interpretative synthesis of economic and social development, economic integration, and specific plan implementation problems. The trend of its activities was towards research in depth and the pursuit of aims more directly related to the planning efforts of individual countries.

In 1966 the Institute also achieved a number of objectives previously established by its Governing Council. Its first printed publications were issued; its advisory services were strengthened, and it began a procedure for assistance by advisory teams; it collaborated with countries and with financing agencies in the formulation of three projects of importance for the execution of the relevant plans; its first ambitious piece of research on integration was completed; and in its training courses greater emphasis was placed on economic and social research.

Despite the increasingly extensive co-operation between the Institute and other agencies, shortage of resources still necessitates an even greater effort to concentrate activities. This is all the more essential, inasmuch as in view of the characteristics of the planning process in the Latin American countries and the years already spent on this task, there is a growing desire to strengthen the practical impact of the Institute activities on the countries of the region. To this end, and in connexion with the central objective of assisting in the establishment of planning systems, specific programmes were launched in 1966.

In December 1966, the Institute's first printed publications began to appear for distribution in Latin America. They are being produced by two firms of publishers, one in Chile and the other in Mexico. It is hoped that translations into Portuguese and other languages will also be published. The first group of studies made available for wide distribution includes the following titles: *Discusiones sobre planificación* and *Planificación del desarrollo industrial*, already issued; *Planificación y presupuesto por programas* and *Filosofía, educación y desarrollo.*

The two last-named textbooks are on press and are expected to appear in March 1967.

The publications will report the findings of empirical research on the problems and experience of Latin America. This research is still focused on economic development, social development, integration, sectoral planning (for agriculture and the public sector), preparation and evaluation of projects, programming of financing, natural resources, and so forth. The studies in this group in which most progress has been made will be included among the publications to be issued in 1967.

The research conducted by the Institute in connexion with Latin America's external sector and economic development and their relation to the integration movement was concentrated in 1966 in two studies, one covering Latin America as a whole and the other concerned with Central America. The latter is linked up with the studies that the secretariat of the United Nations Conference on Trade and Development (UNCTAD) is carrying out at the world level.

The Institute is carrying out its research in increasingly close co-operation with national planning agencies, universities, research centres and international institutions. For example, the short-term economic policy model completed in 1966 was prepared in Chile in collaboration with technical experts from the Planning Office, Ministry of Finance, Central Bank and University of Chile. Various social studies are being undertaken with the co-operation of the National Development Council (CONADE) in Argentina, and with that of the Institute of Social Sciences of the University of Brazil, and similar arrangements for joint research have been made with the Colegio de México. Research work on integration has given rise to requests for collaboration—with which the Institute is complying—from the Latin American Free-Trade Association (ALALC) (concerning relations between national economic policies and integration policies) and from the Institute for Latin American Integration (Instituto para la Integración de América Latina—INTAL) (concerning the status and problems of the incorporation of integrationist policy in the development plans of the Latin American countries).

A number of changes were introduced in the 1966 Training Programme, in order to adapt it to the evolution of planning in Latin America and the stage it has now reached. When the Institute was inaugurated in 1962, it supplemented the training courses given by ECLA by special courses on health and education planning. These were the first of their kind to be offered in Latin America, and paved the way for the initiation of similar courses in other developing regions. In 1966, a course on planning for the housing sector and another on planning and economic development for Latin American trade union leaders were added to these special courses. Through the activities of the Institute and ECLA, and of other national and international agencies, a body of planning experts has been built up to assume responsibility for the formulation and application of development plans, but little has so far been done to induce the private sectors—both workers and *entrepreneurs*—to play their part in the planning effort. The Santiago course was held to fill this gap. Upon returning to their own countries, several participants organized courses at the national level, which had a multiplier effect in respect of the Institute's work. All these were preliminary measures to complement the training programmes already carried out at the professional and technical level.

As stated on several occasions, the intensive courses given in different countries are increasingly directed towards satisfying the most pressing needs in the planning process. The main difficulties in the implementation of development plans are the lack of properly prepared projects and of institutional machinery for their generation, preparation and evaluation. In 1966 a course on projects was organized in Central America on the basis of work done by professors and trainees in connexion with important projects in that area. Similarly, project preparation was the main subject studied in two of the three courses held in Brazil.

In the courses given in Mexico and Colombia, approximately one third of the time was devoted to agriculture, whose more dynamic development is essential for Latin America. The particular characteristics and problems of agriculture have been the subject of a body of long-term research on programming for the agricultural sector, conducted by a team of Institute research-workers with the collaboration of FAO, the Inter-American Institute of Agricultural Sciences (IIAS) and other agencies.

The special courses were also designed to deal with problems of vital importance for particular sectors. Economic integration and its bearing on the objectives of national educational systems were analysed at the course on educational planning held at San José de Costa Rica in 1966 for Central America and Panama. The

subject was approached on the basis of a comparative study of education which emphasized the differences between the various systems and produced a useful statistical basis for the charting of policy in this field.

The Basic Course given at Santiago is the pivot of the Institute's Training Programme, since it meets the permanent need to train the development experts and specialists required in connexion with national planning processes. In 1966, in response to a new imperative, additional emphasis was placed on the co-ordination of national plans and regional integration, with due regard to the findings of Institute research, especially in the social field, and plan implementation.

