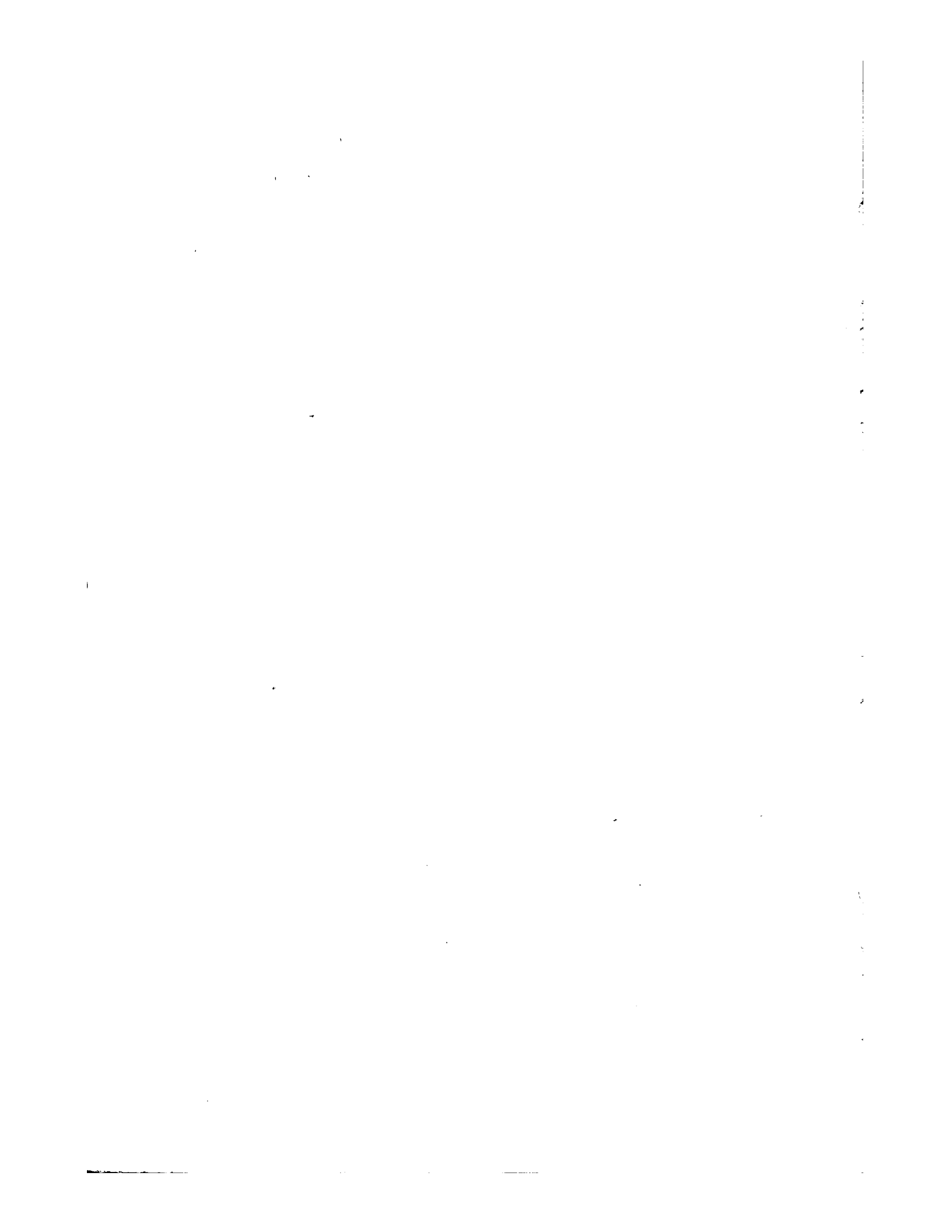


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EXPLANATION OF SYMBOLS

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.

DEVELOPMENT: IMAGES, CONCEPTIONS, CRITERIA, AGENTS, CHOICES¹

By MARSHALL WOLFE*

1. *Images of development*

During more than a quarter century the political leaders of most of the human race have endorsed "development" as a central theme of public policy and have affirmed that all peoples have a right as well as a capacity to "develop". Theorists and practitioners from the most diverse backgrounds have explored the bases and implications of this position and it has been popularized through many channels. Thousands of specialists have come to derive their livelihood from "development". This prolonged preoccupation with development has not brought the world closer to a definitive consensus as to what development is and how it is to be attained, and it is striking that different conceptions and approaches continue to coexist and interpenetrate each other, unaffected by demonstrations, in an extensive critical and polemical literature, of their mutual incompatibility or their incongruity with experience. Hardly any of the ideas about development current 25 years ago have been definitively discredited, to judge from

their recurrence in policy declarations, but quite different ideas have emerged alongside them, many of the latter deriving from interpretations of societal change current long before the term "development" came to the fore. The circumstances in which the international discussion of development is carried on make for eclecticism, receptivity to superficial novelties, evasion of clear choices and forgetfulness towards past experience. In fact, the discussion consists in large part of ritual affirmations or of a dialogue of the deaf.

Several radically different conceptions of and approaches to development can be deduced from the discussion. The differences centre on the following questions: (a) images of the international order and its role in national development; (b) images of existing national societal structures and power relationships; (c) value-based images of the future society expected to emerge from the development process; (d) nature of the agents relied on to direct or impel development; (e) choices open to the agents in trying to move from the unsatisfactory present to the preferred future. Logically, the conceptions and approaches adopted in relation to the latter questions should derive from those adopted in relation to the former. In practice, the correspondence may not be very close.

The first question suggests three alternative images of international "developmental" relationships: as a procession, as a living pyramid, and as a race towards a bottomless pit.

The first image has informed the activities of the international machinery of bureaucratic and research bodies; professional advisers and promoters; reports, resolutions and recommendations dedicated to the proposition that Governments are rational, benevolent and coherent entities, anxious to advance towards "development", "modernization", and "social justice" if only they are told how; and that somewhere there is a One Right Path that can

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¹ This paper was prepared as a contribution to discussion of the issues to be confronted in an attempt to define a "unified approach to development analysis and planning". ECLA has since 1971 been collaborating with the United Nations Research Institute for Social Development and the United Nations Social Development Division in multidisciplinary explorations of this question. Information on the United Nations initiatives leading to the joint project and a number of papers on related topics can be found in "Unified socio-economic development and planning: some new horizons", *International Social Development Review* No. 3 (United Nations publication, Sales No. E.71.IV.9). The preliminary findings of the research team have been reproduced in "Report on unified approach to development analysis and planning: preliminary report of the Secretary-General" (E/CN.5/477, 25 October 1972), and the Report of an Expert Group Meeting on the question, held at Stockholm from 6 to 10 November 1972 has also been issued (E/CN.5/490, 23 January 1973).

be pointed out to them. If the guidebooks turned out by the international machinery do not seem to have brought them to this Path as yet, some essential instruction must have been missing. Developmental guidebooks thus become continually more complicated and "comprehensive". "Planning" comes to be reified as a mystical entity that will solve all problems once rightly conceived: "planning must pay greater attention to . . ."; "planning must be comprehensive . . ."; "planning establishes . . ., permits . . ., provides . . .", as the formulae in international reports have it. The supposition of actual or potential Governmental rationality and benevolence links the high-income to the low-income countries in the quest for development. If the former have not yet done enough to uplift the latter, they will do so as soon as it is convincingly demonstrated that this is their duty as well as their interest.

The conception of development is lineal. It is summed up in the slogan of "closing the gap". One can imagine a straggling procession of countries. The leaders are forging ahead confidently and comfortably, already within the frontiers of the Promised Land. A few countries in the middle are marching rapidly, trying to subdue fatigue and ignore hunger and sore feet, seeing the gap between themselves and the leaders beginning to narrow. A larger number of countries, smaller and weaker, are falling ever farther behind the leaders, while sending frantic messages up the line—"Do your duty: help us to march faster!" Some of them are screaming and tearing their own flesh in frustration; a few have stopped in despairing apathy. The guidebooks are commonly critical of some of the steps taken by the leaders in the past; the "human cost" was unnecessarily high. They suggest shortcuts based on this experience, but in the main they assume not only that the direction taken by the leaders was the right one for their own interests, but also that it is desirable as well as attainable for the followers.

The second image is suggested by the views of many sociologists and political scientists and some economists who reject or disregard the demands for universally applicable development guidebooks and question the capacity of most national Governments, and of the international order itself, to generate processes justifying the hopes that have been invested in the term "development". From this point of view, the developmental processes followed by the present high-income countries in the past are not open to the rest of the world today,

except possibly in a few very special cases. In fact, the high-income countries have been able to "develop" largely through their ability to exploit and dominate the others and, under changing guises, this remains true today. As long as their present economic and political structures persist, they are inherently incapable of helping the others to "catch up". The models they offer lure the rest of the world into an impasse, sapping national capacity to make the decisions needed for authentic and autonomous development.

The world system is thus represented by a living pyramid rather than a procession: the countries on top are able to rise higher and higher because they rest on the shoulders of those under them. Since the pyramid is a living structure, it is continually in movement, with the units at the bottom trying to scramble up or to escape altogether, and with the units at the top trying to bind them in place by continually changing combinations of force and fraud, threats and inducements. The units at the top cling to each other for support, but at the same time try to raise themselves on each other's shoulders. From time to time, a great convulsion shakes the whole pyramid, as the competition at the top turns violent and the opportunities below for climbing or escape are enhanced. "Development", for the units now near the bottom, presupposes destruction of the whole pyramidal structure and its replacement by equalitarian and co-operative relationships between units. This pyramidal image of the international system usually accompanies a similar image of power structures within the units. The conclusion may or may not be drawn that the consumption and production patterns of the countries now at the top of the pyramid are unattainable or undesirable for the remainder; in any case, a greater emphasis on public control of production, collective forms of consumption, and equitable distribution of goods and services are looked towards following transformation of the international and national pyramidal structures.

A third image is rapidly rising into prominence that negates basic premises shared by the first two concerning the feasibility and desirability of long-term expansion of production and consumption and the unlimited problem-solving capacity of technological innovation. Natural resources are finite; the tampering with the environment inseparable from any long-continued effort to raise production and consumption levels for an ever-increasing world population points to ecological disaster; the

expectation that the low-income societies of the world will ever command sufficient resources and productive capacity to reach the present levels of material welfare of the high-income societies is absurd; the latter societies will perish and drag the rest of humanity with them if they do not transform their own expectations and ways of life. This image, first put forward by demographers and ecologists, is entering into informed public opinion with remarkable speed, aided by the increasing prominence of unwanted by-products of economic growth and population growth. Elsewhere, particularly in the public opinion of the societies striving hardest to "close the gap" or scramble up the pyramid, it is naturally met with intense frustration and rejection.

Under this diagnosis, the procession is headed not towards the Promised Land but towards a bottomless pit. The pyramidal struggle is taking place on quicksand, in which all the contestants will be engulfed the more quickly the harder they struggle to climb. The only hope lies in halting the procession or the struggle, setting entirely different priorities for human endeavour, attaining zero population growth, husbanding resources, subordinating production and consumption to preservation of an ecological balance that will be viable over the long term.

Each of these three images sums up a wide range of currents of opinion, many of them on far from friendly terms with one another. The first camp ranges from devout believers in econometric planning and maximization of productive investment to prophets and promoters of "human resource development", "community development", "achievement motivation", etc. The lowest common denominator is faith in the potential rationality and benevolence of national Governments and the international order. The second camp ranges from several schools of revolutionary Marxists, looking to simultaneous transformation of the international order and of national control over the means of production as prerequisites for equitable worldwide development, to "realists" preoccupied with national or class possibilities for survival, manoeuvre, and enhancement of bargaining power within structures of domination and dependency viewed as inherently and permanently cramping and inequitable. The lowest common denominator is concern with questions of power and with the identification of social forces capable of directing "development". The third camp ranges from believers that happier and more creative

human societies can and will emerge from a transformation of existing values to prophets of unavoidable doom for the whole human race. The lowest common denominator is rejection of the viability and desirability of indefinitely continuing increases in population and production.

The first camp is still predominant in international discourse, but with many signs of declining self-confidence and of increasing contamination by preoccupations emanating from the second and third camps. The eclecticism and anxiety to satisfy all interests capable of making themselves heard in international meetings characteristic of this camp make it vulnerable to such contamination. Governments are increasingly urged to do different things and do them better than in the past. Official spokesmen denounce corruption, bureaucratism, inequitable distribution and external dependency, and vow that their respective Governments will mend their ways. Statements on the need to confront national and international power realities, to seek support on the basis of the interests of determined classes in determined development policies appear even in the preambles to economic development plans. However grudgingly, the indispensability of population limitation and resource conservation, the dangers and futilities of production for the sake of production, begin to receive explicit official recognition.

There are obvious limits to the capacity of inter-governmental organizations or national Governments to work out logically and objectively the implications of the many variants of the three images and choose accordingly a coherent policy framework. It is hard enough for individual specialists in development studies, with their status dependent on the reality of something identifiable as "development", concerning which Governments can usefully be advised, and susceptible to policy-oriented research, to do so. It is even harder for political leaders and administrators. If the State, as now constituted in the rich countries and the poor, is inherently incapable of furthering the "development" of the latter through rational, benevolent, plannable action, or if what has hitherto been considered "development" is leading to disaster, what then? What function is left to the development theorist and adviser? If he is to give advice, to whom should it be directed? Can he hope to formulate conceptions of development or criteria for development that will correspond to real, feasible, desirable change processes; that will be susceptible to rational

public intervention on behalf of human welfare; and that will be intelligible, at least as a basis for discussion of alternative lines of action, to persons whose outlook is coloured by one or other of the three images?

2. *Conceptions, values, criteria for styles of development*

In the earlier years of international pre-occupation with "development" its proponents almost universally took for granted, with many differing shades of emphasis and readiness to admit the relevance of other factors, that its central element consisted in the raising of production *per capita*, mainly through industrialization, and that this called for maximization of the rate of "productive" investment. This outlook carried with it the explicit or implicit understanding that the high-income industrialized countries of the world are "developed", that this is an enviable state of being, and that the rest of the world can attain it. The proponents of "development" might have their doubts about the capacity of the least-favoured countries to "develop" through industrialization, but since the only alternative seemed to be that they should remain poor and backward, these doubts, in the climate of agreement on universal rights to develop, were excluded from public intergovernmental discourse.

By now, this conception of development has been criticized so repeatedly and from so many points of view that further attention to it might seem equivalent to flogging a dead horse. Nevertheless, it remains stubbornly alive in the outlook of many political leaders, planners, and entrepreneurial groups, and belief in it as a real alternative to be refuted conditions the ways in which other currents of opinion seek more satisfying conceptions of development. Their argument runs that single-minded pursuit of an economic growth objective has proved counter-productive. In fact, the past quarter-century offers few convincing examples of countries that have been capable of single-minded pursuit of economic growth over any length of time, although there may have been a good many whose political leaders and planners thought they were trying to do so. Such a single-minded pursuit requires an exceptional combination of strength and continuity in the political régime, resource endowment, and a favourable international conjuncture. In the few instances in which these requisites have been present, single-minded pursuit of economic growth has not been counter-productive in its own terms, or in the interests of the groups controlling the

process, although the results are open to criticism in terms of human welfare and equity values and although long-term capacity to manage the resulting tensions may be doubted.

In attacks on the identification of development with economic growth several kinds of arguments are commonly mingled: the human costs are too high, the results are inevitably inequitable, the kind of "consumer society" to which it leads is inherently undesirable even if the inequities are alleviated, the societal resistances and structural incompatibilities are bound to hamper or disrupt economic growth itself unless societal change is brought to the fore in the developmental model, international relationships are incompatible with thoroughgoing industrialization of the countries now lagging. Sometimes the proponents of alternative approaches to development seem to be governed by value premises in rejecting the exclusive "economic growth" approach, but to be trying to convince the political leaders and planners in terms of practical arguments that it will not work. Sometimes the planners themselves proceed from an attempt to understand and avoid the practical "social obstacles" supposed to be responsible for the frustration of their economic growth strategies, and then introduce value premises to strengthen their arguments for needed structural changes.

It may be suspected from recent international discussions that the arguments have penetrated only superficially into the thinking of the political leadership and into public opinion in most countries. The supposition lingers on that all countries face a real choice whether to "concentrate on economic growth" (imitating the earlier "stages" of the now "developed" countries) or to balance economic growth (assumed to be essential in any case) with considerable allocations of resources to social services and measures for income redistribution (imitating the later stages of the now "developed" countries). These suppositions are compatible with either of the first two images described above, although the agents and strategies would be different. They are, of course, radically incompatible with the third image, although a division, embryonic as yet, can be detected between policy proposals emphasizing prevention of further economic growth and those emphasizing the distributional and welfare requirements of a society that dispenses with economic growth.

In the quest for more adequate conceptions of what development is and why it is wanted, it seems essential to insist on the making of a

clear distinction between two legitimate uses of the term "development", but also to keep the interpretations deriving from these two uses in continual contact with each other:

(a) "Development" consists of systematically inter-related growth and change processes in human societies, delimited by the boundaries of national states, but also highly inter-dependent on a world scale. These processes have many uniformities and predictable sequences, but also have unique characteristics in each country or society, deriving from historical patterns, cultural traits and values, territorial and population size, resource endowment, internal class structure and power relationships, place in the international system, etc. Each society has a more or less limited range of choices open to it and a more or less limited capacity to make choices. At any given time the political capacity to make choices may or not be compatible with the real developmental alternatives that are open, and both the capacity to choose and the range of alternatives are continually changing. The only general alternative to "development" in this sense is stagnation or decay. "Development" may at different times become more or less spontaneous or subject to rational policy decisions and planning; more or less conflictive or peaceful; more or less equitable or inequitable; more or less investment-oriented or consumption-oriented; more or less autonomous or dependent at the national level. It can also be more or less susceptible to breakdown through internal contradictions or viable over the long term, but there seems to be no adequate reason to assume that any national pattern of development can continue indefinitely without exhausting its potentialities and facing breakdown or transformation. Development in this sense is inescapably *societal* development; for analytical purposes economic, social, political and other aspects can be treated separately, but it is misleading to regard these as different kinds of development. The components of development as a system can, in principle, be determined empirically, through study of their inter-actions, although this may not be fully feasible in practice. In this sense, it might be justifiable to rule that certain things that happen in a given society, and certain public measures, fall outside the developmental system of inter-actions, or are not related to them in any way likely to affect significantly the future process of developmental change;

(b) "Development" expresses an aspiration towards a better society. In this sense, it im-

plies choices derived from value judgements concerning the content and characteristics of a better society. It also implies value judgements concerning the right of the existing society, through general consensus or through agents claiming to represent the best interests of the society, to make such choices and enforce them through developmental policies. It can be assumed also that the choices are envisaged as feasible rather than utopian; for each society, they must fall within limits set by "development" processes and capabilities in the first sense. The value-oriented sense of development as an aspiration offers a frame of reference for clarification of what each society wants to do, what it can do, and what the short-, medium- and long-term implications and requisites for its choices may be. In this sense also, development is societal and constitutes a system of inter-actions, but the content of the system is determined by the values and preferences of the dominant forces in the society. Anything to which these forces give a high priority is part of their preferred style of development, whether or not significant inter-actions with other components of the style can be detected.

From an international point of view, one can proceed from the above distinction between two uses of the term "development" to the following propositions: (i) different national styles of development are legitimate, possible, and indeed inevitable; (ii) all countries face a certain range of choices of style, but the range of feasible choices differs for each country; (iii) in terms of internationally accepted values, whatever style is chosen should be compatible with a minimum criterion: enhancement of the capacity of the society to function over the long term for the well-being of all its members; (iv) each society faces a challenge to evolve a style of development responding to this criterion through continued, increasingly realistic and informed exploration of the choices open to it, and through the elaboration of corresponding principles and techniques of decision-making; (v) the definition of a style of *societal* development cannot be restricted to supplementation of national income objectives by a set of conventional quantified sectoral "social" objectives, although such objectives have a legitimate place in the definition; (vi) choices leading to a style of development need not strain to be "comprehensive", in the sense of allocating a place to every conceivable form of public action and "taking into account" the inter-relationships of everything

with everything else; attainment of a viable style of development may require a capacity to concentrate on certain key objectives at each stage, minimizing the diversion of resources and public attention to other objectives that are desirable in themselves. These choices cannot be governed by universally applicable "rights"; (vii) the emphasis on increasing rationality in diagnosis and decision-making does not imply that any society can expect to attain a completely harmonious "technocratic" style of development; choice will always be a political process; debate and conflict over choices have a legitimate place in any acceptable style of development. The outcome may be a coherent style imposed by a single dominant group, or a semi-coherent style emerging from bargaining and compromise among groups whose objectives are basically compatible, or an impasse when no group is able to dominate and the positions are too far apart for a developmentally viable compromise.

A demonstration of the need to choose a coherent style of development and the advocacy of action strategies consonant with the style chosen supposes the presence of an agent or agents capable of understanding the demonstration and acting on the advice. In practice, one finds a multiplicity of prospective agents varyingly open to such demonstrations and advocacy on the basis of their values, preconceptions of development, and immediate interests, and varyingly capable of taking relevant action. These prospective agents have differing reasons for wanting "development", as they conceive it, and give "development" differing priorities within their whole range of objectives. A demonstration convincing to one prospective agent may be unintelligible to another and unacceptable to a third. The present notes have insisted on the absurdity of addressing developmental advice to a non-existent coherent, benevolent, rational and powerful entity, solely interested in the most effective way to impel development for the enhancement of human welfare. A moment's thought concerning the interplay of different interests, rigidities, irrationalities, and propensities to evade choices and prefer ritual to effective action in whatever organized activity the reader may have entered should be enough to dispel this belief.

The quest for more authentic, value-oriented and viable styles of national development can never be monopolized or controlled by social scientists and planners, but neither can these specialists restrict themselves to instrumental

roles, accepting as given developmental directives emanating from the political leadership or from popular consensus. Such directives are never going to be coherent enough. During conjunctures relatively favourable to development, political leadership representing the more dynamic elements of a given society will hold the centre of the stage and will try to act on some explicit or implicit developmental strategy. This leadership, however, cannot be expected to preoccupy itself with development alone; its first preoccupation must be to insure its own survival and strengthen its hold on power, and this will require a combination of actions that are in part, from any strictly developmental viewpoint, irrelevant, wasteful or damaging. It may be vulnerable to delusions of omnipotence and very poorly informed concerning its real capabilities. Moreover, the political leader and administrator face a succession of limited choices, with the response partly predetermined by precedent or by the strength of immediate pressures, whose implications for a style of development, even if the main lines of the preferred style have been defined, are obscure or ambiguous. The implications of such limited choices cannot be grasped adequately through experience or intuition, and few choices meet with unanimous approval even within the political leadership.

The task of the social scientist and planner, then, is to help the political leadership—and indeed all persons concerned with public policy—towards more rational choices, taking into account all relevant factors, in pursuit of a style of development that is viable and acceptable, in its main lines, in the eyes of both parties, and to help decrease the proportion of choices that are counter-productive in relation to the style, without aspiring to an unrealistically rigid consistency. This task can hardly be accomplished to any significant extent as long as it is monopolized by specialists communicating through a technical jargon. It will progress to the extent that the practice of thinking about styles of development, choices deriving from them, and rational techniques of decision-making penetrate throughout the political leadership, the public administration, and the population in general.

The techniques of economic development planning in use up to the present have made significant contributions along these lines, but these contributions have been smaller and more erratic than might have been expected from the importance attributed to such planning during the 1950s and 1960s. The reasons

need not be discussed at this point, but they undoubtedly include the general failure to explore the possibility of alternative styles of development. In the absence of such an exploration, attempts to broaden the content and procedures of planning, through the incorporation of "social objectives", and through the setting up of participatory mechanisms and local and sectoral planning bodies, complicated the planning process without generating much authentic participation in decision-making or bringing the plans closer to a consistent influence on what actually happened. More recently, several means of beginning an exploration of styles of development have been proposed and experimented with, although none of them has as yet attained a major influence on policy:

(a) Deduction of the preferred style of development from what the society (or the State) actually does or claims to be trying to do, followed by demonstration of the degree of feasibility and consistency of the style, the advantages and risks implied, the requisites for its pursuit, and the contradictions or incompatibilities between elements;

(b) Definition of several alternative styles of development, which may be deduced from actual trends in the national society or other societies, from declared objectives of the State, or from value-based preferences of the persons undertaking the experiment; quantification of the components and requisites of these styles; demonstration of their feasibility or otherwise over defined time-spans (in terms of resource requirements, skill requirements, financial requirements, import requirements, political support or consensus requirements, etc.); experimentation with variations in each style to enhance feasibility. The possibilities for experimentation with this technique depend on the availability of computers capable of making large numbers of complicated calculations cheaply and rapidly.² This technique should be particularly effective in demonstrating quantitatively and convincingly what *cannot* be done; that certain styles of development attractive to official and popular opinion lead to an impasse or breakdown;

(c) Assessment of national potential for development through typologies and "profiles" of national situations. This represents initially an attempt to penetrate beyond the simplistic identification of "level of development" with

² See "Estilos de Desarrollo", Oscar Varsavski and others, *Modelos Matemáticos* (Santiago, Editorial Universitaria, S.A., 1971).

"level of per capita income", with the accompanying supposition that all countries, large and small, well-endowed and otherwise, are capable of developing economically through a series of predictable stages. The technique can lead to two quite different kinds of indications relevant to policy: (i) concerning the internal equilibrium or otherwise of levels and rates of growth in production, welfare, and public actions in different sectors; (ii) concerning the feasibility of certain lines of development, in particular industrialization, in relation to natural resources, human resources, size of internal market, etc. The results of this technique can be no more than indicative: they can *suggest* that a country should pay more attention to certain sectors of public action or rule out certain lines of development, and indicate questions that need exploration through other techniques;³

(d) Evaluation of all projects calling for public resource allocations or other public actions in terms of a weighted list of objectives supposed to represent the preferred style of development, and priority ranking of projects according to the importance and number of objectives to which they contribute. This technique permits alternative evaluations, giving different weighting to the objectives, so as to help the political decision-makers clarify what is most important to them. It helps them go beyond the discredited traditional division between "economic" objectives and actions and "social" objectives and actions. It assumes that all projects are relevant to social as well as economic (and political) objectives to the extent that these enter into the preferred style.

It must be recognized that any of the above techniques, or others directed towards the same ends, if objectively applied, will lead to conclusions profoundly disquieting to almost any national political leadership, as well as the international vested interests in "development". Part of the art of governing consists in not letting choices and limitations appear too nakedly. A demonstration that certain policies to which the political leadership is committed are incompatible with each other or with the over-all priorities suggested by the preferred style of development or the régime's sources of political backing is unlikely to be welcomed. Still less is demonstration that the preferred

³ Work along these lines has been carried out by the United Nations Research Institute for Social Development and by the Economic Projections Centre of the Economic Commission for Latin America, among other bodies.

style of development, to which the leadership assumes its country has as much right as any other country, is inherently non-viable, given the characteristics of the country. The political leadership and public opinion are likely to react by rejecting the whole line of reasoning and insisting that the social scientist or planner produce "practical" advice showing how to do whatever the political leadership wants to do.

3. *A digression on the "practical"*

This insistence on "practical" proposals, frequently contrasted with "theorizing" as an activity of much lower priority, if not altogether a waste of time, has been one of the most recurrent themes in discussions of development in the inter-governmental bodies. The demand for the "practical" has come from representatives of all types of countries, although presumably with different connotations attached to the "practical". In part it has reflected an understandable impatience with the even more recurrent discussions of universal "human rights" divorced from any "practical" consideration of human capacity and disposition to convert rights into realities. In some quarters, the underlying supposition seems to have been that certain countries already know what is "practical" on the basis of their own success and are ready to share "practical" How to Develop recipes. The problem, then, is simply to give the recipes an international stamp of approval and present them to the rest of the world for action under the guidance of appropriate "experts". In other quarters, "practical" seems to be synonymous with "magical"; there is an underlying supposition that somewhere in the world cheap, simple, and infallible solutions to all problems are waiting to be discovered.

The results of this reiteration of the "practical" in the work of the international secretariats have been impressive in the bulk of documents purporting to offer practical advice, and in the range of programmes offered as solutions, but have been rather meagre precisely on the side of "practical" developmental results—leading to a chorus of new demands for "more practical" proposals, and a frantic running in circles by the functionaries addressed in order to demonstrate their practicality. Great themes have emerged and inflated themselves and subsided into the background only to reappear under new names according to the cycles of hope and disillusionment in the giving of "practical" advice, each acquir-

ing its own promotional apparatus and vested interests—balanced development, community development, fundamental education, co-operation, social welfare, employment policy, urbanization policy, population policy, science and technology, etc.⁴

The superficiality of concern with the "practical" is particularly evident in the fate of international studies with "practical" terms of reference. There is a consistent and striking disproportion between the importance formally attributed to their topics, the resources allocated to them, and the attention paid to their results. An inter-governmental body requests a secretariat to prepare a report on how to satisfy all human needs for its next meeting; half a dozen functionaries strain to do so; and the result, which might be expected to have a reception equivalent to that of the great documentary landmarks of human history, is tepidly approved or criticized, and disappears into Government archives and the storerooms of the issuing organization without a trace, rarely remembered even by other specialists preparing subsequent "practical" reports. It may receive a brief mention in the more conscientious newspapers when it appears, but scholarly journals do not trouble to review it; only if it contains new statistics is it likely to be quoted.

If the study of a "unified approach to development analysis and planning" is to amount to anything more than another stage in this interminable pursuit of the "practical", it must incorporate a clear understanding that "practicality" depends on theoretical conceptions, value judgements and diagnostic understanding of the phenomena to which "practical" action is to be applied. In relation to a theme as confused and controversial as "development"

⁴ The impact of this "practical" zeal at the national level is suggested by the following quotation: "Month by month, almost week by week, donors and international agencies are suggesting projects, sending experts, requiring information, meetings, facilities, tours and demonstrations which the local administration must somehow handle. The few top men are overwhelmed by a triple burden—to serve their Ministers in the constant series of political crises to which new governments are prone; to deal with international contacts and visitors; and, somehow, to direct and keep moving the routine tasks of a Department which will have a programme far larger than its top staff can manage. Delays, mistakes, and ill-considered projects are not merely a reflection of poor supporting staff in the middle layers: they reflect a government machine grossly overloaded with its own programme and the additions which well-meaning donors press upon it." (Guy Hunter, *Modernizing Peasant Societies* (London, Oxford University Press, 1969).)

there can be no practicality in the issuing of universally applicable recipes. Under some circumstances, allegedly "practical" solutions can be irrelevant or self-defeating; even more commonly, they are inapplicable in the absence of changes in the societal structure, power relationships, and real values that are evaded or timidly hinted at in the "practical" international advisory efforts. The themes listed above all represent areas of choice and decision-making that must enter into any acceptable and viable style of development, and it might even be possible to arrive at such a style of development by pursuing the *full* implications of any one of them. An ironic view of their international ups and downs does not imply negation of their basic importance. As long, however, as they are viewed as collections of "practical" recipes this potential importance will not be realized—and ritual recognitions that everything is inter-related with everything else will not help either.

4. *Choices leading towards an acceptable and viable style of development*

The main interdependent areas of choice making up a style of development concern autonomy, participation, production, consumption and distribution. If the choices made in these areas are mutually contradictory the style will not be viable; if the choices are made in isolation from one another the probability is that they will be mutually contradictory. This, unfortunately, is what seems to be happening in various countries whose leadership is now deliberately seeking to evolve original styles of development.

The decision to seek an autonomous style of development conditions the possibility of making choices in all the other areas. If the country simply accepts its place in the existing international order it may, under favourable circumstances, experience a kind of dependent "development" over an extended period, but decisions on the main lines of production and consumption will be out of its hands, and it will be unable to tolerate forms of participation that might threaten the distribution patterns associated with these lines of production and consumption. At the same time, no country can realistically choose complete autonomy. It must manoeuvre on the basis of its real situation within the international system and be prepared to sacrifice some concrete advantages if it wishes to enhance its autonomy. If it tries to combine a high degree of autonomy, a high

degree of reliance on external financing, and a high degree of openness to external cultural and consumption models its style of development will probably not be viable.

Participation is one of the most complex areas of choice. It raises the questions—very hard for political leaders and planners to face frankly—of *who* is doing the choosing, *how* choices are enforced, and *whether* the style of development treats participation mainly as a means or mainly as an end, an essential component of the style. When participation is willed from above, it becomes mobilization, a means of getting things done. When it arises from below it usually focuses on distribution, becoming also a means, from the standpoint of the groups able to participate, of obtaining a larger immediate share of the fruits of development. Authentic creative participation, heightening the participants' consciousness of values, issues, and the possibility of making choices, influencing the content of development, generating new ways of doing things, and also safeguarding the participants' right to an equitable share in the fruits of development, remains an elusive aspiration—but the conversion of this aspiration into reality may well in the end prove the most essential requisite for a style of development enhancing the capacity of the society to function over the long term for the well-being of all its members.

Up to the present, developmental preoccupations have centred heavily on production. The proposition that maximum production of goods and services is equivalent to development, interpreted as a worthy human aspiration, no matter what is produced or how it is used, seems preposterous when stated baldly. Yet the underlying assumption in most developmental thinking about choices, expressed in the yardstick of *per capita* product and bolstered by faith in market mechanisms to guarantee an eventual happy ending, has not been very far from this. Even before the environmentalists began to demonstrate that such an approach can lead to disaster for the human race, it had come under attack from several points of view, as was indicated above. Consequently questions of distribution and consumption have become more prominent even in the more traditional approaches to economic development.

Choices as to what will be produced imply a need for consistent choices as to how it will be distributed and who will consume it. In countries that have chosen to concentrate on

production of capital goods and have been able to enforce the choice, the other choices have been relatively simple, or could be postponed: private consumption had to be kept low and relatively equalitarian, with a partially compensating expansion of some public services, particularly those expected to enhance productive capacity of the population. In most countries striving to develop, however, the choices have not been consistent, and the contradictions have become more acute as import-substitution industrialization has proceeded and as overt income redistribution policies have become more prominent. The aspiration to narrow the gap between the incomes of the masses of the population and those of the minorities previously benefitting from economic growth has proved incompatible with the character of the goods and services being produced and with the present functioning of the societies and economies. The contradictions have appeared most acutely in relation to durable consumer goods, housing and education, although they affect the whole range of goods and services, and it may be worthwhile at this point to look more closely at these three examples.

It is well known that the more recent stages of consumer goods industrialization in many countries (following an initial stage of production of previously imported textiles, processed foods, etc.) has been aimed at an upper-income market for durable goods and luxury products.⁵ To the extent that industries producing automobiles and electrical appliances for this market become established, pressures mount for maintenance of an income distribution preserving the market for these products. This market can be expanded to some extent by bringing down production costs (usually several times higher than in the industrialized countries), producing smaller and simpler models, offering generous credits and facilities for instalment buying, etc. It can also be expanded by raising the incomes of the middle strata and the better organized workers, but, with the possible exceptions of countries with small populations and high petroleum output, there is no foreseeable possibility of expanding the market for the more expensive durable goods to include the majority of the population. Meanwhile, particularly in the case of the automobile, governmental capacity to control allocation of foreign exchange and domestic

⁵ See Aníbal Pinto, "El modelo de desarrollo reciente de América Latina", *Revista de Economía Latinoamericana*, 32, Caracas, 1971.

public resources is diminished by demands for a rising flow of imported inputs for the industries and for rising expenditures on highways. To the extent that a serious effort is made to remedy the environmental deterioration, urban air pollution and highway carnage associated with mass automobile use, the claim on public resources will rise still higher. The resulting dilemma is particularly acute for regimes relying on popular support and striving for a style of development that emphasizes equitable distribution. Their sources of support include precisely the urban strata now clamouring to enter the market for durable consumer goods—and among these are the organized workers who produce the goods, whose livelihood would be threatened by any radical change in consumption patterns.⁶ Moreover, the political leaders and planners themselves, however clearly they may see the issue, are themselves wedded to a "modern" style of life that includes the automobile and hampers them in imposing austerity. The population strata that might benefit from a shift in the pattern of production (cheap bicycles instead of automobiles, cheap electrical appliances instead of refrigerators and air conditioning equipment) are relatively unorganized and unaware of the issues.

In the case of housing, the contradictions have been conspicuous over a longer period. The State has come under increasing pressure to combat the urban housing deficit and fill the gap between housing costs and the purchasing power of families seeking housing. Even régimes not otherwise strongly concerned over distributional inequities have responded to this pressure, justifying their policies by pointing to the housing plight of the low-income urban strata. The State has also been under pressure to promote housing construction by awarding subsidies or contracts to construction firms using conventional building methods and following housing standards modeled on those of high-income countries, and by making available cheap credits to families capable of amortizing their housing costs over the long term. In practice, however, it is impossible for the State to extend housing programmes of this type beyond the urban middle-income sectors. The whole population helps to

⁶ This problem is now the subject of a lively policy discussion in Chile. See Eugenio Silva and Eduardo Moyano, "¿Hacia donde nos conduce el automóvil?", *Panorama Económico*, 206, enero-febrero de 1972; and Sergio Bitar and Eduardo Moyano, "Redistribución del consumo y transición al socialismo". *Cuadernos de la Realidad Nacional*, 11, enero de 1972.

subsidize the housing of these sectors, as well as the accompanying infrastructural costs. If housing programmes are also undertaken for the urban low-income population and the rural population, these programmes are aimed at vastly lower unit costs and usually consist merely of the provision of building lots, materials, minimum prefabricated dwellings, etc. Any régime dependent on popular support that sets out to distribute resources for housing on the basis of need and at unit costs really permitting improvement in the level of housing of the majority of the population confronts the same dilemma as in the case of durable consumer goods: such a policy would clash with the expectations of its better-organized supporters and also with the immediate interests of the construction enterprises and their workers. In the case of housing, the low-income urban population exerts a vigorous and fairly coherent demand that can become a source of effective counter-pressure toward more equitable policies. The promise of housing is one of the most effective means of mobilizing political support, but these factors make it all the harder for a political leadership to act in consonance with its preferred style of development and within the limits set by the resources it can command. Even the location of new housing, for example, implies choices that will affect the long-term style of development: Is residential segregation, by income group or otherwise, to be tolerated? Is the indefinite growth of the great metropolitan agglomerations to be favoured? Are the suburban sprawl and central congestion associated with private automotive transport to be accepted? Almost any political leadership prefers to evade choices of this kind.

In education, the problems of distribution and the content of what is distributed are even more complexly and conflictively related to the preferred style of development, on the one hand, and to the existing structure of the society, on the other. Even the narrower conceptions of "economic development" envisage expansion of education as an essential means of bringing "human resources" into closer correspondence with developmental needs and as one of the most desirable ways of using the fruits of development to enhance welfare and equity. Other conceptions of development place an even higher valuation on education as a means towards cultural change and enhanced creativity, and insist on much higher allocations to education versus non-essential private consumption. The expansion of *existing* sys-

tems of education responds to the demands of consumers seeking to improve the position of their children within existing systems of rewards and status. The most vigorous demands come from the middle strata and from groups on the lower margin of ability to participate in the "modern" consumer society. The results include a particularly rapid quantitative growth in secondary and higher education, a dilution of the quality of such education because of the insufficiency of qualified teachers and inability to meet costs, an economically unjustified expansion of the relevant occupational sectors, and the appearance of growing numbers of frustrated "educated unemployed". This kind of educational expansion diminishes the possibility of an acceptable and viable style of development, both through the resources it absorbs and through the expectations it encourages. No matter how rapidly secondary and higher education are expanded along present lines, they cannot be extended to the masses of the population. The latter remain at as great an educational disadvantage as before, even if they do gain access to a low-quality elementary schooling; in some cases, higher education alone eats up half the public resources allocated to education, and the *per capita* expenditures on children who do not go beyond elementary school are necessarily minute in comparison with *per capita* expenditures on the favoured minorities, inadequate as the latter expenditures may be for higher education of good quality. An educational policy compatible with an acceptable and viable style of development, under these circumstances, implies a frontal clash with the population strata most strongly motivated to seek education and most capable of enforcing organized demands, in favour of strata lacking clearly defined educational objectives and possessing relatively little organized strength. The internal contradictions of the present educational trends, as these affect the youth passing through the systems, are indeed generating demands for an educational revolution, but these demands do not translate readily into viable policy choices concerning content and distribution.

To sum up, the choices in production, distribution and consumption that follow logically from a preferred style of development can be defined without great difficulty. For a style of development enhancing the long-term capacity of a society to function for the well-being of all its members, production choices should emphasize goods that can become ac-

cessible to the masses of the population at foreseeable income levels; consumption choices should emphasize collective goods and services; production and consumption choices should be designed to enhance participation and creativity rather than passive receptivity (e.g., new lines of education combined with work;

new types of communities created physically as well as organizationally by their members). Can any régime be expected to make such choices under conditions of unrestricted ingress of external influences and pressures, and internal participation that is very unevenly distributed and focussed on consumption?

INCOME DISTRIBUTION IN SELECTED MAJOR CITIES OF LATIN AMERICA AND IN THEIR RESPECTIVE COUNTRIES

1. DEMOGRAPHIC AND ECONOMIC CONCENTRATION IN THE MAJOR CITIES OF LATIN AMERICA

The concentration of the population and of economic activity in major cities is a typical feature of development in Latin America. The origins of this phenomenon continue to be a subject of debate, although it is generally agreed that the process basically started during the colonial period. Almost all the major cities were founded in this period, when their role was to provide a connecting link with the European capitals. It was in the cities that the process of national development began, supported at the outset by the expansion of the tertiary sector, associated with the main public agencies and their expenditure and with the controlling socio-economic minority. The large cities usually maintained good connexions with the interior regions and other countries, and were the main consumers and users of domestic and imported goods.

The geographical distribution of the population and of economic activity remained much the same when the Latin American countries gained their independence. Although some capitals moved to different cities, either already well established or booming in the colonial period, as was the case in Costa Rica and Venezuela, the original conditions remained unchanged, namely the regressive distribution of ownership in agricultural areas, the poverty of the rural masses, and the concentration of the principal urban activities in a few major cities.