With the 1966 programme, the number of over-all and sectoral planning experts trained by the Institute since its establishment reaches 2,601. Of these, 335 attended the basic course, 1,834 the intensive courses and 432 the special courses.

The Advisory Services Division, established on the basis of the Special Fund Project approved by the United Nations Development Programme (UNDP) in January 1966, entered into full operation that year. Various types of advisory assistance was provided for fourteen countries of the region. The Institute thus fulfilled its twofold objective of strengthening its advisory services and introducing more flexible procedures for providing that assistance.

Its major endeavour was to remedy some of the deficiencies of the still incomplete planning systems by adding components that are considered indispensable for their operation. Planning efforts in Latin America have been concentrated on medium-term plans which usually fail to gain sufficient political support and do not provide the means and machinery required to implement them. The development strategies which some countries have been formulating with the collaboration of the Institute seek to express development objectives in terms of specific needs, projects and programmes which will have meaning both for political circles and for the various sectors of private activity. They embody a long-term view of the economic and social development of the Latin American countries and entail consultation with those directly responsible for national policy and with the various social sectors. The action to be taken at the various stages is programmed on the basis of this long-term projection. It is also hoped that these development strategies will provide guidance in the formulation of sectoral plans and will thus shorten the time spent on plan preparation. Work of this type has been started in Central America, the Dominican Republic and Paraguay.

These activities have once again brought to the fore the necessity of co-ordinating the planning and economic integration processes. For the moment, limited progress has been made in pinpointing complementarity possibilities and incompatibilities between different countries' plans, and in analysing the integration of infrastructure projects.

In 1966 a programme of operational advisory services was drawn up and a start was made on its implementation. In previous years the Institute's activities in this field had been concentrated on the use of certain instruments, such as programme and performance budgeting and public sector accounting. This work was continued in 1966 with the aim of providing advisory assistance on annual plans of operation from 1967 onwards. The absence of annual operational plans has been one of the chief stumbling-blocks in plan implementation, and, generally speaking, Latin America has little experience in this field. The Governing Council has repeatedly pointed out the need for the Institute to press for the incorporation of short-term policies, in planning systems, together with the machinery required to put the plans into effect. The Institute devoted some of its attention to the preliminary formulation of methods whereby countries can progressively introduce operative planning systems. To this end, an internal seminar was held at Santiago, with the co-operation of the Plan Commissariat and the Ministry of Finance of France, and the National Development Council of Argentina.

During the year 1966 the Institute expanded its activities in the field of projects, and began collaborating with Latin American countries in the preparation of projects of key importance from the standpoints of development and of the execution of national plans. This work was undertaken in co-operation with the Inter-American Development Bank (IDB) and FAO, and resulted in the preparation of two major draft projects for the agricultural sector, in Ecuador and in Paraguay. In the former country, the aim is to convert a single-crop area into one with a more diversified structure of production; in the latter, a large land-settlement area is to be consolidated and the opening-up of new land facilitated, with due regard to links with the rest of the national economy and prospects in respect of trade with neighbouring countries. Both draft projects were completed in 1966.

In Uruguay, the Institute's collaboration in 1966 was directly geared to the solution of institutional problems in the field of projects, through the creation of machinery for project promotion in Ministries and other agencies responsible for the implementation of programmes envisaged in the Development Plan. The Government has decided to apply for aid from UNDP (Special Fund Component) so as to be able to introduce such machinery on a large scale.

In compliance with the ECLA resolution under the terms of which the Institute was established, action was taken in 1966 in relation to the next phase of its existence. The Governing Council considered this matter at the meetings it held in December 1965 and May 1966, and formulated recommendations of which cognizance was taken by the Committee of the Whole of ECLA at its eleventh session. The Committee in its turn decided, in a resolution adopted on 12 May 1966, to recommend to the Governments, to the United Nations Development Programme (Special Fund Component), and to IDB, that they should take the necessary steps to ensure the continuance and intensification of the Institute's activities. The discussion reflected the Government's wish that with the same resolute energy as had characterized its work on planning at the national level, the Institute should grapple with the task of placing the instrument in question at the service of the economic integration of Latin America.

The unanimous support accorded to the Institute by the States members of ECLA served as a basis for the negotiations undertaken with UNDP and IDB. The Inter-Agency Consultative Board, in compliance with requests submitted by Latin American Governments, had approved, in October 1966, the proposal formulated by the Administrator of UNDP with the aim of ensuring the maintenance and development of the Institute for an additional period of four years, as from 1 July 1967. Furthermore, consideration of the support to be provided by IDB during the same period was well under way. Throughout this stage of the proceedings, it has been encouraging to note the interest shown and the backing given by the Governments, which, moreover, have pledged financial contributions for the forthcoming phase of the Institute's activities.

Another point to note with satisfaction is the widening of the sphere of co-operation established with United Nations and inter-American agencies and other public and private institutions, while the assistance of ECLA, UNDP, IDB, UNESCO, UNICEF—whose collaboration was of basic importance for the development of activities in the social field—FAO, the ILO, the Pan American Sanitary Bureau, IMF, OAS, Resources for the Future, AID (in connexion with the programme of fellowships for Institute courses) and the Government of France must once again be placed on record. Mention must likewise be made of the contribution of one hundred thousand dollars donated by the Government of the Kingdom of the Netherlands in 1966, to finance various Institute activities.