During the period of "outward-directed growth", when the location of natural resources became a decisive factor in the location of economic activity, other urban centres emerged with close connexions with foreign countries. As they absorbed the benefits of expansion, they attracted population and economic activity; but their subsequent development of course depended on the degree and form of their connexion or integration with the exterior and their ability to adapt to the ups and downs of trade. The result was that in some cities the initial trend towards eco-

nomical and demographic expansion took root and flourished, while in others it declined in the course of time.

It might be considered, hypothetically at least, that the demonstration effect of the initial stimulus was less strong in mining for export, which was dominated by foreign companies using relatively advanced techniques and obtaining their inputs and equipment from abroad, quite apart from the fact that a large part of the income generated was channelled abroad in the form of profits and other payments to foreign factors. The urban centres which grew up around this activity generally stagnated or declined after their initial boom; some did manage to keep up their initial rate of expansion, but none of them (not even Maracaibo in relation to Caracas) succeeded in competing seriously with the capital as a centre of general activity.

On the other hand, in the export-oriented urban centres situated in agricultural regions, or in which agricultural activity was combined with mining, development appears to have been more sustained. The export side of agricultural activity was almost always in the hands of domestic *entrepreneurs*, it was highly labour-intensive and technical progress was fairly widely disseminated among the units connected with external trade. Since a relatively large part of the income produced remained in the country, the urban centres constituted a market of some importance and offered advantages for the location of activities linked to services and very simple manufactures. In some cases, these centres achieved an importance comparable with or greater than that of the capitals, as in the case of Guayaquil and São Paulo.

Logically enough, there was an increased tendency towards urban concentration in the inward-directed growth period, when the main urban centres already had the basic services and other components of the infrastructure

required to create external economies. The data available, moreover, reveal some degree of correlation between the degree of socio-economic development of the major cities and the degree of concentration of services. To take a fairly recent, but illustrative example, suffice it to recall that, in all the countries of Latin America, more than 40 per cent of the installed capacity of the public electricity system is concentrated in the capital city or in the two main cities. The same is true of the rail and road networks, where the metropolitan centres show density indexes two to 12 times greater than the national average.¹

Import substitution was directed mainly towards the existing market for manufactured consumer goods, in order to take advantage of the increasing demand from the cities, which was unsatisfied because of the inelasticity of the capacity to import. Accordingly, the aim was to establish the import substitution industries close to the consumer centres. The concentration of industry at these points continued to attract new capital and population. It was only when the possibilities of import substitution were nearing exhaustion that other locations were chosen closer to certain natural resources; but even then, administration and often the final stages of processing remained in the traditional centres.² In the mid 1960s it is estimated that the metropolitan areas of Buenos Aires, São Paulo and Mexico City accounted for over one third of the total value of Latin American industrial production, and that in several countries the two or three main industrial centres accounted for a high proportion of the national total: two thirds in Argentina,

¹ ECLA, *Economic Survey of Latin America, 1968* (United Nations publication, Sales No. E.70.II.G.1), page 43.

² *Ibid.*, page 38.

adding together the metropolitan area and Rosario; 80 per cent in Brazil, counting the triangle formed by São Paulo, Guanabara and Belo Horizonte; 66 per cent in Chile, counting Santiago and Valparaíso; 45 per cent in Mexico, counting the Federal District and Monterrey; 56 per cent in Peru, counting Lima and Callao; 40 per cent in Venezuela, in the Federal District; and slightly over 59 per cent in Costa Rica, in the metropolitan area of San José.³

In addition to this, an even greater concentration occurred in the tertiary sector. The direct requirements of industrial development, the level and type of demand, and the rapid growth of the population which demanded increased public services in education, health and housing, gave a very strong boost to the service sector in the metropolitan areas which, by the middle of the 1960s, accounted for about half the national product and employment in the services sector.

The great spatial imbalances of Latin American development are the result of these and other factors. A large proportion of the population and economic activity is concentrated in the metropolitan areas, which are the growth poles that set the pace for national development and which are continually gathering impetus. In contrast, the areas in the *hinterland* appear to have stagnated in both relative and absolute terms, and have come to play a role similar to that of the countries on the periphery in the world as a whole. For this very reason, the full incorporation of the natural and human resources of the interior regions into the production process, with a view to alleviating the tensions stemming from spatial imbalances, has become a serious problem.

³ ECLA, *The process of industrial development in Latin America* (United Nations publication, Sales No. 66.II.G.4), pp. 89-90.

II. GENERAL CHARACTERISTICS OF INCOME DISTRIBUTION

1. Sources of information

The socio-economic imbalance between the major cities of Latin America and the rest of their respective countries is a striking feature of the Latin American development process. It is particularly useful to identify the causes of this situation from the standpoint of development theory, and as regards the practical aspects of spatial planning. The studies on this subject to date have, however, been hampered by the lack or scarcity of proper statistics,

which either do not exist or are not sufficiently detailed. This problem makes itself felt even within the limits of the present study, which consists in a comparison of the distribution of income in several major Latin American cities and in the countries of which they form part.

The cities or metropolitan areas covered in the present paper are Caracas (Venezuela), the Federal District (Mexico), Greater Santiago (Chile), Río de Janeiro and São Paulo (Brazil) and San José (Costa Rica).

Even in those cases where access can be had to comparatively reliable information, the material available on income distribution is fragmentary and can only be used with reservations and frequent redefinitions. The information mainly comes from the national surveys in the different countries, which were initially undertaken with various aims in mind. Thus the data on the Federal District of Mexico and San José, Costa Rica, come from direct surveys; for greater Santiago they are a by-product of research into the demand for durable goods; and for the Brazilian and Venezuelan cities considered, they are the result of research associated with preparation of consumer price indexes. Naturally, because of the differences in aims, there is considerable variety in the methodologies and concepts (income group, income) used, which must be borne in mind when comparisons are made between cities or countries. Similarly, the concept of "metropolitan area" varies according to whether the main factor used to define it is geographical, administrative or socio-economic. Obviously, the data available for a particular city will vary depending on whether they include the peripheral zones, where the lowest income groups are usually located.

Despite these defects and inadequacies, the information available on the metropolitan areas would seem to be sufficient—within the limited scope of the present study—to give some indication of the pattern of income distribution in such areas, and to offer some general observations on the over-all pattern of distribution in the countries in which they are situated.

2. *The general situation*

In the first place it may be noted that income distribution in the cities under consideration has particular features which distinguish it from the respective national distributors (see tables 1-3). Thus, the share in income of the lower half of all families is much greater in the major cities than in the country as a whole. This is due to the fact that the lowest incomes (those corresponding to the first decile) are generally higher in the cities and steadily increase in the subsequent deciles up to the median, i.e. the income at the central point of the distribution. These two features place the lower half of the distribution in metropolitan areas in a better position on the income scale than the same group in the national distribution. Equally significant differences can be ob-

served in the upper half of the distribution. The group between the median and the top 5 per cent has a relatively larger share in income in the major cities, while its members are more homogeneous as a socio-economic group. This in turn means that there is less concentration at the very top of the distribution (the top 5 per cent), and hence less socio-economic imbalance between the top and bottom of the scale in the cities than in the country as a whole.

The above analysis has, however, a very limited scope. It could even lead to error if it left the impression that a specific relative percentage group in the city were the same as the corresponding group in the country as a whole and obeyed a specific rule. In fact the similarity between these categories of equal relative size is only one of appearances, since they belong to socio-economic structures that are quantitatively and qualitatively different in each area. These differences would appear to be more acute in the lowest 50 or 60 per cent of the population, since the upper categories in both distributions (metropolitan and national) have certain features in common owing to their predominantly urban origins.

The quantitative aspects of these differences show up clearly if the national and metropolitan groups are classified by absolute income levels or by their share in the supply of goods and services. It can then be observed that the highest average income in absolute terms in metropolitan areas is often greater by as much as 25 per cent or more than the corresponding national figure, which casts some doubt on the validity of assumptions derived from an analysis of relative positions. A metropolitan socio-economic group with a given share in total income receives a money income (which is well above that of the corresponding group in the national distribution and is thus at a slightly higher socio-economic level). There are even cases in which the average income level in absolute terms of the lowest category (the poorest 20 per cent) in some metropolitan areas (Rio de Janeiro, São Paulo, Mexico City) is higher than that of groups above the median in the national distributions of the respective countries.

In addition, there are other equally important qualitative differences connected with patterns of consumption and cultural aspects.

Furthermore, the structure of income distribution in the major cities studied is similar to that found in the developed countries, es-

Table 1

LATIN AMERICA: ESTIMATES OF THE PER CAPITA PRODUCT AND PERSONAL INCOME IN SELECTED COUNTRIES AND MAJOR CITIES, 1965

<i>Countries and cities</i>	<i>Per capita^a gross domestic product</i>	<i>Per capita personal income</i>
(1) Brazil	295	255
Guanabara		805 ^b
São Paulo		775 ^b
(2) Costa Rica	465	385
San José		500 ^c
(3) Chile	560	480
Greater Santiago	710 ^c	660 ^c
(4) Mexico	570	475
Federal District	1 385 ^c	1 050 ^c
(5) Venezuela	730	530
Metropolitan area of Caracas	1 219 ^c	870 ^c

SOURCE: ECLA estimates on the basis of official figures.

^a Country data from ECLA, *Economic Survey of Latin America, 1968* (United Nations publication, Sales No. E.70.II.G.1).

^b Getulio Vargas Foundation, IBG, *Pesquisa sobre orçamentos familiares, 1961-1962*.

^c Estimated from indexes in national statistics.

Table 2

LATIN AMERICA: DISTRIBUTION OF GROSS DOMESTIC PRODUCT BY SECTORS IN SELECTED COUNTRIES AND THEIR METROPOLITAN AREAS

<i>Sectors of economic activity</i>	<i>Brazil 1960</i>		<i>Chile 1964</i>		<i>Mexico 1963</i>	
	<i>Brazil</i>	<i>Guanabara</i>	<i>Chile</i>	<i>Metropolitan area</i>	<i>Mexico</i>	<i>Federal District</i>
Primary	28.2	1.1	23.3	6.2	28.1	0.1
Secondary	25.7	25.7	28.6	38.7	23.3	26.1
Tertiary	46.1	63.2	48.1	55.1	48.6	73.8
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: Brazil and Guanabara: Getulio Vargas Foundation, *Revista Brasileira de Economia*, March 1962, Year 16, No. 1.

Chile and metropolitan area: Planning Office (ODEPLAN), *Efectos regionales del crecimiento económico, período 1961-1965*, (Santiago, 1968).

Mexico and the Federal District: Data covering personal income by sectors from Banco de México S.A., *Encuesta sobre ingresos y gastos familiares en México, 1963* (Mexico City, 1966).

Table 3

LATIN AMERICA: DISTRIBUTION OF EMPLOYMENT BY SECTORS OF ACTIVITY IN SELECTED COUNTRIES AND THEIR METROPOLITAN AREAS

Sectors of economic activity	Brazil			Chile 1964		Costa Rica 1963		México 1960		Venezuela 1963	
	As a whole (1960)	Guana- bara	São Paulo (1950)	As a whole	Greater Santiago	As a whole	Province of San José	As a whole	Federal District	As a whole	Metro- politan area of Caracas
Primary	54.1	2	2	30	2	50	28	55	4	37	1
Secondary	22.2	30	47	27	35	18	26	18	41	20	31
Tertiary	24.7	68	51	43	63	32	46	27	55	43	68
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: Brazil: Country totals: 1960 Census; Cities; UNESCO: *Urbanization in Latin America*, prepared by Philip M. Hauser, 1962.

Chile: Planning Office (ODEPLAN), *Análisis del crecimiento regional de Chile en el período 1952-1960* (Santiago, 1968).

Greater Santiago: Institute of Economics of the Universidad de Chile, *Ocupación y desocupación en el Gran Santiago* (Santiago, 1964).

Costa Rica: Statistics and Census Office, *Censo de Población 1963* (April 1966)

Mexico: Statistics Office, *Anuario Estadístico de los Estados Unidos Mexicanos 1966-1967* (Mexico, 1969).

Venezuela: M. Zavala, *Condiciones generales del área metropolitana de Caracas para su industrialización* (Caracas, 1966).

pecially in Western Europe.⁴ Thus, the share in income of the lower half of the distribution often tends to be less in Latin America than in Europe, mainly because, although part of the lowest income group in Latin American cities has a relatively large share in income, the proportion drops in the following deciles up to the median. There are also some differences in the upper half of the distribution, notably that in the Latin American cities considered a smaller proportion of the population has an average income equal to or greater than the over-all average; this means that there is slightly greater concentration at the top of the scale than in the European countries. As a result,

⁴ See United Nations Economic Commission for Europe, *Incomes in Postwar Europe: A Study of Policies, Growth and Distribution (Economic Survey of Europe in 1965: Part II)* (United Nations publication, Sales No. 66.II.E.14).

III. THE STRUCTURE OF THE ECONOMY AND EMPLOYMENT IN THE MAJOR CITIES

1. *The sectors of activity*

(a) *General features*

The unequal geographical distribution of the population and economic activity in each country is reflected in interregional imbalances in income, associated with specific levels and a specific structure of expenditure and linked to production and employment structures that are not the same in metropolitan areas as in the rest of the country.

The information available on the distribution of the product by sectors in the major cities is fragmentary—with the exception of Greater Santiago—and generally covers the State or province in which the city is situated. Even so, it is sufficient to show that the sectoral structure of economic activity in the urban centres is appreciably different from that found in the rest of the country.

In the first place, the tertiary sector predominates in the cities, and accounts for somewhere between 55 and 66 per cent of the total product and employment. In the national totals, however, this percentage is usually less than half these figures. A similar contrast can be observed in the secondary sector, which occupies second place in the urban centres, since it absorbs 37 per cent of total employment and contributes a slightly higher proportion to the product. The contribution of the secondary sector to employment and the product at the national level is smaller, and does not exceed 28 per cent of the total in each case.

socio-economic imbalances are generally somewhat more pronounced in Latin American cities than in Europe, the result being a lower level of living for large sectors of the urban population, smaller intermediate strata, or in other words a smaller middle class, and a greater concentration of spending power.

Even so, the differences between distribution patterns in Latin American cities and the developed countries of Europe are less pronounced than the differences between the major Latin American cities and their respective countries. A number of factors, which vary in each country, are responsible for these differences and are connected with individual stages of socio-economic development and their impact on the institutional framework. Outstanding among them are the distribution and characteristics of economic activity and the population, and the activities of the public sector.

The difference is much greater with respect to primary activities which in the major urban centres account for less than 5 per cent of the product and employment, but are virtually predominant at the national level; thus, in Brazil, Costa Rica and Mexico, the primary sector absorbs about half of total employment, although its contribution to the total product does not exceed 25 per cent.

(b) *Differences in sectoral composition*

These differences in sectoral composition in the major cities and their respective countries stem from the fact that the population and economic activity are concentrated in the major cities (see tables 2 and 3).

The fact that the secondary sector is larger in the metropolitan areas has to do with the nature of the industrialization process, particularly during the "inward-directed" growth period, when manufacturing activity tended to be located in the major consumer centres, constituted mainly by the metropolitan areas. In order to supply the consumer needs of the major cities, and also to secure monopoly control over the market, import-saving industries—especially those established during the post-war period—were equipped with the technology of the advanced centres which had previously supplied the region. Thus their efficiency and their productive capacity enabled them gradually to displace local artisan-type industries and assume a commanding position over the growth of their particular branch or sector

of activity. As a result of this and other factors, at the end of the 1960s a large proportion of the national industrial product—varying between 40 per cent (Caracas) and 60 per cent (San José) was generated in the capital cities or metropolitan areas. At the same time, construction and the generation and consumption of energy strengthened the importance of the secondary sector within the metropolitan economy. Construction was stimulated by the tendency of the public sector to provide the city with an infrastructure similar to that of the urban centres in the developed countries, and also by the higher incomes of the metropolitan populations and their higher rate of growth. Furthermore, the public sector poured out increasing amounts of resources to provide suitable supplies of water and electrical energy to the major cities.

The clear predominance of the tertiary sector in economic activity distinguishes the major cities from the rest of the country. The services provided by the sector, which at the beginning sustained the expansion of the cities and attracted the main industries, gradually expanded in response to socio-economic trends and the pressure exerted by the urban middle class on the public sector. In particular, there was a notable expansion and modernization of commercial and financial services. In most cases, the market for these services spilled over the boundaries of the metropolitan area and covered a large part of the needs of the rest of the country. This is the case, for example, of the petroleum related services in Caracas, which, in 1963, accounted for 12 per cent of total employment in the petroleum sector in Venezuela although petroleum extraction and refining were carried out in the States of Zulia, Anzoategui, Moragas and Barinas. A further example is the motor-vehicle industry, which is usually located outside the metropolitan area but whose services (particularly management, distribution and repairs) are found where there is most demand, namely in the major cities.

Lastly, the importance and expansion of the activities of the tertiary sector cannot be dissociated from the growing influence of the urban masses over the political process. Thus, such factors as the conception of public posts as a means of achieving socio-economic mobility, and the partial response to some of the demands of the organized urban masses as regards health, education, housing, social welfare, etc., are fundamental to any understanding of how the public services expand and how the bureaucracy functions in the urban centres.

Generally speaking, although the level of socio-economic absorption of the population differs in each case, it would appear that the concentration of economic activity and administrative centralization were contributory factors in making the organized sectors of the major cities the main beneficiaries of the modernization of the economy. In fact, the participation of the intermediate groups between the median and the top of the scale is the main difference between the pattern of income distribution in the major cities and in the respective countries.

2. *Organization of economic activity in the metropolitan areas*

The previous section described some of the differences in the distribution of over-all income and employment in each sector between the major cities and the rest of their respective countries. These differences naturally show up also in the distribution of income among factors or persons, taking into account, *inter alia*, variations in the quantity and quality of the factors committed, relative prices, and the market system.

According to the indicators available the characteristic features of the enterprises making up the sectors of economic activity in the metropolitan areas are significantly different from those in the rest of the respective countries. The fact that they are organized on a larger scale than most national enterprises and have a higher level of technology than in the country as a whole gives them a higher production capacity. As a result, they concentrated around themselves the growth of their particular branch or sector. Owing to the large volume of resources needed for installation and operation, such enterprises are usually set up as corporations. The situation of oligopoly created by this concentration of production and employment enabled such enterprises to control or displace the less efficient activities in their particular branch. It also involved a difference in average productivity inside and outside the sectors, less in the urban centres than in the rest of the corresponding national economies where activities have different levels of technology and there are marked variations in output per person employed between the sectors (for example, between agriculture and the secondary sector) and within individual sectors (for example, between modern-type and subsistence agricultural activities).

The imbalances between these economic structures that implicitly involve differences in

the level of organization and participation by the population, depending on their spatial location, show up in the pattern of distribution. In particular, they are reflected in socio-economic contrasts that are less marked in the metropolitan areas than in the remainder of the respective countries. For example, in the mid-1960s, more than half the corporations existing in Chile, Costa Rica and Mexico were located in the capital cities.⁵ A similar type of concentration can be seen in Guanabara, São Paulo and Caracas. In Caracas, industrial corporations account for about 40 per cent of the issued capital of the incorporated companies operating in the industrial sector. In addition to this, many enterprises operating outside the metropolitan areas have their main offices in the major cities, and thus influence income distribution in the metropolitan area through the wages paid to high-level administrative or management personnel in such offices.

The concentration of these enterprises in the metropolitan areas brings their sectors of activity predominantly within the modern sector. This, however, is not so much the result of the number of enterprises that can be considered efficient by international standards, as of the concentration of a large share of income and employment in a small number of large-scale highly-productive units. In Guanabara, for example, as little as 6 per cent of all industrial establishments accounted in 1960 for some two thirds of the total product and employment in industry.⁶

The concentration of the product and employment in large modern enterprises has, *inter alia*, had the effect of ousting inefficient activities; this in turn means that in the metropolitan areas the distribution of average productivity within and among the different sectors is more balanced than in the rest of the country, where levels of technology vary widely and there are considerable differences in output per employed person (for example, between agriculture and the secondary sector). This has a notable effect on factor income, since the wages of workers in inefficient sectors are usually extremely low.

3. Allocation of the product

The most important effects on income distribution of the tendency for modern-type activities to be concentrated in the metropolitan

⁵ In Mexico, 58 per cent of all corporations are in the Federal District; while in Costa Rica, 56.4 per cent of all industrial corporations are in San José.

⁶ Brazilian Institute of Geography and Statistics, *Censo Industrial de 1960*.

economies occur with respect to the allocation of the product and the structure of employment.

The allocation of the product is effected as a result of the administrative methods of the large modern enterprises, since the wide variety of their activities, the volume of their operations and their need for information oblige them to use relatively modern administrative and accounting systems. Furthermore, the control exerted by shareholders or partners and also fiscal controls demand proper accounting. Thus, deductions in respect of depreciation, direct taxes on enterprises, savings and other such payments, reduce the share of income distributed to individuals. According to estimates covering 1965, personal income represented between 70 per cent (metropolitan area of Caracas) and 76 per cent (Mexico City) of the total gross metropolitan product, a proportion roughly similar to that observable in some developed countries. In contrast, at the national level these percentages would appear to be much greater in the Latin American countries considered.⁷ One factor here may be the number in the rest of the country of small enterprises which are not subject to proper accounting and fiscal control, especially those where the accounts of the enterprise and the owner are not clearly separated. Moreover, given that such enterprises make fewer deductions of the type noted above, personal income represents a large percentage of the product and this affects the national average which in the countries under consideration is around 85 per cent of the gross domestic product.

Naturally enough, the fact that the share of personal income in the product is not the same in the major cities as in the country as a whole has important implications which affect the pattern of distribution in each case.

Looking at the allocation of the gross domestic product among the corresponding factors of the private sector, the distribution both in the major cities and in their respective countries may well reveal a similar degree of concentration. There would be none of the deductions mentioned above and this would bring a proportional increase in the share of the owner-*entrepreneurs* making up the top layer of the metropolitan and the national income distri-

⁷ With the possible exception of Venezuela, where allowances in respect of depreciation and payments to foreign factors in the petroleum sector account for a large part of the gross product both in the metropolitan area and in the country as a whole—about 13 per cent of national income in 1964 (see *Memoria del Banco Central*, 1968).

butions. However, in strictly income terms, a lower degree of concentration is found in the top layer in the major cities than in the country as a whole. This is because the items deducted from the gross product, constituting for the most part of earnings on capital, do not form part of the income of the owners of capital. The variations in the share of personal income in the gross product would seem to show that the saving process depends mainly on enterprises in the major cities and mainly on persons in the rest of the country; there are no data, however, to back up this assumption.

4. Functional structure of employment

The disparities between the major cities and the country as a whole, as regards both sectoral structure and form of organization of the respective economies, are usually reflected in different employment structures. Thus, the distribution of the labour force by functional categories in the cities shows a larger proportion of owner-*entrepreneurs* and salaried employees and a smaller proportion of own-account and manual workers than in the country as a whole (see table 4).

This is obviously partly the result of the sectoral structure of the respective economies, but a more decisive factor seems to be the form of organization of enterprises. In metropolitan areas, a corollary of the predominance of large-scale enterprises is the gradual elimination of small or individual producers. At the same time, the fact that such enterprises are organized in the form of corporations expands the demand for entrepreneurial skills, encourages the incorporation of certain population groups as partners, shareholders or bondholders, and favours specialization in related or complementary activities, which in its turn also creates a greater need for *entrepreneurs*. This is sufficiently illustrated by the fragmentary data available, which show that, while the proportion of self-employed workers in the major cities considered ranged from 15.3 per cent (Caracas) to 18.5 per cent (Greater Santiago), the proportions for the respective countries were between 22.3 per cent (Chile) and 34 per cent (Mexico). The difference in the proportion of owner-*entrepreneurs* was even greater (between 1.7 and 3.1 per cent in the cities and between 0.8 and 2.7 percent in the country as a whole).

The proportion of salaried employees and manual workers in the labour force also differs in the two areas. Thus as a result of the size and technological level of the most rep-

resentative metropolitan enterprises, the rationalization of their activities is greater than the average for the whole country. This is reflected in more specialized functions and a more clearly defined chain of authority as regards relations not only between the management and the executing agencies within the enterprise, but also between the latter and consumers or users. This increasing division of labour is an important feature of the modern sector, and its effects on employment are not the same for salaried employees as they are for manual workers. The increase in planning, administrative and control functions and the importance of the tertiary sector, which are typical features of great cities, favour salaried employees. The data available show that in Caracas the number of clerical and similar workers more than doubled from 1950 to 1961, raising their proportion in the active population from 9 to 14.3 per cent, while the number of technicians and professionals increased in similar proportions. The same situation was observable in industry in São Paulo, where technicians, engineers and administrative staff increased their share in employment more than any other group. In 1963, the index of employment for this category in manufacturing was three times greater than in 1951, and six times greater in capital goods industries, whereas total industrial employment in São Paulo rose by only 56 per cent over the same period.⁸ Thus the share of salaried employees in total employment in the major cities considered is usually larger (by about one third) than in the respective country as a whole (13 to 23 per cent).

In contrast, the more advanced stage of rationalization and mechanization of activities achieved in the cities seems to have had adverse effects on employment of manual workers, whose share in total employment is in the cities not more than 45 per cent and falling, compared with 50 per cent or more in the whole country. In Caracas, for example, the share of artisans operatives in plants and similar workers in total employment fell from 27.7 to 24.5 per cent between 1950 and 1961, and a similar situation is observable in São Paulo's industrial sector.

The trend towards rationalization and mechanization not only affects the employment of manual workers in terms of volume; it also seems—and this is even more important—that the demand for manual labour is tending

⁸ See J. R. Brandao López, *Desenvolvimento y mudança social*, Universidade de São Paulo, 1968.

Table 4

LATIN AMERICA: FUNCTIONAL DISTRIBUTION OF EMPLOYMENT IN SELECTED COUNTRIES AND METROPOLITAN AREAS

	Brazil		Chile		Costa Rica		Mexico		Venezuela	
	Country as a whole 1960	Guana- bara	Country as a whole 1965	Greater San- tiago 1964	Country as a whole 1963	San José	Country as a whole 1963	Federal District	Country as a whole 1961	Federal District
Manual workers (obrerros)	} 50.0		53.1	44.2	} 66.1	71.6	48.2	40.7	} 60.1	79.5
Salaried employees (empleados)			23.2	32.6				14.3			34.6
Own-account workers . . .	28.1		22.3	18.5	17.4	15.4	32.8	18.3	31.0	15.3
Entrepreneurs	3.6		1.4	2.8	3.4	3.1	2.2	2.7	2.7	3.1
Unpaid family workers . .	16.8		—	1.9	10.4	7.2	} 2.5	} 3.7	4.5	0.3
Other (rentiers, etc.) . . .	1.5		—		2.7	2.7			1.7	1.8
Total	100.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: Inter-American Statistical Unit, *América en cifras* and national censuses, except Chile and Mexico.

Chile: Planning Office (ODEPLAN) estimates: *Análisis del crecimiento regional de Chile en el periodo 1952-1960* (Santiago, 1968).

Greater Santiago: Institute of Economics of the Universidad de Chile, *Ocupación y desocupación — Gran Santiago* (Santiago, 1965).

Mexico and Federal District: Banco de México, S.A., *Encuesta sobre ingresos y gastos familiares en México 1963* (Mexico City, 1966).

to concentrate around a particular semi-skilled level. The data available show the opposing effects of these technological processes. Thus, while on the one hand groups of highly skilled technicians are required on an increasing scale, on the other hand, as tasks become simplified, demand is being channelled towards the unskilled sector of the manual labour supply. Information on industrial employment in São Paulo shows that the employment index for technicians and engineers trebled between 1951 and 1963, while the index for operatives rose by only 56 per cent. The decisive factor in the latter case was the increase in the index for

unskilled workers (164 in 1963, with base year 1951=100) and semi-skilled workers (183). The index for skilled workers remained at 106 over the same period, owing to this group's increased participation in the capital goods industries, which apparently affected the part of this group employed in the traditional industries. This trend has made it easier to hire unskilled and unorganized labour at low wages and helps to explain the high proportion of women in the metropolitan labour force (approximately one third) compared with their share of employment at country level (less than 25 per cent).

IV. GEOGRAPHICAL DISTRIBUTION OF AVERAGE INCOME

1. *Interregional activities*

The marked disparity in the distribution of average income between the various regions in the different countries, particularly between metropolitan areas and the *hinterland*, is one of the clearest manifestations of the situation under review. According to estimates prepared in the mid-1960s, 15 to 35 per cent of the total population of Chile, Mexico and Venezuela, concentrated in the respective metropolitan areas, generated 35 to 44 per cent of the total product. The relationship between the two ranges of figures indicates that the population in the metropolitan areas had an average *per capita* income which was higher by between one third and one and a half times than the respective national average. Similar differences are recorded between Rio de Janeiro, São Paulo and San José and the respective countries. While the *per capita* gross product of these countries ranged from 300 to 730 dollars at 1960 prices, it was somewhere between 600 and 1,385 dollars in the major cities.⁹ The case of Brazil and Mexico is worth noting, since while their *per capita* income (300 to 570 dollars, respectively) places them among the developing countries, their principal cities, with average *per capita* incomes of 700 and 1,385 dollars respectively, places them in the category of the economically advanced.

These disparities appear even greater when the metropolitan centres are compared with the rest of the country concerned or with specific regions in it. In Chile, where for a number of geographical and historical reasons regional problems are less acute, the average income in Greater Santiago in 1965 was about 60 per cent higher than the national average and

2.4 times higher than the *per capita* income in the least developed area (Cautín). It may therefore be assumed that these disparities are much greater in countries such as Mexico and Brazil where regional problems are more acute. Thus, in the middle of the 1960s the gross *per capita* income in Guanabara was 3.4 times that of the rest of Brazil (excluding the State of São Paulo) and almost six times the average for the huge Nordeste region. The same multiples are found when the Federal District is compared with the rest of Mexico (excluding the State of Nueva León) and the southern Pacific region.

To appreciate the magnitude of these disparities and the specific features characterizing the metropolitanization process in Latin America, it is useful to compare these situations with those prevailing in developed countries, bearing in mind the effect of the different degrees and types of development on the results of this comparison.

On the whole, the geographical distribution of average income is less unequal in the industrialized economies. In the United States,¹⁰ for example, the highest average household income recorded in a metropolitan area (Washington, D.C.) in 1960 was higher than the national average by about one third and the national average varied between -18 and +37 per cent with respect to the highest and lowest average regional incomes.

As may be noted, these differences are smaller than those observed in the Latin American countries, and although they may be comparable with the disparities recorded in a country which has a lower level of income

⁹ *Per capita* gross domestic product in 1965, according to ECLA estimates.

¹⁰ United States Department of Commerce, *Census of population 1960*, vol. 1, Part 1; *U.S. Summary*, p. 1-286.

such as Chile, they have different economic and social implications and raise less serious problems. Naturally, the levels of income must be taken into account. The lowest personal income recorded in a United States metropolitan area in 1960 was about twice that recorded in the metropolitan centre with the highest income in Latin America in 1965. Thus, given that income levels are higher and interregional disparities are less pronounced, the spatial distribution of income plays a less decisive role in the location of the population and economic activities in the United States than in Latin America. The range of choice or flexibility in the geographical distribution of the population and economic activities is much greater than in Latin America; and this is why the population and economic agglomeration process in the United States could be carried out with insignificant disparities in many urban centres at the same time.

The situation has been very different in Latin America. First, the industrialization process took place without the prior support of agricultural change. Secondly, the backwardness of agriculture, together with other factors, resulted in the concentration of industry and the main urban functions in one, two or three large cities in each country, which created severe and increasing socio-economic disequilibria between them and the rest of the country. Therefore, the range of choice for the location of the population and economic activities was considerably reduced, while, at the same time, the very low incomes earned by the bulk of the population in rural and minor urban areas stimulated migration to the metropolitan areas where income levels are higher.

These disparities in income between the two areas are a decisive cause of the marked inequality of distribution patterns in the Latin American countries. These patterns are really the result of the combination, or rather the juxtaposition, of systems of distribution in areas with widely differing socio-economic structures. Because of their higher income levels, the groups in metropolitan centres are concentrated in the upper strata of the national distribution; on the other hand, the rest of the country is more widely represented in the lower strata. This contrast obviously accentuates inequalities. Since the incomes in metropolitan population centres are high compared with the national average, there is a greater concentration at the very top of the scale than would be the case if only the urban averages were considered, while the opposite would occur if only the

situation of the rest of the country were considered.

2. *Impact on the homogeneity of regions*

In addition to its effects on income distribution among persons and regions, the concentration of economic activity and population in a few major cities has other implications. One of these touches on the concept of the region itself in Latin America, since the metropolitan economies very often form virtual "islands" within their own region. Thus, while the population and economic activity of an entire area are concentrated in a single city, the vast surrounding territories have a very low population density and remain bound to traditional modes of life. The result can be seen in the lack of continuity and balance in the socio-economic development of different areas within the same region; and the inequality of incomes resulting from this situation is sometimes as great as or greater than that found between different regions. Taking into consideration the areas adjoining the metropolitan area and usually included in the same region, it is found that the *per capita* income in the Federal District of Mexico in 1965 was 2.6 times greater than in the State of Mexico as a whole, and a little more than 10 times the average income in Tlaxcala. The latter ratio is between 3 and 4 times higher than the ratio between the regions of Mexico that are economically furthest apart.

In Brazil in 1965, *per capita* income in the city of Rio de Janeiro was nearly three times the average for the State of Rio de Janeiro; there was a similar ratio between the highest income region (the south) and the poorest region (the north-east).

In the case of Mexico, the *per capita* product index for the northern region in 1965 was slightly above the national average; but the figure would drop significantly (to only 83 per cent of the average) if the State of Nueva Leon were not taken into account, where the *per capita* product is three times the average for the rest of the region. Similarly, in Brazil, the differences between average incomes would virtually disappear if the triangle made up by the industrial centres of Belo Horizonte, Guanabara and São Paulo were omitted from the comparison between rich and poor areas. More particularly, if the latter two urban areas were not taken into account, the average income of the country, instead of being twice the average income in the north-east, would only be one third more. Similarly, if the State of São Paulo were left out, the average in-

come in the south, would be practically the same as the average income in the north-east and not three times as much.

The above shows that the effect of urbanization on the spatial distribution of income in Latin America is not quite the same as in the developed countries, where the region constitutes a relatively homogeneous unit,¹¹ and

¹¹ In the United States, for example, the greatest difference in incomes between regions (far west and south-east) was 63 per cent in 1960, and was significantly greater than the greatest difference between areas within the same region (Florida and Mississippi in the south-east). See United States Department of Commerce, *Survey of Current Business*, April 1969, vol. 49, No. 4.

the differences between different regions (although much smaller than in Latin America) are generally greater than those between areas within the same region.

These differences show up in the preparation of regional policies. In the developed countries, where there exists a relative degree of homogeneity between the different areas making up a region, preference would be given to correcting disparities between different regions. In Latin America, however, the problem is more complex since disparities between regions are accompanied by similar or even greater disparities within individual regions, that stem from the contrast between one or two urban centres and the rest of the region.

V. ASPECTS OF INCOME DISTRIBUTION BY FUNCTIONAL CATEGORIES

1. *General considerations*

A detailed analysis of the distribution of income among functional categories should be situated within the context of each particular country or city, since each case is different in terms of stages of development and socio-economic and institutional structures. The present chapter, however, will give the broad outlines of the over-all situation at present and analyse the factors governing income distribution by functional categories.

As regards the over-all situation, the only trait these countries have in common is a high rate of population growth which in the 1960s stood at an annual average of around 3 per cent. While this rate has exerted heavy pressure on employment capacity, its impact on the relative position of the functional categories in the income scale varies depending on the pace of economic development, the nature of the labour force, including the level of organization and bargaining-power of its various components, and the structure of the economy in each country.

In Mexico and Venezuela, the high growth rates of the post-war years led to a rapidly growing demand for technicians, administrators and some highly-paid employees. Thus the functional composition of the top income strata, traditionally composed almost exclusively of owner-*entrepreneurs*, became diversified, while the functional composition of the strata close to the top expanded and rapidly incorporated the medium-level salaried employees, clerical staff and skilled manual workers. The situation of manual workers in the two countries was dif-

ferent. In Mexico, the decline in the over-all share in income of manual workers between 1950 and 1965 reflected the situation of the rural masses, and the fact that wages did not keep pace with the high rate of expansion of the economy.¹² In Venezuela, rural wage and salary earners do not have so much weight in total employment and the wages of urban manual workers tend to be comparable with the high wages paid in the petroleum and mining sectors; hence, these workers maintained the share of labour in income and were able to resist the adverse economic trends of the period 1960-1962.

As in Mexico and Venezuela, economic activity expanded at a satisfactory pace in Costa Rica and Brazil, although expansion did not have quite so rapid an effect on the levels of average income in the different functional categories. In Costa Rica, the agriculture was the dominant sector, and while incomes policy raised the minimum salaries of the vast majority of rural workers, it was limited by the inflexibility of certain agricultural structures and by the fact that organized urban groups had little influence on what was a predominantly rural economy. In Brazil, the growing socio-economic differences between the different functional categories were a reflection of the lack of organization of wage and salary earners—many of whom have a very low level of skill—and of an income policy that particularly

¹² At 1950 prices, the annual average increase in wages was 2.2 per cent, compared with an average rate of growth of the gross national product of 6.3 per cent. See Banco de Mexico, *Comercio exterior*, September 1969, Mexico City.

favoured owner-*entrepreneurs*. Highly-paid technicians made up a very small part of the national total and were concentrated in the major cities, particularly Rio de Janeiro and São Paulo.

In Chile, the low rate of economic growth was unfavourable to wage and salary earners, particularly in agriculture. Although the majority of manual workers are relatively well organized most were unable—with the exception of those employed in foreign enterprises in the export sector, and some public services (electricity, gas)—to resist the pressure of the annual increase in the labour force on employment and wages. They accordingly confined their efforts to protecting the real value of their wages which was being gradually undermined by the high rate of inflation. The salaried employees and technicians in the main urban centres were comparatively better off, since they maintained their share in income and, at the top of the distribution, even surpassed some intermediate categories of owner-*entrepreneurs*.

The above shows that, while situations differ greatly from country to country, one common feature is that the average income of the different functional categories is higher in metropolitan areas than it is in each country as a whole.

2. Average income by functional categories

The difference in average incomes between metropolitan areas and their respective countries tends to be reflected in occupational categories. An analysis of average income by functional groups in the major cities reveals that the manual workers' average wage is half or slightly more than half the total average per person employed. Moving up the scale, the next group is that of self-employed workers, whose average income is roughly equal to the total average. The average salary of employees is between 40 and 90 per cent higher than this average, while the average remuneration of the owner-*entrepreneur* is more than twice as much. At the national level, the functional categories follow the same order in the average income scale, with the figure for manual workers being lower, and for owner-*entrepreneurs* much higher. In absolute terms, average income in the different categories is generally lower in the national distribution than in the metropolitan distribution. (See table 5.)

Various factors are responsible for the above-mentioned differences, the most important being

those that have a bearing on the socio-economic situation of all the categories in both areas (metropolitan and national), and those that have direct repercussions on certain groups and may have indirect repercussions on the situation of the remainder.

The first set of factors includes the ownership of assets. Setting wages aside, since the size of wages depends on more complex factors, the distribution of average income is directly related to the ownership of resources. The lowest average income is that of manual workers whose only resource is their labour, and the highest is that of the owner-*entrepreneurs*. In an intermediate position between the two are the own-account workers, who generally have less resources than the owner-*entrepreneurs*.

With regard to the influence of ownership on the geographical differences in income which favour the metropolitan groups, account must be taken not only of the amount of resources but also of the way and the degree in which they are used since this affects the returns obtained from them. In this respect, the owner-*entrepreneurs* in the metropolitan areas are in a favoured position. Given the size of the market, the fact that modern technology is more widely disseminated and the predominance of large enterprises that are more efficient than those in the rest of the country, there are better opportunities for investors in metropolitan areas, whose influence on economic policy is, moreover, usually considerable.

A similar type of relationship, though coloured to some extent by other factors, would appear to exist between levels of income and education, since both these variables follow parallel trends, albeit to a degree that differs according to socio-economic category. This is due to the close relationship that generally exists between access to education, at whatever level, and the socio-economic family status of the potential beneficiaries. The reforms that have been introduced in this area in some countries have not been in effect long enough to render less critical the situation that prevailed in the past, when socio-economic or educational status tended to be passed on from one generation to the next. At the beginning of the 1960s, even in the region's most socially advanced countries, such as Chile, only 14 per cent of the children of manual workers had access to secondary education, compared with 73 per cent of the children of the wealthiest 20 per cent of the population. The figures were even more striking at the university level:

Table 5

LATIN AMERICA: AVERAGE INCOME IN SELECTED COUNTRIES AND THEIR
RESPECTIVE METROPOLITAN AREAS, BY FUNCTIONAL CATEGORIES

(Index of total average income = 100)

	Brazil ^a		Chile 1960 ^b		México 1963 ^c	
	Country as a whole	São Paulo	Country as a whole	Greater Santiago	Country as a whole	Federal District
Manual workers		53	56	58	62	95
Own-account workers			27 ^a	—	101	244
Salaried employees		120	170	187	194	283
Owner-entrepreneurs		220 ^b	237 ^c	276	244	534
<i>Total</i>		100	100	138	100	205

SOURCES: Brazil: *Pesquisa sobre orçamentos familiares, 1961-1962, op. cit.*;

Chile: estimates based on ODEPLAN, *Evolución del Gran Santiago hasta 1970, Santiago, July 1967*;

México: *Encuesta sobre ingresos y gastos familiares en México, 1963, op. cit.*

^a Self-employed workers in the agricultural sector.

^b Owners, *entrepreneurs* and own-account workers.

^c Includes non-agricultural own-account workers.

in 1964, only about 1 per cent of university students came from the families of manual workers.

From the way the data was presented, however, the above relationship also appears to be circular, in that the different levels of education are in turn reflected in average income levels. For example, in México in 1964-1965, the value of the mode—i.e. the point of greatest concentration in the distribution of the economically active population by educational and income levels—was the average income of the poorest 20 per cent of the population

for illiterates; the average income of the 30 per cent below the median for those who had completed their primary education; and the average income of the 30 per cent above the median for those who had completed their secondary education. For those leaving specialized schools or university, it was the average income of the top 20 per cent of the distribution (see table 6).

The same conclusion can be drawn from the data for Rio de Janeiro for 1962. Taking the average income of an illiterate head of household as the base, the index was double for

Table 6

MEXICO: ECONOMICALLY ACTIVE POPULATION BY LEVELS
OF EDUCATION AND INCOME, 1964-1965

Socio-economic categories (Percentages of the population)	Education (Percentage of persons at each educational level)			
	No education	Primary	Secondary	Higher
Poorest 20 per cent	} 75	} 65	} 65	} 86
30 per cent				
30 per cent				
15 per cent				
5 per cent				

SOURCE: Ministry of Industry and Trade, *La población económicamente activa de México en 1964-1966, Volume VII, Mexico City, 1965.*

heads of household with primary education, four times greater for heads of household with secondary education, and six times greater for heads of household with higher education.¹³

The above-mentioned relationship is sufficiently illustrative of the position of the different functional categories in the income scale, in terms of level of education. However, the way in which the data available are presented does not permit an analysis of other no less important aspects, such as variations in income between functional categories distributed by similar levels of education. The data for Greater Santiago are also illustrative in this respect (see table 7).

The data given on education serve to explain some of the disparities in income between functional categories in metropolitan areas and in the respective countries. The concentration of educational services—mainly at the secondary and university levels—means that education is more widely available in the metropolitan areas and makes for a more highly skilled labour force. In almost all the countries under consideration, the percentage of school-age illiterates in the population in capital and other major cities was less than half the respective national average; similarly, the level of skill of the labour force expressed in terms of years of schooling was also higher.

In addition to ownership of property and education, there are other factors which influence the income levels of the functional categories and the geographical disparities

observed. Their influence, however, seems to be somewhat limited, for the moment being confined to only a few groups although they may have an indirect effect on the position of others. These factors include the official incomes policy, certain institutional characteristics, including the capacity for organization and bargaining power of groups and their share in political power, productivity, and lastly, differences in the composition of the various functional categories.

Official incomes policy generally tends to place wage and salary earners in the major cities at an advantage vis-à-vis their counterparts in the rest of the country, Minimum incomes in metropolitan areas are higher, and minimum scales are applied more generally. This is mainly due to the fact that the urban masses are better informed and better organized; sometimes, the percentage of urban members of trade associations is twice that in the rest of the country. As a result, in the Federal District of Mexico in 1965 for example, the average wage in the secondary sector was 13 per cent more than the national average, and over 45 per cent more than in smaller cities. This is also the case in Venezuela, where the average monthly wage paid in Caracas in 1963 was nearly double the figure for the rest of the country. Similarly, although with less pronounced differences, the fixing of a standard or basic minimum wage tends to favour workers in metropolitan areas vis-à-vis their counterparts in the rest of the country.

The higher absolute and relative level of wages in the major urban centres is also the result of the concentration in the cities of large enterprises with a level of productivity per

¹³ Getulio Vargas Foundation, *Pesquisa sobre orçamentos familiares*, op. cit..

Table 7
GREATER SANTIAGO: LEVELS OF EDUCATION AND AVERAGE INCOME BY FUNCTIONAL CATEGORIES, 1958

Functional categories	Index of average income Total=100	With-out education	Education (Percentage of the population in each category)			Total
			Primary	Sec-ondary	Specialized or university	
Employers	298	1	12	61	26	100
Salaried employees	155	—	20	56	24	100
Self-employed workers	97	6	52	31	10	100
Manual workers	53	9	75	14	1	100
Total	100					

SOURCE: Institute of Economics of the Universidad de Chile, *La Población del Gran Santiago*, Santiago, 1959.

employed person that is greater than the average for the country as a whole, and is due both to the fact that wage and salary earners are better organized—precisely because they are concentrated within large productive units—and to the fact that productivity is greater in these enterprises. Moreover, although increases in productivity tend to have a less than proportional influence on wages, particularly those of manual workers, the comparatively greater increases in wages and salaries in metropolitan areas places manual workers in a better situation than in the rest of the country, where enterprises are usually smaller in size and less productive. In this connexion, it is interesting to look at the product per employed person and average wages and salaries in industry in São Paulo, in terms of the size of enterprises (see table 8).

As the above data show, the average wage increases much more slowly than salaries in relation to productivity although it should be noted that 83 per cent of the highest paid manual workers in industry in Brazil in 1968 were employed in the metropolitan area of São Paulo.¹⁴

Lastly, another reason for the geographical differences in wages is the difference in the composition of a given functional category in the cities and in the country as a whole. Viewed from this standpoint, differences in occupational structure are both quantitative and qualitative.

In the country as a whole—excluding the metropolitan area—given the largely artisan-

type character of the economy and the low level of technology, the active population tends to have a relatively simple occupational structure. At the bottom end of the scale there is a large mass of manual workers, mainly engaged in agriculture, that has a low level of skill and income; while at the top of the scale there is a small group of owner-entrepreneurs. The intermediate group is of little significance both because it contains few technical and administrative employees, and because the self-employed workers in it have a low level of income and skill.

In the cities, however, the structure of the employed population is more diversified and complex, in tune with a greater degree of socio-economic development. Owing to the concentration of technological progress, the intermediate strata concerned with planning, administration, control and other specialized activities take on more weight vis-à-vis property owners and unskilled manual workers. Manual workers have a higher level of education, and there are more specialist and semi-skilled workers, owing to demand from the dynamic branches of the secondary sector and the demand for certain specialized services. Cities such as Santiago, Chile, contain more than half the country's workers who have completed a course. Given that these specialized groups earn higher wages, the category to which they belong in the major cities maintains a share in income roughly equal to the share of the same category in the national total, which includes, however, a much higher proportion of manual workers. There are similar differences between the metropolitan and national distributions, as regards salaried

¹⁴ Instituto Brasileiro de Geografia e Estatística (IBGE) *Anuario estatístico do Brasil*, 1968

Table 8
SÃO PAULO: PRODUCT PER EMPLOYED PERSON, AVERAGE WAGES AND SALARIES, 1960
(Indexes)

Industrial establishments No. of operatives	Indexes (establishments of 1-4 workers = 100)		
	Product per employed person	Average salaries	Average wages
1- 4	100	100	100
20- 49	143	373	124
50- 99	154	392	131
500-999	190	456	141
1000 and over	198	562	150
<i>Total average</i>	<i>160</i>	<i>376</i>	<i>126</i>

SOURCE: Instituto Brasileiro de Geografia e Estatística (IBGE), *Rencensamento geral do Brasil*, 1960.

employees. The concentration of modern economic activities, the central organs of the public administration and the main health, education and research services in the cities has created a need for large numbers of specialist employees. The most rapid growth within this category appears to have been in the demand for professionals and highly skilled technicians to plan and administer urban economic activity. According to estimates based on incomplete information, around two thirds of Latin America's professional and technical labour force works in the main metropolitan centres. The relative scarcity of these groups, and their political power, since they are the basis for managing or administering the public and the private sector, together with the influence of international standards on the income of these groups in turn explains the frequency of high salaries in the metropolitan income scale, and in general the higher level of the average income of the category as a whole. In 1968, two thirds of the highest-paid salaried employees in industry in Brazil were employed in São Paulo.

The same assumptions can be used to explain the higher average income of own-account workers in the cities, where this category mostly comprises professionals mainly belonging to the tertiary sector (doctors, lawyers, accountants, etc.) and skilled workers. Since the situation is different in the rest of the country—there is less demand, a lack of training centres and also the economic structure is different—the proportion of specialist workers in this category is smaller and is basically made up of small-scale agricultural producers and owners of small and generally inefficiently run commercial enterprises.

Lastly, with reference to owner-*entrepreneurs*, the influence of the different forms of organizing economic activity and of the size of the enterprises on geographical differences in incomes has already been analysed. It may be appropriate at this point to look at some of the characteristics of this category which, coupled with the over-all occupational structure, influence the distribution pattern of national income in metropolitan areas and in the country as a whole.

VI. GENERAL FEATURES OF THE DISTRIBUTION OF FAMILY INCOME IN METROPOLITAN AREAS

This chapter will consider some general features of the distribution of family income in metropolitan areas, compared with national

While in the rest of the country medium-sized enterprises are usually directly managed by their owners, in the large enterprises in metropolitan areas administration is very often in the hands of a board of directors, basically composed of majority shareholders and a few technical experts. The differences in the position of owner-*entrepreneurs* and salaried employees in metropolitan areas and in the country as a whole have a significant effect on the structure of the distribution of national income among the factors of production. In the rest of the country, the over-all share of mixed income and capital in the total is inclined to be very large, while in the metropolitan areas the share of labour is greater, since salaried employees and skilled manual workers account for a larger share of total employment and directors and administrators receive very high salaries.¹⁵

This functional analysis shows up some of the basic features of the distribution of personal income in metropolitan areas and the country as a whole. In accordance with the occupational structure, the distribution of income in metropolitan areas tends to be less skewed owing to the weight of the intermediate strata (*inter alia*, skilled workers, salaried employees and administrators). However, since the occupational structure is less diversified in the rest of the country, there are major disparities between the great mass of manual workers and the small group of owner-*entrepreneurs*. Furthermore, this type of analysis is very useful in that it makes it possible to identify and determine the features of the various groups, the way they are incorporated into economic activity and, in some cases, the degree to which they participate in political power. These are fundamental aspects that must be borne in mind when designing incomes policies aimed at modifying the existing situation.

¹⁵ It should be mentioned that to a great extent these salaries cannot be considered solely as the remuneration of labour, since directors and administrators are often partners as well or have some share in the capital of their enterprises. This is why their incomes are highly elastic in relation to productivity, as can be seen from the data given on industry in São Paulo.

patterns. For this purpose, income recipients will be divided into five groups, in ascending order of income, namely the poorest 20 per

cent, the 30 per cent below and the 30 per cent above the median, the 15 per cent below the top 5 per cent, and the top 5 per cent (see tables 9 and 10). This breakdown is not necessarily homogeneous, nor is it a class-type structure, as the internal composition of each group varies depending on the area or country considered.

1. *The poorest 20 per cent*

The poorest 20 per cent of the population receives an average of 5 per cent of income in metropolitan areas, but only 3.1 per cent in the country as a whole. Expressed in absolute terms, personal income ranges between 130 and 300 dollars in the cities, compared with nation-wide averages ranging between 50 and 110 dollars.¹⁶ In relative and absolute terms, this group is above the national average in all the cities considered except San José where it falls below it, although in absolute terms its income is still slightly higher (approximately 125 dollars as against 110).¹⁷

These geographical differences in the average income of this income group largely reflect the variations in the sectoral and occupational structure of the group in the city and in the country as a whole.

Although the situation varies from country to country, it is generally the case that as much as 90 per cent of this group is made up of workers engaged in primitive-type agricultural activities, the remainder comprising unskilled workers or illiterates engaged in services or construction activities in rural areas or small towns. In countries such as Mexico, for example, around half of all pensioners are in this group.

The composition of the group is different in the metropolitan areas where there is comparatively less activity in the primitive sector, whose influence is confined to the first decile and there is consequently less pressure on the income levels of the deciles further up the scale. Similarly, the agricultural sector has little influence on the group since in the major

cities considered (with the exception of San José) it accounts for no more than 4 per cent of total employment and has a higher level of efficiency than in the respective country taken as a whole. This is due to the high value of land and the higher level of education of the urban population engaged in agriculture. Moreover, except in cases where farming units are excessively small in size—which is particularly the case in the peripheral areas of San José—agricultural activity generally produces incomes that are above the average for this group as a whole.

In the metropolitan areas the socio-economic position of this group is affected rather more by certain institutional characteristics than by the sectoral origin or the level of efficiency of particular activities. The data available on these cities would appear to show that, with the exception of some pensioners' families and the families of workers in personal services, a considerable proportion of the category is made up of families in which the head of household is a woman. As in the case with minors, women customarily receive lower compensation than men for similar activities, in some cases as little as one quarter the man's wage (in industry in San José) and in others one half. This is largely because women as a group are virtually not organized and because the compensation they receive is often considered to be a supplement to family income. As a consequence, although representing close to one third of the gainfully employed population in metropolitan areas, women tend, when they are the head of household, to be concentrated in the lowest group of income recipients. In Caracas, half of all women workers in 1963 received compensation at a rate below the minimum wage; and in the Federal District of Mexico 83 per cent of the lowest income group of the gainfully employed population were women. Nevertheless, even though the actual amount of income may be small, if it only represents a part of family income it does help to improve the position of the family in the income scale. This fact may well explain why the share of the lowest 20 per cent is greater in metropolitan areas, since the proportion of women in the gainfully employed population in such areas is higher than in the country as a whole. On the other hand, families in which the head of household is a woman—and women in general as income recipients—are usually low down on the income scale. An illustration of this is the situation in San José, where the high proportion of families headed by women

¹⁶ ECLA estimates of average income by countries in 1965, expressed in dollars at 1960 prices.

¹⁷ Given the low level of urbanization of the metropolitan area of San José compared with the other cities considered, and the importance of small-scale agriculture activities, it is probable that income in kind is underestimated for a large number of families living on the edge of the city who grow many of their own food-stuffs. See Advanced School of Public Administration for Central America (ESAPAC), *Algunas características demográficas del área metropolitana de San José* (San José, 1957).

Table 9

LATIN AMERICA: DISTRIBUTION OF PERSONAL INCOME IN SELECTED METROPOLITAN AREAS

Income recipients (percentage)	Brazil, 1961-1962 ^a (families)		Chile, 1964 (families)		Costa Rica, 1961 (families)		Mexico, 1957 (families)		Venezuela, 1962 (families)		Total average families
	Rio de Janeiro	São Paulo	Greater Santiago		San José		Federal District		Caracas		
10	2.0	2.3	1.5		2.0		2.2		2.2		
10	3.0	3.5	2.8		3.0		3.1		3.5		
20	5.0	5.8	4.3		5.0		5.3		5.7		5.0
10	4.0	4.2	4.1		4.0		3.9		4.6		
10	5.0	5.1	4.2		5.0		4.8		5.8		
10	6.1	5.9	6.0		5.5		5.5		6.9		
30	15.1	15.2	14.3		14.5		14.2		17.3		14.8
10	7.6	7.0	7.6		6.8		6.3		7.8		
10	9.3	8.3	9.5		8.7		8.7		9.5		
10	12.3	10.9	12.1		10.0		11.7		12.0		
30	29.2	26.2	29.2		25.5		26.7		29.3		28.4
10	15.7	14.3	17.3		17.0		16.3		16.5		
10	35.0	38.5	34.9		38.0		37.5		31.2		
15	26.6	24.8	29.2		29.0		27.8		27.7		27.5
5	24.1	28.0	23.0		26.0		26.0		20.0		24.3
100	100.0	100.0	100.0		100.0		100.0		100.0		100.0

SOURCES: Brazil: *Pesquisa sobre orçamentos familiares, 1961-1962*, op. cit.

Chile: Institute of Economics of the Universidad de Chile, *Demanda de bienes durables, Gran Santiago, junio de 1964* (Santiago, 1965).

Costa Rica: Carlos Quintana Ruiz, *Análisis del ingreso familiar en el área metropolitana de San José* (Universidad de Costa Rica, 1962).

Mexico: Statistical Office, *Ingresos y egresos de la población de México: mes de octubre de 1956* (Mexico City, 1958).

Venezuela: Statistics and Census Office, *Primera encuesta nacional sobre ingresos y egresos familiares*, document 5 (Caracas, 1964).

^a The use of different income recipient units for countries as a whole (table 10) or for metropolitan areas of Rio de Janeiro and São Paulo (table 9) obviously has an influence on the share of the respective population in income, particularly when more than one member of a family receives income.

Table 10
LATIN AMERICA: ESTIMATED INCOME DISTRIBUTION IN SELECTED COUNTRIES
(Percentage of total income)

<i>Income recipients (percentage)</i>	<i>Brazil 1960 (1) Gainfully employed population</i>	<i>Families</i>				<i>Average</i>
		<i>Chile 1965 (2)</i>	<i>Costa Rica 1961 (1)</i>	<i>Mexico City 1963 (1)</i>	<i>Venezuela 1962 (1)</i>	
10	1.5	1.2	2.6	1.5	1.4	
10	2.0	2.3	3.4	2.1	1.6	
20	3.5	3.5	6.0	3.6	3.0	3.1
10	3.0	3.0	3.8	3.1	3.0	
10	3.5	4.1	4.0	3.8	3.7	
10	5.0	5.4	4.4	4.9	4.6	
30	11.5	12.5	12.2	11.8	11.3	10.3
10	6.5	6.5	5.4	6.0	6.0	
10	7.3	8.5	7.1	8.1	8.3	
10	9.7	10.7	9.3	12.0	13.4	
30	23.5	25.7	21.8	26.1	27.7	24.1
10	12.0	15.3	14.0	17.0	17.3	
10	49.5	43.0	46.0	41.5	40.7	
15	22.0	27.8	25.0	29.5	31.5	29.2
5	39.5	30.5	35.0	29.0	26.5	33.4
100	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: (1) ECLA, *Economic Survey of Latin America, 1968* (United Nations publication, Sales No. E.70.II.G.1).
(2) Chilean Production Development Corporation (CORFO), *Geografía económica de Chile*, appendix 1 (Santiago, 1966).
Families equivalent to heads of household in housing censuses.

in the poorest 20 per cent group may to a large extent explain why San José is the only one of the cities considered in which the poorest 20 per cent has a lower share of income in metropolitan areas than in the country as a whole. According to a study of San José, 21.3 per cent of families interviewed in the Central Canton were headed by women, and this proportion was even higher in some of the peripheral areas (close to one third).¹⁸ Families consisting of a mother and children were the poorest, and the study estimated that the existence of such families was one of the main reasons for the growth of slums.

There is another difference in the composition of this group in metropolitan areas and in the country as a whole which has to do with its functional structure. In the country as a whole, 80 per cent of the group is made up of manual workers, mostly employed in agriculture and services; but in metropolitan areas, its occupational composition is much more varied. In Caracas, for example, manual workers make up 60 per cent of the poorest 20 per cent, while the remaining 40 per cent is composed of roughly equal proportions of own-account workers and low-level salaried employees in personal services.¹⁹ In other cities, São Paulo and greater Santiago for example, salaried employees account for an even smaller proportion, while pensioners account for a larger share.

2. *The 30 per cent below the median*

Naturally enough, the situation changes radically as incomes rise, as can be seen by comparing the next category, the 30 per cent below the median, with the poorest 20 per cent. Of course, the extent of the difference varies depending on whether it is the country as a whole or the metropolitan area that is being considered.

In some of the countries—such as Brazil, Costa Rica and Mexico—the agricultural population still has a virtually decisive influence on the 30 per cent below the median, although not as much as on the poorest 20 per cent. Slightly more than half of the income recipients in this group are engaged in agriculture, while the remainder are employed in construction, traditional industries—especially textiles—and services. In the other countries, how-

ever, these proportions are significantly reversed in favour of the non-agricultural sectors.

Nevertheless, it would seem that the sectoral origin of the income received by a particular group is less important than the variables that determine its occupational position (such as education, property and entrepreneurial capacity) and its bargaining power.

Viewed from this standpoint, there are clear differences in occupational structures at the country level between the poorest 20 per cent and the 30 per cent below the median. Unlike the poorest group, which is made up virtually exclusively of barely literate workers engaged in primitive-type agriculture and personal services, the 30 per cent below the median is composed of persons with a higher level of education and has a more varied occupational structure. The group includes, in addition to semi-skilled workers engaged in the activities already mentioned, other functional groups whose compensation is higher than the average wage and therefore influences total average compensation, for example small-scale farmers, small shopkeepers, craftsmen and some clerical workers.

The key influence of occupational position on income levels show up even more clearly in the major urban centres, where moving from the bottom 20 per cent to the 30 per cent above it does not imply appreciable changes in the sectoral origin of income but does involve a substantial increase in average income. This category includes approximately half of all manual workers, particularly those with some degree of skill employed in traditional industries, services, and the semi-skilled branches of large enterprises together with some clerical workers, craftsmen and own-account salesmen. Hence, average income is higher in this group than in the poorest 20 per cent mainly because the group's occupational structure is more diversified.

At the country-wide level, however, the income of this group increases only slightly and there is not much difference between the top and bottom of the group. This is attributable to the abundance of unskilled labour, mainly in the agricultural and services sectors, which continues to exert pressure on the income of the bottom decile of the group. The resulting lack of differentiation in incomes is noticeable in all the countries considered, particularly in Costa Rica where there are insignificant differences between the 30 per cent below the median and the poorest 20 per cent,

¹⁸ Universidad de Costa Rica, *Barrio Sagrada Familia, estudio socio-económico* (San José, 1958).

¹⁹ Universidad Central de Venezuela, *Estratificación social y familia, Estudio de Caracas*, vol. IV.

and also between the bottom two deciles of the 30 per cent below the median. As a consequence, the share of the 30 per cent below the median in income, although larger than that of the poorest 20 per cent, is much the same in all the countries considered, ranging between 11 and 12.5 per cent of total income and, expressed in absolute terms, between an average income of 100 dollars in Brazil and 200 dollars in Chile and Venezuela.

In the metropolitan areas, the 30 per cent below the median receive a greater share of total income, owing to the fact that the primitive sector exerts comparatively less influence and the functional structure of the group is more diversified. In particular, the group contains sectors of the labour force that are generally more skilled and better organized than agricultural wage-earners, who continue to exert pressure on this group in the national distributions. Given this higher level of diversification, which varies depending on the level of socio-economic development in each city, the share of this group in metropolitan income is comparatively larger, and differs more appreciably in each city, ranging between 14.2 and 17.3 per cent, which is roughly equivalent to the over-all regional average for personal income, i.e. between 240 and 500 dollars.

As can be seen, these two groups, which together form the lower half of the distribution, have different socio-economic structures. In the country distribution, they are strongly influenced by the rural masses, while the fact that their incomes are lower than in similar metropolitan groups reflects rather more complex urban-rural differences. In the upper half of this part of the distribution, rural areas exert significantly less influence over the national figures. The fact that most income-earners in this part of the distribution are urban means that the national and metropolitan distributions are fairly similar, and this similarity increases when moving towards the top of the scale, where the metropolitan groups have a decisive influence.

Obviously enough, the geographical origin of the population has an influence on income levels, given the great socio-economic disparities between the different areas, particularly between urban and rural areas. Generally speaking, urban development is part of a complex process and is determined by the size of the modern sector of economic activity, levels of education, and the degree to which the population is organized and participates in the political, social and economic process. In

the countries considered, the ratio of urban population to total population is directly proportional to employment in modern activities, and inversely proportional to the size of the primitive sector in the economy.²⁰

3. *The 30 per cent above the median*

The differences as regards income levels between predominantly urban and predominantly rural countries can be seen by comparing the share in income of the 30 per cent of income recipients above the median. In mainly rural countries, such as Brazil and Costa Rica, this group has a relatively smaller share, between 21.8 and 23.5 per cent of the total, equivalent to a *per capita* income ranging from 200 to 300 dollars. This proportion is significantly higher in Chile, Mexico and Venezuela, where this group is composed of more urbanized and organized groups whose income tends to be comparable with the incomes of the highest income groups, and who receive between 25.7 and 27.7 per cent of total income, with *per capita* incomes ranging between 400 and 500 dollars.

It is thus clear how the predominance of the rural population in neighbouring income groups, or the incorporation of a small fraction of the rural population into a fundamentally urban category such as the 30 per cent above the median, has a negative effect on the bargaining power of this group and on its overall share in income.

In the national distribution, in terms of functional composition, this group includes, in proportions that vary in each country, medium-scale *entrepreneurs* engaged in agriculture and non-specified services, specialist workers in the traditional industries and the large farms and a high proportion of clerical workers and own-account workers, principally salesmen and the like.

The functional composition is somewhat different in the major cities, where the basic nucleus of this group is formed by medium-level salaried employees, both public and private, together with skilled and organized workers in fairly large enterprises, medium-level agricultural *entrepreneurs*, and in the top decile of the group, a small amount of professional workers, technicians and the like. Compared with the picture at the country level, the share of this group in income varies less in the cities considered, ranging between 25.5 and

²⁰ Based on ECLA estimates of the size of the modern and primitive sectors.

29.3 per cent of total income, in absolute terms a *per capita* income of between 400 and 900 dollars. In San José, Costa Rica, this group receives a comparatively smaller share of total income, probably because it contains less manual and salaried workers and because specialist workers are higher up the distribution.

Similarly, the tendency for the proportion of manual workers to decline and the proportion of persons with a certain level of resources (particularly education and property) to rise continues throughout the rest of the distribution, both national and metropolitan.

4. *The 15 per cent below the top 5 per cent*

Manual workers account for no more than 6 per cent of this income group, and are generally urban cadres employed in large enterprises, in particular enterprises controlled by the Government or foreign capital (mining, electricity, transport and communications). The group is basically made up of executives and professionals, and to a lesser extent, of medium-scale *entrepreneurs* and owners in industry and services. The data available on Mexico illustrate the sectoral origin and functional structure of this group.²¹ In 1964-1965, persons in this group accounted for a larger share of employment in the industry, energy, transport, commerce and services sectors (between 19 and 23 per cent of the respective totals) than in agriculture and mining (about 9 per cent). As regards functional structure, the group contained 7 per cent of all manual workers, 18 per cent of salesmen and 18 per cent of workers "not engaged directly in production", and a large proportion (between 38 and 45 per cent) of salaried employees, executives, professionals and technicians.

As can be seen, this 15 per cent of the population is mostly made up of highly skilled groups generally engaged in efficient activities related to or a part of the modern sector. Hence their share in income depends on the size of employment in the modern sector, and on the extent to which the modern sector influences the income of groups close to the very top of the distribution. The sector exerts less influence in Brazil and Costa Rica, where it accounts for only about 10 per cent of employment. This would explain why in these two countries the 15 per cent income group has a lower share in income, ranging between 22 and 25

²¹ See Ministry of Industry and Trade, *La población económicamente activa de México, 1964-1965* (Mexico City, 1965).

per cent of the total, with a *per capita* income of between 380 and 640 dollars. It has a greater share in countries such as Chile (27.8 per cent), Mexico (29.5 per cent) and Venezuela (31.5 per cent), where the influence of the modern sector—which accounts for between 15 and 22.3 per cent of total employment—goes beyond the confines of the top 5 per cent and is felt in the upper two thirds of the 15 per cent group and, in the case of Venezuela, extends to the upper strata of the 30 per cent above the median. The relatively large share in employment held by the modern sector would seem to be the reason why the share in income of this 15 per cent is greater in the second group of countries considered, as is also the *per capita* income in absolute terms, which ranges between 900 and 1,200 dollars.

The position of this group in the distribution in metropolitan areas is similar to its position in the national distributions of the second group of countries, since the modern sector in the cities considered probably employs no less than the top 20 per cent of the population. The data available on Caracas indicate that manual workers have virtually no representation in this group, which is composed almost exclusively of medium-scale landowners and employers in agricultural activities, industry and services, managers, high-level employees in large enterprises, and certain categories of professional workers. These are groups that possess resources (capital and skill) that are in relatively short supply in developing areas and whose income is usually based on international levels. In the cities, moreover, their share in income appears to fluctuate between fairly close limits, ranging from 25 to 29 per cent of the total.

5. *The top 5 per cent*

The trends noted in the occupational structure of the socio-economic categories reach their apogee in the top 5 per cent of the distribution. In the national distributions, the members of this group are basically high-level professionals, the top levels of the public and private sectors, the managers and administrators of large enterprises, and the major owner-*entrepreneurs*, with, in some countries, a very small amount of pensioners and *rentiers*. The exception, however, is the tiny proportion (between 0.1 and 0.6 per cent) of highly skilled urban manual workers, employed in the major public or foreign enterprises, whose level of compensation is determined to a large extent by institutional factors. The functional

structure of this group does not vary very much between countries or between cities, although the proportions of each component may change. For example, in Mexico in 1964-1965 the group contained 25.4 per cent of owners and managers, 31 per cent of professionals and technicians, both salary-earners and self-employed, and 1 per cent of persons living on pensions.²²

This income group thus includes top-level salary-earners or self-employed persons (top-level professionals and executives), and also the major owner-*entrepreneurs*, the proportions varying depending on the socio-economic and institutional characteristics of each country and city. For example, in 1961-1962 in Río de Janeiro, which up to that time had been the official capital of the public administration and the headquarters of the main companies operating in Brazil, the proportion of top-level salaried employees and self-employed professionals in the 5 per cent group was higher (about 49 per cent) than that of owner-*entrepreneurs* (about 45 per cent).²³ The situation was quite different in São Paulo where the most dynamic activities are concentrated and where income from capital is generally very high compared with the top salaries. In São Paulo, persons receiving incomes from capital made up 55 per cent of the top group.²⁴

Irrespective of variations in proportions, however, all the members of the top income group belong to the modern sector of the economy, in both the national and the metropolitan distributions, and hence their share in income depends on the size of the modern sector—the smaller it is, the greater the concentration of income.²⁵ This would appear to be the case in Brazil and Costa Rica, where a high proportion of income, ranging between 35 and 40 per cent, is concentrated at the very top of the distribution. As the modern sector expands, however, its higher incomes tend to be spread among larger groups that are employed in it or connected with it, i.e. among the groups close to the top of the distribution, with the result that income becomes less concentrated

at the very top. This can be seen in countries such as Chile, Mexico and Venezuela, where the modern sector is relatively larger than in Brazil and Costa Rica. In these countries, the income generated in the modern sector is distributed among approximately 20 per cent of the working population, and hence the concentration of income tends to be less in the top 5 per cent, which receives between 27 and 31 per cent of total income. Similarly, the proportion of income received by the top 5 per cent of the metropolitan cities is generally lower, ranging between 20 and 28 per cent of the total.

6. Some conclusions

It may be concluded that the distribution of income in the major cities is generally less skewed than in countries taken as a whole. Contributory factors are the smaller size of the primitive sector—which is the reason why the lower strata have a greater share in income—and the fact that the major cities are administrative centres where the concentration of salaried employees, professionals and technicians helps to swell the intermediate strata. This, coupled with the larger size of the modern sector, which in turn implies that a larger group of the population shares in its benefits, makes for less concentration of income at the top of the scale. The fact that there is less socio-economic imbalance in the cities compared with the country as a whole can be seen from the proportion of income that would have to be redistributed to achieve an equitable distribution in each case. This proportion is lower in the cities (between 30 and 35 per cent of total income) than in each country as a whole (between 39 and 42 per cent). Both distributions, however, have one essential feature in common, namely that they illustrate that the share of the different socio-economic categories in income is fundamentally determined by the quantity and quality of the contribution of each category to the production process, which in the countries considered is usually to a large extent a function of the level of participation in the generation of political power. From this standpoint, then, there appear to be limitations to socio-economic mobility, which is easier within a single category, for it depends on given increases in income. Moving up from one category to the next, however, appears to be more difficult, for it implies quantitative or qualitative changes in functional position.

²² Ministry of Industry and Trade, *La población económicamente activa de México, 1964-1965*, op. cit.

²³ The remainder were pensioners and rentiers.

²⁴ Getulio Vargas Foundation, *Pesquisa sobre orçamentos familiares, 1961-1962*, op. cit.

²⁵ The level of concentration depends, of course, on the type of economic and institutional system, the degree of State intervention in the economy, and official incomes policies.

VII. ESTIMATES OF THE DISTRIBUTION OF AVERAGE INCOME IN ABSOLUTE TERMS

Analysing the distribution of income in relative terms is of undoubted value, particularly as a basis for making spatial comparisons of the position of social groups in the income scale, because it is not hampered by differences in patterns of living and the purchasing power of money in different areas, which are factors that usually affect the comparison of absolute incomes. This is not to say that comparing incomes in absolute terms is devoid of any value. Showing the average income in absolute terms corresponding to each socio-economic category in a given distribution provides an immediate, albeit approximate, view of the capacity of each group to purchase goods and services, or in a more general sense of each group's level of living. With this in mind, very provisional estimates have been prepared on personal *per capita* income in 1965²⁶ by countries, cities and socio-economic categories (see table 11).

The most striking feature is the great socio-economic gap between the figures for countries and for their metropolitan areas. Average incomes in some of the latter, such as Río de Janeiro, São Paulo, Caracas and the Federal District of Mexico, are very high and as much as three times the *per capita* income of the respective country; they are even comparable with the average level in some developed areas of western Europe. It is thus normal for these differences to be reflected in the various income groups in the different areas.

In metropolitan areas, the poorest 20 per cent of families has an average money wage that is as much as five times higher in some cases (São Paulo for example) than the comparable figure in the country as a whole, and is even comparable with the *per capita* income of the same group in some developed countries. The difference between the income received in the cities by the barely skilled members of this group and the low level of average incomes in agriculture constitutes a powerful magnet that attracts to the cities all the surplus labour from the rest of the country, especially from rural areas. In this respect, the data available show that approximately half the poorest 20 per cent group is composed of persons who have come from rural areas. Even though they may occupy a marginal position in the cities, the

members of this group enjoy an income level close or equal to the country-wide average, and in some cases come close to the income level of the lower middle class in the country as a whole.

The next category considered is the 30 per cent of income recipients below the median. In the cities, the average income of this group is roughly half the average urban income and virtually the same as or more than the respective national averages. The position of this group in the income scale places it in the lower middle class of the cities, but in the traditional middle class as regards income level in the country as a whole. From this standpoint, it can be seen that at the country level this group has a very low income.

Similarly, the 30 per cent above the median, which constitutes the middle class in the cities, has an income level equivalent to that of the upper middle class in the country as a whole. In contrast, in the national distribution this group barely reaches the income level of the middle class. The group with income levels comparable to those of the urban middle classes is the 15 per cent below the top group, which in the cities would be comparable to the upper middle class.

Lastly, a comparison of the position of the top 5 per cent in the cities and in countries as a whole calls for two comments. First, the large differences in average incomes between countries are hardly noticeable at the top end of the distribution, where average incomes in absolute terms are virtually identical. Secondly, compared with the same group in the country as a whole, the top 5 per cent in major cities has a higher level of income.²⁷ For example, in some cities, such as São Paulo and Mexico City, it is double the figure for the same group in the national distribution. This would indicate that the economic élite in these countries is basically concentrated in the metropolitan areas.

It is clear from the above that, on account of the level of incomes and a less skewed income distribution, the major cities considered tend to be more comparable with developed

²⁶ Expressed in dollars at constant 1960 prices.

²⁷ Except in Costa Rica where the high incomes generated in export agriculture in the rest of the country, according to the data, would appear to be higher than those in the modern sector in the metropolitan area of San José.

Table 11

ESTIMATED DISTRIBUTION OF AVERAGE PER CAPITA PERSONAL INCOME BY INCOME GROUPS, 1965^a

(Dollars at 1960 prices)

	<i>Average income by group</i>										
	<i>Average per capita personal income</i>	<i>Poorest 20%</i>	<i>30% below the median</i>		<i>30% above the median</i>		<i>15% below the top</i>		<i>Top 5%</i>		
Brazil	260	45	100	200	200	380	2 055				
Rio de Janeiro	805	200	405	780	1 425	3 880					
São Paulo	775	225	390	675	1 280	4 340					
Chile	480	85	200	410	890	2 930					
Greater Santiago	660	140	315	640	1 285	3 035					
Costa Rica	385	115	155	280	640	2 695					
San José	500	125	240	425	965	2 600					
Mexico	475	85	185	415	935	2 755					
Federal District	1 050	280	495	935	1 940	5 460					
Venezuela	530	80	200	490	1 115	2 810					
Metropolitan area of Caracas ..	870	250	500	850	1 610	3 480					
Norway ^b	930	210	640	1 070	1 560	2 870					
United Kingdom ^b	1 400	360	825	1 540	2 335	5 375					

^a Provisional estimates based on incomplete data. Average personal income in dollars calculated from ECLA estimates of *per capita* product. See *Economic Survey of Latin America, 1968*, op. cit.

^b Income levels in 1960. See *Economic Survey of Latin America, 1969* (United Nations publication, Sales No. E.71.II.G.1).

areas than with their respective countries. The data available show that the differences between these major cities and the developed countries essentially occur in the 60 per cent in the middle of the distribution, which in the industrial countries has a larger share of income, at the expense of the top income groups. A good illustration is to compare areas with relatively similar average income levels, for example Norway, and Latin American cities, such as the Federal District of Mexico and the metropolitan area of Caracas. While in Norway 80 per cent of the population has a *per capita* income of 600 dollars or more, this proportion

in the Latin American cities is approximately 50 per cent. And in the corresponding national distributions, this proportion shrinks to about 20 per cent.

It may be concluded, then, that income levels are appreciably higher in the metropolitan areas and that the distribution of income in such areas is less skewed. However, the population of these areas represents only one fourth of the total national population, and only barely one half of this fraction has access to income levels comparable with those achieved by the 30 per cent below the median in the developed countries of western Europe.

VIII. LEVEL OF LIVING, SAVINGS AND PRODUCTION IN THE METROPOLITAN AREAS

1. *Level of living*

The level of living in metropolitan areas tends to be much higher than in the rest of the respective country. Incomes are higher, credit facilities are more readily available and the range of public services is greater. This makes for greater spending power and also a more diversified structure of consumption.

A comparison of levels of average expenditure in the cities and in the country as a whole reveals differences similar to those found in the respective income distributions. Average expenditure in the major cities is one third or more higher than the national average, and in some cases is well over twice the average for the rest of the population. The cities thus tend to constitute the main consumer centres or the largest markets in each country, and in some cases are responsible for virtually the entire national demand for some goods. This can be illustrated by the geographical distribution of commercial sales in the different countries. The metropolitan area of Caracas, for example, is responsible on average for more than 40 per cent of the total volume of commercial sales in Venezuela; which is almost three times the *per capita* average for the rest of the country.²⁸

The differences in volume of expenditure between the cities and the country as a whole are accompanied by differences in the structure or composition of expenditure. The fact that incomes are higher in the metropolitan areas makes for greater diversity in spending,

since it makes it possible to satisfy more than just subsistence needs. Thus, food accounts for a smaller percentage of total expenditure in the metropolitan area (between 30 and 40 per cent) than in the respective country as a whole (50 per cent or over); while the percentage of clothing is roughly the same (around 12 per cent), and that for housing, consumer durables and services is much larger. Data are available on Venezuela to illustrate this. The geographical distribution of commercial sales shows that proportionately less non-durable consumer goods are sold in the metropolitan area (74.4 per cent) than in the country as a whole (82 per cent), although *per capita* expenditure in absolute terms in Caracas is 2.6 times the average for the rest of Venezuela.²⁹ Non-durable consumption accounts for a smaller share of the total in the metropolitan area because a lower proportion of expenditure goes on food-stuffs (33 per cent) and clothing (12 per cent) than in the country as a whole (52 and 13 per cent), although *per capita* expenditure on food and clothing in Caracas is 1.6 and 2.6 times higher than in the rest of the country. Pharmaceutical products, fuels and other products, however, make up a higher percentage of the sales effected in Caracas (19 per cent) than in the rest of Venezuela (17 per cent).

It can be seen that, because incomes are higher in the metropolitan area, spending on food, clothing and other non-durable consumer

²⁸ Central Bank of Venezuela, *Memoria*, 1962.

²⁹The data covers only the metropolitan area of Caracas, except for the item "household goods" which includes sales in the interior of the country.

goods, although high in absolute terms, accounts for a smaller proportion of income or spending than the national average. This means that there is more income available for the purchase of consumer durables. In the countries under consideration, the metropolitan centres constitute the largest market for consumer durables. In Caracas, for example, 26 per cent of total personal expenditure is on consumer durables, while the national average is 18 per cent; moreover, Caracas accounts for 56 per cent of sales of consumer durables and as much as 82 per cent in some categories, such as motor vehicles and spare parts. This is a feature common to all the cities under consideration, where sales of consumer durables represent a much higher proportion of total sales than the national average. This means that the supply indexes for consumer durables in metropolitan areas are fairly high. In 1967, two thirds of the motor vehicles in Costa Rica were concentrated in San José; and in recent years between 50 and 75 per cent of the population of the metropolitan area of Caracas owned some or all of such domestic appliances as radios, refrigerators, television sets, washing-machines, etc., while the corresponding figures for the rest of Venezuela were much lower.

As will be seen below in connexion with the formation of savings, the level of income is not alone sufficient to explain the volume or the diversity of expenditure for the majority of the population in the metropolitan areas. Other variables appear to have comparable effects on expenditure, for example greater dissemination of the consumption patterns of the highly developed centres, instalment sales and other credit facilities, etc. These factors have helped to make the market for certain goods, especially consumer durables and related services, accessible to large groups of the population, including those with income levels lower or on a par with those of certain groups in the rest of the country which are excluded from this market. Data on Brazil show that, in 1962, families in São Paulo began to purchase cars when their income level was only one quarter of the level at which families in Recife began to do the same. This goes a long way to explain why there are so many striking cases in the metropolitan areas—striking because of the evident contrast—of brand-new television sets, washing-machines, refrigerators and radio sets in shacks which often do not even have sanitation. The simple fact that such goods are purchased even by the

lowest income groups goes to show that demand for them is relatively widespread in metropolitan areas.

The higher level of income in metropolitan areas also means that these areas tend to become the main consumer centres or users of services as well as consumer durables in their respective countries. Although the criteria for classifying expenditure on services vary in the different countries and cities, it is clear that in the cities it represents on average a percentage of total expenditure which is higher (by one third or more) than the respective national average. The higher average expenditure on services, coupled with the advantages accruing from the concentration of public services in the major cities, means that the metropolitan population is able to make better use of these services. This is particularly the case with education, housing and health services.

With respect to education, the metropolitan areas not only have low illiteracy rates—which in Chile and Mexico, for example, are less than half the national average—but also have a more highly skilled labour force. This is the case in Rio de Janeiro and São Paulo where, in 1962, the average number of years of education was around seven, approximately double the national average. This higher level of skill, together with better opportunities for employment, means that there are better possibilities of socio-economic advancement or mobility in the major centres than in the country as a whole. Surveys carried out in a number of countries have all found that the children of rural migrants to the major cities generally had more education and better jobs than their parents. In Mexico, for example, the percentage of the economically active population which had managed to improve their jobs and income in 1964-1965 was twice the national average in the Federal District (7.6 per cent compared with 3.7 per cent).³⁰

There are also differences between the major cities and the country as a whole in housing and health conditions. The percentage of inadequate housing is much lower in the metropolitan areas (17 per cent of the total in the capital cities of Chile and Mexico) than in the country as a whole (around one third of the whole). At the same time, housing in the metropolitan areas offers greater facilities; in Mexico City and Caracas, for example, by the first half of the 1960s, three quarters of all

³⁰ Ministry of Industry and Trade. *La población económicamente activa de México, 1964-1965*, op. cit.

housing had running water, and the percentage which had electricity was twice the national average.

The population of the metropolitan areas is similarly favoured in comparison with the rest of the country where health facilities are concerned. They not only benefit because of their greater spending power but also because they have a better environment, public health services are concentrated in the major cities, and a higher proportion of the population has medical insurance (35 per cent of the total in São Paulo and Mexico City). A significant indicator in this respect is the infant mortality rate which is much lower in these cities (between 6 and 8 per cent) than in Brazil and Mexico as a whole (between 8 and 11 per cent).

2. Comparison of socio-economic categories in the metropolitan areas

The differences in level of living in the metropolitan areas and the rest of each country are a reflection of the unequal geographical distribution of income. Differences also exist between socio-economic categories within the two areas, as a result of a skewed distribution of income. Although the metropolitan areas show on average the best indexes for the country as regards all the various components of the level of living, the situation is not uniform for all the strata of the urban population. It may be illustrative, in this connexion, to look at the level and structure of consumption by socio-economic categories in the metropolitan areas being considered. There are, of course, a number of disparities between these centres, which reflect differences in level of socio-economic development and each centre's individual characteristics. Within this diversity of local situations, however, some general trends common to all can be identified.

Expenditure on food as a proportion of total expenditure decreases as income increases. Thus, for the poorest 20 per cent it is comparable with the national averages (between 44 and 55 per cent in Caracas and São Paulo) although it is lower than the proportion spent on food by the same category in the country as a whole (over 60 per cent). This percentage decreases in each of the strata further up the income scale; thus, in the families which make up the top 5 per cent of the distribution it is less than 30 per cent, although the average family expenditure of the top 5 per cent is 10 or more times that of a family in the poorest 20 per cent. The dietary deficiencies inherent in such a low average expendi-

ture on food in the lowest income group are even more striking when considering the *per capita* figures, since these families are usually the most numerous. The data on Caracas, in particular, show that 79 per cent of families with seven or more children belonged to the poorest category, and only 2 per cent were in the category of the top 5 per cent.³¹

The trend is less clear in expenditure on clothing; as a proportion of total expenditure, it grows as income rises in the strata making up the bottom 80 per cent of the distribution and becomes stable among the top 20 per cent, even sometimes decreasing between the 15 per cent below the top and the top 5 per cent.

Another notable feature is the high and increasing percentage of total expenditure devoted to housing in the major cities. Spending on housing represents at least 20 per cent of total expenditure for the lowest income category and as much as 37.7 per cent in the highest income category. The high cost of housing in the major cities is naturally affected by speculation in urban real estate. Available data show that the value of a square metre of land in Caracas in 1962 was between four and 18 times the corresponding value in Valencia and Maracaibo. The cost per square metre of construction in the capital was at least 50 per cent higher than the average in other cities in the interior of the country.³² As a result of this and other factors, a large percentage of families live in slums in the peripheral zones of these cities (30 per cent in Caracas in 1966), the majority of whom are among the poorest 50 per cent of the population.

As is the case with housing, services account for a high and increasing percentage of spending in the cities. Spending on services ranges between 17 (Rio de Janeiro) and 22 per cent (Caracas) of total expenditure for the poorest 20 per cent of the population, and the proportion is as much as 36 per cent for the top 5 per cent. These figures indicate a ratio of average spending in absolute terms of 1 to 42 for the two extremes considered, which gives some idea of the contrasts that exist in matters of personal hygiene, health, education and leisure.

In addition to their spending power with respect to services, the lower income strata also benefit from the concentration of public serv-

³¹ Universidad Central de Venezuela, *Estratificación social y familia*, vol. IV, Caracas, 1970.

³² Statistical Office, *Boletín Mensual de Estadística* No. 20, September-December 1964.

ices in the metropolitan areas. This may perhaps be why, despite their extremely low level of spending, the poorer 50 per cent of families in São Paulo and Rio de Janeiro, for example, have an average number of years of schooling which is more or less the same as the over-all average for the economically active population of the country. Data are, however, lacking to identify the degree to which these services are used by specific socio-economic categories, especially the most needy.

In addition to the inequalities in the level of living of the different socio-economic categories in metropolitan areas, there are also geographical inequalities within individual cities. These are due to the fact that persons at the same income level tend to live near each other or to concentrate in specific areas, communes or districts. The mere fact of living in a particular area is usually an indicator of the position of the family in the socio-economic scale. Thus, it is common to describe certain areas, consumers or districts as popular or low-class, middle-class or upper-class, according to which income group predominates in them. This kind of geographical sub-division of the major cities shows that the socio-economic differences which exist among the various districts or communes are basically similar (although more striking) to those differences between income categories.³³

3. *Some considerations on saving in metropolitan areas*

There are little statistical data on the basis of which a relation can be shown between the higher income levels of the metropolitan populations and their contribution to the financing of national development. Except as regards the distribution of family spending by income, accounts in the region do not usually show the over-all characteristics of economic activity in the major cities, despite their socio-economic importance in the different countries.

Information on the distribution of spending by income levels indicates that the consumption patterns of the metropolitan groups, which are generally based on credit facilities, tend to have an adverse effect on their propensity to save. Taking account of all the reservations inherent in the statistics and the differences in the importance of income in kind in each area, a comparison of the metropolitan income

groups and income groups in rural areas or small towns indicates that the proportion of the metropolitan groups which save is very small. Indeed, the process of saving in the major cities begins at very much higher income levels than in the rest of the country. In this respect, the data for Venezuela in 1962 are illustrative. They indicate that, while in the major cities families began to save when they reached an average monthly income of 2,000 bolivares, in small towns they began to save when this figure was 500 bolivares and in rural areas when it was 400 bolivares. Thus, only 22 per cent of all families in rural areas or small towns were deficit spenders, but this proportion was two thirds in the major cities and as much as 80 per cent in Caracas. It is worth looking at what happened with the final balance between income and expenditure, i.e., the extent to which the surplus of given groups compensated the deficit of others. The survey in question indicates that, while total expenditure was 10 per cent higher than total income in the major cities, and as much as 16.5 per cent higher in Caracas, the opposite was the case in rural areas where 10 per cent of income was saved each month.

A comparison of the data for cities in Brazil at different levels of socio-economic development reveals a similar trend.³⁴ In São Paulo, families began to save at an average income slightly more than three times the level at which families had a surplus in Belem (Pará). This means that only 3 per cent of families were saving in São Paulo compared with nearly 70 per cent in Belem. The ratio between average annual income and average annual expenditure is clearly on the plus side in Belem, whereas in São Paulo the inclusion of items such as the acquisition of cars, which account for a considerable part of spending, raises some doubt as to whether total average saving is a plus or minus figure. It would thus appear—and the same situation occurs in other cities—that the stimulus which a higher average personal income in the metropolitan areas should give to capital formation is counterbalanced by the high level of consumption.

Despite the trend indicated by the above, it should not be concluded that family saving in the major cities is non-existent or even a dissaving. The above data may not take sufficient account of data on different forms of saving, or may include in current expenditure

³³ Universidad Católica de Chile, *La morfología social de una capital latinoamericana: Santiago de Chile*, in *Cuadernos de Economía*, No. 11, April 1967.

³⁴ Getulio Vargas Foundation, *Pesquisa sobre orçamentos familiares, 1961-1962*, op. cit.

items which should be listed under other heads. Furthermore, the concentration in the major cities of the main agencies which attract savings (building funds, stock exchanges, banks, incorporated companies) suggests that the metropolitan population must make a positive contribution to them. A survey carried out in Mexico established that, expressed in the value of bonds, shares and savings certificates acquired by families, 14 per cent of the average family income in the Federal District was being saved.³⁵

From another standpoint, it may be appropriate to evaluate the net contribution of the major cities towards financing the development of the rest of the country through public finances. This is a controversial matter. On the one hand, it is maintained that the relatively larger contribution of the major cities towards financing the public sector—in comparison with what they receive—is a net benefit to the poorest regions. On the other hand, however, it is argued that, even if the net contribution of the major cities is a plus figure it would be more than offset by the trade balances and terms of trade between the various regions which are always to the advantage of the dynamic centres of the economy which export manufactured goods, in other words the major cities.

For the countries under consideration, there are no statistics to help resolve the issue. The lack of relevant information can be seen even in the public sector, which lacks consolidated accounts of public income and expenditure in the major cities. For example, the contribution of Guanabara and São Paulo to fiscal revenue, 20 and 44 per cent respectively, appears high in relation to their share in the total product. The opposite might, however, be true if account is taken of the relatively low level of the tax burden, and the elasticity with which the most important indirect taxes are passed on to other areas.

The main contribution of the metropolitan areas to total investment would appear to be made through enterprises, which tend to prefer to invest in a single area. There is no direct information, however, on the volume of savings in metropolitan areas. As a rough estimate, personal income in the major cities may be taken to represent a smaller percentage of the domestic product (an average of 75 per cent) than in the country as a whole (85 per cent).

³⁵ Ministry of Industry and Trade, *Ingresos y egresos de la población mexicana* (Mexico City, 1960).

The greater surplus accruing in the major cities leads to the supposition that, even deducting taxes and net payments to foreign factors at a higher rate than the national average, the gross savings of the enterprises considered would be around 15 per cent of the product in the metropolitan centres.³⁶

4. *The structure of production in the metropolitan areas*

It has been shown above that the high level of spending power in the metropolitan populations makes them the main consumer centres in the countries under consideration. An analysis of the structure of expenditure shows that a large proportion of spending is on finished consumer durables, non-durables, and services. Economic activity, logically enough, tends to reflect these characteristics of demand and is both highly concentrated in the urban centres and has a basically secondary and tertiary sectoral structure.

In order to satisfy the quality standards of a demand previously satisfied by imports, and in order to secure monopoly control of the market as regards the scale of production, the main enterprises, in the metropolitan centres, particularly those established in the post-war years, have made use of imported modern technology.

In countries where industrialization is in its early stages, modern industrial activities and related services have shown considerable dynamism, and the pace of national development appears to be closely linked to the urban centres where these activities have tended to be concentrated.

The situation, however, seems to be different in the relatively more developed countries of the region, where the modern sector is highly productive, encourages the concentration of income in a small sector of the population, has a limited capacity for employment, and satisfies urban demand. Given their large production capacity, the modern enterprises have gradually come up against growing market constraints in the relatively more highly developed countries, as the demand concentrated in the major cities has become saturated.

The high margin of idle capacity in the great majority of these activities is illustrative in this respect even in countries such as Mex-

³⁶ This percentage would represent about one third average gross domestic investment in Latin America (17 per cent of the gross domestic product) in recent years.

ico and Venezuela which have been able to sustain high rates of growth. This situation even affects traditional manufactures (foodstuffs and textiles) whose share in the industrial product is already tending to decrease—prematurely—basically owing to a lack of dynamism in demand, which has only very recently been swelled by a vast sector of the population, particularly the rural population.

The above problems, basically caused by the fact that the dynamic activities of the economy are aimed virtually exclusively at satisfying domestic consumer demand, and—in proportions that vary in each country—the demand for certain capital goods, have repercussions both internally and externally. While the modern activities, once they have satisfied the demand mainly concentrated in the major urban centres of the region, are faced with serious market problems and have a large amount of idle capacity, the needs of large sectors of the population remain unsatisfied. In addition, these activities have made a very limited contribution to the expansion of exports, which continue to depend on the traditional sectors, while at the same time they have demanded ever-increasing imports of inputs and capital goods.

Conclusions

The sharp disparities in income between the metropolitan areas and the rest of the countries concerned pose specific and highly complex tasks as regards the spatial planning of development in the region. A particular consequence of these sharp disparities is the concentration of the population in the metropolitan areas. During the 1960s the annual growth rate of the population in these areas was nearly three times the national average.³⁷

The main feature of this migratory movement is the accelerated shift of the rural pop-

³⁷ A growth rate of 8.8 per cent in Rio de Janeiro and São Paulo, as against an annual average of 3 per cent for Brazil; 9 per cent in Caracas against an annual average of 3.5 per cent for Venezuela.

ulation to the large urban centres, which is taking place under different conditions from those which prevailed in the developed countries. In Latin America, this process is not the result of the relatively widespread incorporation of technical progress in the agricultural sector, nor of the demand for manpower in the major cities. It is prompted rather by the backwardness of the rural economy and the inability of the dynamic centres, which are basically urban, to absorb these population groups. This has far-reaching implications. On the one hand, unless radical changes are introduced in the agricultural sector, it will be difficult for the metropolitanization of the population to proceed on account of the movement of rural groups attracted by the prospects of sharing in the higher levels of living in the major cities. On the other hand, the peripheral areas of these cities are taking on a progressively rural and marginal character, with the concentration there of most of the unskilled manpower from rural areas, which generally finds serious difficulty in being economically and socially assimilated into the metropolitan system. In fact, although the concentration of economic activity in some large urban centres is considerable, it is generally insufficient to provide gainful employment for the local population, to absorb the flow of in-migrants or to serve as a basis for expansionist forces which can transmit their dynamism to peripheral areas and the rest of the country through demand from new markets and new sources of supply.

As can be seen, the metropolitanization of the population and economic activity in Latin America is the result of the complex effect of a number of factors which give it a stamp of its own. Unless the influence of these factors is modified through the formulation of policies which deal with the manifold dimensions and future projections of the problem, it will be increasingly difficult to attenuate the serious repercussions of the harmful aspects of the metropolitanization process on the spatial distribution of the population and economic activity.

EMPLOYMENT AND THE UTILIZATION OF HUMAN RESOURCES IN LATIN AMERICA

BY HENRY KIRSCH*

I. INTRODUCTION

The closing years of the last decade revealed among the region's international agencies and on the part of a few Governments a sharp awareness of employment as a major problem of development. By the beginning of the Second Development Decade most of the countries of Latin America also have come to express their recognition that one of the principal obstacles to the alleviation of poverty among their people is the existence of an employment crisis of either constant or increasing dimensions. As a result, virtually all Governments now list employment promotion as one of their major development objectives, and several have established quantitative targets for employment.

None the less, much of this recent emphasis on employment is based upon startlingly casual

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generalities which fail to take into account the variety of employment situations and problems which are to be found within individual countries as well as at the national level. Determined in great part by the lack of knowledge at both a theoretical and an empirical level as well as by political realities, this condition merely reflects the fact that employment continues to be a secondary unintegrated objective of planning. Much of the recent literature continues to rely upon an aggregative framework. Quantitative estimates of unemployment, underemployment and "unemployment equivalent" for Latin America as a whole are still generated—the empirical base for which can be said to have merely a decorative, at best an illustrative, value. The foregoing simply indicates that employment has not yet ceased to be a stepchild of the region's development programmes.

II. EMPLOYMENT TRENDS AND STRUCTURE

(a) *Global trends*

What can reasonably be said about the employment trends of the past decade? Generally speaking the growth of the labour force outpaced the expansion of employment for most of the countries for which data are available (table 1). This was not the case in all countries, however, and the global employment level grew with a certain dynamism in some countries, most notably in Costa Rica and Venezuela.¹ Unfortunately, the 1960 Brazilian

¹ The economically active population includes all those persons who furnish the supply of labour available for the production of economic goods and services. It includes both those actually employed and those unemployed who are seeking work during the period of reference established by the country. For

census does not provide adequate data to hazard an approximation of the number employed at the beginning of the decade. Yet data for the period 1968-1970 reveal that as the economically active population over 14 years of age underwent an annual increase of approximately 500,000, employment expanded by 675,000 jobs per year.

The growth rate of the total population of active age (between 15 and 64 years of age)

the purposes of this study it is synonymous with labour force. The employed population comprises both full-time and part-time workers as well as unpaid family workers provided that the latter work at least a minimum period (most often set by countries at 15 hours a week or one third of the normal working week).

Table 1
GROWTH OF TOTAL POPULATION IN ACTIVE AGE GROUPS, ECONOMICALLY ACTIVE POPULATION AND EMPLOYED POPULATION, BY COUNTRY, 1960-1970

Country	Growth rate (percentages)		
	Total population in active age groups (15-64)	Economically active population	Employed population
Argentina	1.5	2.2	1.4
Bolivia	2.2	2.6	2.2
Brazil	2.9	2.7	—
Colombia	3.2	2.6	2.6
Chile	2.5	2.5	2.6
Ecuador	3.1	3.1	2.2
Peru	3.1	3.0	2.5
Venezuela	3.3	2.7	3.4
Costa Rica	3.8	3.9 ^a	4.1 ^a
Panama	3.0	3.8	3.7
Mexico	3.3	3.4	3.2

SOURCE: ECLA, on the basis of official statistics and national sources.

^a Relate to 1963 and 1970. Estimate based on Regional Employment Programme for Latin America and the Caribbean (PREALC), "La situación y perspectivas del empleo en Costa Rica" (PREALC/52) (Rev.1), mimeographed, August 1972, table I-2, hypothesis I.

confirms the over-all pattern just described with the exception that the position of Venezuela, although still positive, becomes much less favourable in terms of the greater burden of dependency which its employed population must support.²

On the basis of these aggregate indicators alone employment certainly arises as a growing problem area for a number of countries. With regard to the exceptions, only a qualified conclusion may be drawn that in the most general quantitative terms, those nations have witnessed a certain improvement in the generation of employment opportunities. By no means may it be inferred that the performance of these countries in utilization of human resources was satisfactory. In under-developed regions it is not uncommon for an expansion

² The situation might very well turn adverse in dynamic terms if it were possible to include accurate time series data on international migratory patterns from within the region into Venezuela. By the same token the significance of the emigration of Colombians to Venezuela is generally not duly considered as an "autonomous" factor in the lowering of the rate of growth of the Colombian labour force and of its unemployment levels. See CEPAL, "Tendencias y estructuras de la economía de Colombia en el último decenio" (E/CN.12/915), September 1971, p. 29.

in the number of jobs to be accompanied by increased underemployment. Indeed, as will be seen, a considerable part of the employment increment was achieved at the expense of one or more of the elements which constitute full employment: normal working time, normal productivity, adequate utilization of the individual's skills and capacity and a level of income adequate for the basic needs of both workers and their dependents.

(b) *Trends in the sectoral and regional distribution of employment*

The over-all growth pattern of the economically active population and employment does not adequately reveal one of the most crucial aspects of the employment problem which is increasingly more visible in the urban centres of Latin America. The evolution of the sectoral distribution of employment throughout the decade reflects this trend (table 2). In all the countries the percentage of the labour force employed in agriculture declined. This does not mean to say that the agricultural sector was not being confronted with the need to create new jobs, since for most countries in absolute terms the labour force continued to increase. Only in Argentina and Uruguay where the process has been long evident, and most recently in Venezuela, has the population actually employed in agriculture decreased in absolute terms. In Chile it has remained stagnant.

Closely related to the movement out of agriculture and at the heart of the region's employment problem is large-scale urbanward migration. This does not mean that a direct pattern of rural unemployed moving to the larger cities exists. Indeed the evidence shows that in the metropolitan areas only relatively small minorities of migrants are of recent rural agricultural origin. What is suggested, however, is that the "push" factor exerted upon agricultural workers has initiated a movement into activities which are predominantly urban.³ This search for employment is also the reason most often given by the migrants themselves.⁴ Nevertheless, it should be noted that the lack of employment opportunities is felt by the rural worker not so much in the form of open

³ Obviously, a number of "pull" factors also operate in combination to attract migrants to the cities. Among the ones most often cited are the high rural-urban wage differential, the availability of education and the wide range of social services offered in the cities.

⁴ See annex, table A.

Table
STRUCTURE AND GROWTH OF EMPLOYED POPULATION

Country	Agriculture			Mining and quarrying			Manufacturing		
	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate
	1960	1970		1960	1970		1960	1970	
Argentina	19.1	15.2	-0.8	0.5	0.7	5.0	23.9	22.2	0.7
Bolivia	67.1	56.5	0.5	3.3	3.8	3.7	9.0	14.6	7.3
Brazil ^b	53.7	44.2	0.7				17.9 ^c	22.1 ^c	4.9
Colombia	49.6	42.7	1.1	1.5	1.3	1.1	15.4	15.7	2.8
Chile	30.7	24.6	0.3	4.0	3.3	0.6	17.8	18.8	3.1
Ecuador	57.7	56.7	2.1	0.3	0.2	0.1	14.0	12.1	0.8
Peru ^d	51.0	47.1	1.9	2.2	2.0	1.6	13.4	14.5	3.8
Venezuela	36.0	21.4	-1.8	2.3	1.9	1.2	12.0	18.7	8.1
Panama	50.0	36.6	0.5	—	0.2	—	8.1	11.1	7.2
Mexico ^{d, e}	52.1	43.5	1.5	1.3	1.4	4.2	14.4	16.7	5.1
<i>Total</i>	<i>46.7</i>	<i>39.2</i>	<i>0.9</i>				<i>23.5</i>	<i>26.2</i>	<i>3.8</i>

SOURCE: ECLA, on the basis of official statistics.

^a Including commerce.

^b Relates to economically active population.

unemployment but rather through his appraisal of the differences existing between the rural and urban labour market opportunities and relates to the multiple conditions which define the *intensity* of labour utilization.⁵

The urban areas have provided employment for these workers primarily in commerce, construction and services. The growth of services was notably strong in Mexico (7.2 per cent annually) and in all countries under review. This sector's share of the total working population was high. For the 10 countries under review the secondary sector's share in the total working population increased only modestly, from 23.5 per cent to 26.2 per cent.⁶ At the same time the increase in the tertiary sector rose from 29.8 per cent in 1960 to 34.6 per cent in 1970. The tendency evident in the majority of countries for the increase in the labour supply to be absorbed in commerce and services is indicated in table 3 which relates the increase in the employment of these

⁵ In analysing a 1962 survey of migrants to Greater Santiago, CELADE found that of those men who gave "seeking work" as their principal reason for migrating, 76 per cent had been employed in their place of origin rather than without work. See CELADE, *Encuesta sobre inmigración en el Gran Santiago* (Series A, No. 15), p. 177.

⁶ If construction were excluded, the increase would be considerably less, but this is not possible for Brazil whose share in the total is important.

sectors with the decline in the share of agricultural employment. In addition, it can also be seen that in some countries a decrease in the proportion of manufacturing and the basic services sector accompanied the loss of importance of agricultural employment.⁷ In these cases, services and commerce absorbed the manpower corresponding to the decline in both sectors.

The data on employment in industry and the basic services do not show a clear trend. In several countries, notably Venezuela and Panama, these sectors increased their share of employment significantly, in others relatively modest or even negligible absorption rates were reported. In this regard, there does not seem to be a close correlation between employment shifts in the entire secondary sector and the progress of industrial development. Apparent dynamism in labour absorption has also been registered in industry and the basic services for Brazil, where evidence for the period 1968-1971 indicates intensive absorption in manufacturing since, as employment in that sector rose by approximately 200,000 annually. The

⁷ According to the evidence to be found in the industrial survey of 1963 and the industrial census of 1968, Uruguay appears to have experienced this trend also. The 1963 data show 109,298 to have been employed in manufacturing while 100,601 are reported in the 1968 census.

BY SECTOR OF ACTIVITY AND COUNTRY, 1960-1970

Construction			Basic services			Commerce			Services			Total		
Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate
1960	1970		1960	1970		1960	1970		1960	1970		1960	1970	
5.6	6.6	3.1	8.0	7.6	0.9	15.0	15.5	1.7	27.9	32.2	2.9	100.0	100.0	1.4
2.0	3.7	8.6	2.3	3.5	6.4				16.3 ^a	17.9 ^a	3.2	100.0	100.0	2.2
						6.7	8.9	5.6	21.7	24.8	4.1	100.0	100.0	2.7
4.5	4.8	3.1	4.5	5.0	3.6				24.3 ^a	30.5 ^a	5.0	100.0	100.0	2.6
5.6	5.9	3.2	5.7	6.3	3.5	11.2	15.1	5.7	25.0	26.0	3.0	100.0	100.0	2.6
3.1	4.2	5.2	3.1	3.4	3.3				21.8 ^a	23.4 ^a	3.0	100.0	100.0	2.2
3.3	3.1	2.2	3.7	4.2	4.2	9.1	11.2	5.3	17.3	17.9	2.8	100.0	100.0	2.5
4.1	4.8	5.2	5.5	8.1	7.5	12.7	18.6	7.5	27.4	26.5	3.1	100.0	100.0	3.4
3.3	5.3	8.7	3.3	4.6	7.2	9.3	13.0	7.2	26.0	29.2	4.9	100.0	100.0	3.7
3.7	4.4	5.3	3.7	3.2	1.9	9.4	9.2	3.2	15.4	21.6	7.2	100.0	100.0	3.2
									29.8	34.6	4.1	100.0	100.0	2.6

^c Including mining and quarrying, manufacturing, construction and basic services.

^d Relates to 1961-1970.

^e Relates to 1960-1970 (nine and a half years).

implications of this for the future, however, should not be exaggerated since the elasticity of employment to output in Brazilian manufacturing was only 0.32 for 1968-1970. Furthermore, although manufacturing employment increased substantially in 1971, it had been stagnant in 1970 and the plans of the Brazilian Government call for heavy capital investment and more capital-intensive production.⁸ Thus, the recently increased rhythm of manufacturing employment registered in several countries does not yield sufficient evidence to refute the general observation often made of the limited absorptive capacity of Latin American industry.

A more detailed study is required of the internal structure of employment in the industrial sector and of the changes in this structure at different levels of productivity in order to explain the sector's behaviour with respect to its action upon employment. Differential patterns are known to exist reflecting the heterogeneity of the sector (characteristic of the internal structure of all other sectors as well). Illustrative of this is the fact that in 1969 the artisan subsector of Venezuelan in-

dustry retained almost 50 per cent of that sector's entire working force although it contributed less than 6 per cent of manufacturing

Table 3
CHANGES IN THE EMPLOYMENT STRUCTURE
BETWEEN 1960 AND 1970
(Percentages)

Country	Difference in the share of agricultural manpower in total employment between 1960 and 1970	Absorption by commerce and services of the manpower corresponding to the decline in the share of agricultural manpower in total employment ^a
Ecuador	-1.0	160
Argentina	-3.9	123
Chile	-6.1	80
Mexico ^b	-8.6	72
Peru ^c	-3.9	69
Brazil ^b	-9.5	56
Panama	-13.4	51
Venezuela	-14.6	34
Colombia	-3.9	18
Bolivia	-10.6	15
Total	-7.2	61

SOURCE: ECLA, on the basis of table 2.

^a Index calculated on the basis of the relationship between the increase in the share of services and the decline in that of agriculture, multiplied by 100.

^b Relates to economically active population.

^c Relates to 1969-1970.

⁸ Inter-American Committee on the Alliance for Progress (CIAP), "El esfuerzo doméstico y las necesidades de financiamiento externo para el desarrollo de Brasil" (CIAP/553), 6 July 1972, pp. 24-25; Federal Republic of Brazil, *First National Development Plan 1972/1974*, pp. 14-15 and 66-67.

Table
SECTORAL PRODUCTIVITY
(Average for th

Country	Agriculture		Mining and quarrying		Manufacturing	
	1960	1970	1960	1970	1960	1970
Argentina	86.96	88.25	218.51	244.24	130.62	161.01
Bolivia	45.57	39.92	317.56	355.55	131.39	89.71
Brazil ^b	41.15	43.23			189.42	171.11
Colombia	68.78	69.63	260.71	257.06	112.17	117.71
Chile	39.47	39.13	248.13	315.57	130.19	132.61
Ecuador	63.80	55.40	814.50	826.26	112.10	143.01
Peru	46.13	38.86	359.08	327.00	135.87	157.71
Venezuela	19.78	31.24	1 181.73	1 104.19	87.80	62.01
Panama	49.70	54.17	—	118.36	160.16	154.51
Mexico ^b	31.79	28.46	357.59	314.28	135.04	139.11

SOURCE: Annex, table B.

output.⁹ It would appear that much of the rapid absorption of industrial employment for that country noted in table 2 was due to an expansion in the number of low-productivity jobs in that sector.

(c) *Sectoral productivity: The trend towards greater structural heterogeneity*

The structure of employment analysed in the previous section is related to the great disparities present in the sectoral productivity of the labour force even when viewed from a certain level of aggregation (table 4). In both 1960 and 1970 the mean productivity of the agricultural labourer was only about 40 per

cent of the average productivity of most of the countries surveyed. In some cases such as Mexico, Venezuela and Peru it was approximately a third. Even for a relatively homogeneous economy as in the case of Argentina the structural disequilibrium is evident particularly with regard to the services sector. An examination of only those sectors which are predominantly urban (manufacturing, construction, basic services, commerce and other services) underscores the imbalances evident throughout the decade. The following are examples of such disparities drawn from table 5 which measures the sectoral growth of productivity over the period 1960-1970:

	National productivity growth rate	Sector with lowest productivity growth rate	Sector with highest productivity growth rate
Argentina	2.7	-1.9 (services)	4.9 (manufacturing)
Chile	1.9	-0.6 (commerce)	4.6 (basic services)
Colombia	2.6	0.8 (commerce and services)	4.8 (construction)
Mexico	3.3	-1.1 (services)	6.2 (basic services)
Panama	4.2	1.3 (construction)	3.8 (manufacturing)
Peru	1.5	1.0 (construction)	3.2 (manufacturing)

The imbalances in sectoral productivity shown in tables 4 and 5, large as they are, however, only dimly reflect the intra-sectoral

differences which exist. The evolution of manufacturing employment in Mexico suggests the importance of this problem area. A certain dynamism in labour absorption was seen in the 1960s; the portion of the labour force engaged in that sector increased from 14.4 per cent to 16.7 per cent representing an annual

⁹ ECLA, "Tendencias y estructuras de la economía de Venezuela en el último decenio" (E/CN.12/930), July 1972, p. 14.

COUNTRY, 1960-1970

(Index = 100)

Construction		Basic services		Commerce		Services		Product per worker ^a	
1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
71.37	66.79	113.83	127.67	129.18	138.30	66.65	42.33	2 102.81	2 743.20
91.63	122.77	437.10	285.85			203.69	203.07	436.25	597.29
				310.77	231.97	106.70	90.67	832.89	1 132.03
79.00	97.93	162.90	168.93			138.09	115.60	1 110.62	1 431.05
79.55	72.65	147.84	192.90	158.99	124.14	96.18	76.59	1 651.48	1 989.61
24.45	132.86	174.46	151.90			164.07	164.90	837.93	1 122.52
38.39	110.36	149.07	139.94	159.38	130.19	148.69	159.01	1 076.15	1 230.77
93.71	51.51	98.48	84.15	108.33	71.91	116.27	145.19	2 409.34	2 976.95
79.20	135.58	216.14	192.80	127.02	103.16	142.32	113.92	1 462.00	2 196.52
14.45	111.25	115.99	149.48	325.97	338.52	130.84	88.63	1 756.41	2 339.54

^a Dollars at 1960 prices.

^b Estimated on the basis of economically active population.

increase of 5.1 per cent. It is important to note that this occurred in spite of the fact that large firms and those industries of greatest capital intensity increased their share in the sector's output. The explanation appears to be found in the characteristics of certain production lines such as metalworking which in Mexico (unlike certain other countries) is composed of a number of small, labour-intensive plants and workshops alongside large

modern industries such as the automotive industry. The former (composed of goods producers and industrial service establishments) seem to have absorbed the mass of the increased industrial labour force.¹⁰

Thus, a slight modification of the conventional characterization of industry's inability

¹⁰ ECLA, Mexico Office, *La política industrial en el desarrollo económico de México* (CEPAL/Mex/71/11/Rev./August 1971), pp. 50-59.

Table 5
GROWTH OF SECTORAL PRODUCTIVITY BY COUNTRY, 1960-1970
(Percentages)

Country	Agriculture	Mining and quarrying	Manufacturing	Construction	Basic services	Commerce	Services	Total
Argentina	2.8	3.8	4.9	2.0	3.9	3.4	-1.9	2.7
Bolivia	1.8	4.4	-0.7	-1.3	-1.1		3.2	3.2
Brazil	3.5		2.1			0.1	1.4	3.1
Colombia	2.7	2.4	3.1	4.8	2.9		0.8	2.6
Chile	1.8	4.4	2.1	1.0	4.6	-0.6	-0.4	1.9
Ecuador	1.5	3.1	5.5	3.6	1.5		3.0	3.0
Peru ^a	-0.4	0.5	3.2	-1.0	0.8	-0.7	2.3	1.5
Venezuela	6.9	1.4	-1.3	-3.8	0.5	-1.9	4.4	2.1
Panama	5.0	—	3.8	1.3	3.0	2.0	1.9	4.2
Mexico ^b	2.0	1.8	3.6	2.9	6.2	3.7	-1.1	3.3

SOURCE: Annex, table B.

^a Relates to 1961-1970.

^b Relates to 1960-1969.

to absorb the flow of labour into the urban areas would seem in order. Distinctions must be made. The probable areas for employment generating possibilities are not in the modern sectors of industry (defined according to the technology used and *not* the product made since it has been shown that capital-intensive techniques are used to a greater degree in some countries in the production of traditional consumer goods than in intermediate or even capital goods industries).¹¹ Yet those handi-

¹¹ This issue was also stressed by the ILO mission to Colombia; see: ILO, *Towards Full Employment* (Geneva, 1970), chapter 8.

crafts, small shops and industries which do not weigh heavily in the output or over-all productivity of the sector merit considerable attention in any employment-oriented development programme.¹²

¹² Recent studies on technology and employment have reported a multiplicity of production techniques existing in the region, in which it is quite common to find the same good being produced under widely diverse technological conditions. See Victor E. Tokman, "*Tecnología y empleo en el sector industrial del Perú*" (ILPES, working document, mimeographed, March 1972), and A. C. Sochaczewski, "*Consideraciones sobre la reciente evolución industrial del Brasil*", thesis for Master's degree in Economic Sciences at the Universidad de Chile (Santiago, 1970).

III. THE UNDER-UTILIZATION OF HUMAN RESOURCES

1. *Unemployment in Latin America*

(a) *Global unemployment*

A comparison of the open unemployment rates at the beginning and end of the last decade would seem at first to imply that considerable improvements were made in a number of countries while in others the rates were relatively low (tables 6 and C). Unemployment rates fell in Argentina, Colombia, Chile and Venezuela. Yet it must be emphasized that this is the most restrictive and, at the same time, critical indicator of the under-utilization of human resources. The degree of under-utilization is absolute and the implications both for the individual in this condition as well as for society are deplorable especially when it affects heads of households. The essence of this employment problem was well expressed by the ILO Colombian report which indicated that the real tragedy of those without jobs is the poverty into which they fall and which they share with all those who are underemployed, with very low incomes.¹³ Thus an open unemployment rate in 1970 of only 3.5 per cent in a country such as Brazil means that over 1 million people were without work against their wills in an economy where under-utilization of human resources manifests itself predominantly in the form of underemployment.¹⁴ Of these almost 30 per cent were from

the primary labour force; that is to say 280,000 were males between the ages of 20 and 54. In the five countries of the Andean Agreement another 1,147,000 persons were without employment at the close of the decade.

The intimate relation between unemployment and mass poverty becomes more evident when duration of unemployment is considered, for long term unemployment most often signifies destitution. Data are scarce in this regard, but enough empirical material exists with which to gain some insight into the magnitude of this problem. From table 7 it may be appreciated that long term unemployment affects a considerable portion of all the labour force without jobs. In 1970, 25 per cent of all employed in Brazil were without work for over three months and the 1970 population census indicates that of the total agricultural labour force 25 per cent worked less than nine months in the year preceding the census.¹⁵ For Panama and Venezuela the situation was even worse as figures of 66.7 per cent and 36.6 per cent of the total unemployed were reported to be in that condition for over three months. Long-term unemployment appears especially critical in urban areas. Of Montevideo's 35,000 unemployed in 1969, over 77 per cent were with-

¹³ ILO, *Towards Full Employment*, *ibid.*, p. 15.

¹⁴ See Allan Broehl, "*Aspectos da Força de Trabalho no Brasil*", IPEA, Centro Nacional de Recursos Humanos (CNRH/Ser.MO/DT, Doc. 113, Rio de Janeiro, 1970, mimeographed), p. 24; F. S. O'Brien and Claudio L. Salm, "*Desemprego e Subemprego no Brasil*", IPEA, Centro Nacional de Recursos Humanos (Rio de Janeiro, 1969, mimeographed).

¹⁵ Departamento de Censos, *Tabulações Avançadas do Censo Demográfico VIII Recenseamento Geral—1970 Resultados Preliminares*, p. 7. In Mexico a similar situation was reported. In 1969, 19 per cent of the economically active population worked less than 10 months of the year; 22 per cent of the agricultural labour force worked less than 10 months and 14.7 per cent reported six months' employment or less. Dirección General de Estadística, *IX Censo General de Población 1970*, p. 277.

Table 6
OPEN UNEMPLOYMENT BY URBAN AND RURAL AREA, 1960-1970
(Thousands)

Country	1960						1970					
	Total		Urban		Rural		Total		Urban		Rural	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Argentina	778	9.4 ^a	...	...	...	...	514	5.6	...	4.8 ^b	...	...
Bolivia	461 ^c	20.3	...	...	...	...	229 ^d	10.7	...	15.0	...	...
Brazil .....	...	...	...	...	...	...	1 034	3.5	...	3.8	...	0.4
Colombia	484	10.1	...	...	...	...	459	7.5	353	10.0	106	3.9
Chile	160	6.7	...	...	...	...	162	6.2	143	7.2	19	3.1
Ecuador	62	4.5	...	...	...	...	97	5.1	...	...	...	...
Peru	84 ^e	2.6 ^e	...	1.1 ^{e f}	...	0.3 ^{e g}	201	4.7	...	2.9 ^f	...	0.3 ^g
Venezuela	309	13.1 ^e	278	17.1 ^e	31	4.3 ^e	194	6.0	159	6.7	35	4.2
Panama	38	11.2	...	...	...	...	47	9.7	...	...	...	...
Mexico	182	1.6	...	...	...	...	485	3.8	...	...	...	...

SOURCE: ECLA, on the basis of official statistics and national sources.

^a Relates to 1963.

^b Relates to 9 major cities.

^c Relates to 1967.

^d 15 years and over.

^e Relates to 1961.

^f Relates to non-agricultural unemployment.

^g Relates to agricultural unemployment.

Table 7
NUMBER OF UNEMPLOYED BY DURATION OF UNEMPLOYMENT, 1970
(Thousands)

Country and city	Total	Duration of unemployment			
		Less than 3 months		3 months and over	
		Number	Percentages	Number	Percentages
Brazil	725	544	75.0	181	25.0
Panama	33	11	33.0	22	66.7
Venezuela	194	123	63.4	71	36.6
Department of Montevideo ^a ..	35	8	22.9	27	77.1
Caracas	65	30	46.2	35	53.8

SOURCE: ECLA, on the basis of official statistics.

^a Relate to 1969 and exclude persons temporarily suspended from work or receiving work stoppage benefits, who stated that they were not seeking work.

out work for more than three months; for Caracas (1970), the figure was 53.8 per cent.

Even more critical is long-term unemployment among the primary labour force composed of men between the ages of 25 and 54, since they are often heads of households. Chronic unemployment among this group therefore has particularly grave consequences for the well-being of many more people than their mere numbers represent, especially children. The available data give evidence of the existence of this type of unemployment in considerable proportions. In 1970, males between the ages of 25 and 54 without work for over three months accounted for 36.5 per cent of all unemployed in Venezuela; 30.9 per cent in Brazil (20-54 years of age); 29.2 per cent in Panama (20-50 years of age); and in the Department of Montevideo in 1969 the figure for men between 25 and 44 years of age was 28.6 per cent.¹⁶ Moreover, an experimental survey conducted in 1972 by PREALC in the marginal areas of Managua indicates an open unemployment rate of 30.5 per cent; among male heads of households the rate was 19.2 per cent, and 45.5 per cent of all unemployed had been without work for over three months. It is this nucleus of hard-core unemployment

¹⁶ The data were obtained from the national household surveys of the respective countries. Additional data from Venezuela shows that in 1970 more than 27 per cent of all unemployed were male heads of households. Unfortunately these variables are not in turn crossed by duration of unemployment. See Dirección General de Estadística y Censos Nacionales, *Encuesta de Hogares por Muestreo* (Documento REH-11, diciembre, 1970), p. 168.

which urgently requires attention in employment programmes as a matter of first priority.

(b) Sectoral unemployment

Most of the registered unemployment was generated in non-agricultural activities especially in the sectors producing non-agricultural goods¹⁷ (table 8). The low unemployment noted in agriculture and for services in most cases may be explained by the nature of underutilization in these sectors which is more inclined to underemployment than open unemployment. The unemployment problem in construction was particularly serious in Chile and Venezuela. This sector is especially sensitive to changes in the rhythm of economic growth and to fluctuations in public sector spending. It is a sector to which unskilled urban labour unable to find work elsewhere gravitates, and one whose labour is not easily absorbed by other economic activities in the case of a recession in construction spending. Quite evident also from table 8 is the urban nature of open unemployment. In Chile manufacturing, construction and the basic services which together comprised 31 per cent of the employed population accounted for over 61 per cent of total open unemployment.

(c) Urban and regional open unemployment

Among the more striking characteristics of open unemployment in Latin America is its

¹⁷ Here reference is made to sectoral unemployment which does not include those seeking work for the first time since they do not yet belong to any branch of economic activity.

Table 8
UNEMPLOYMENT GENERATED BY ECONOMIC SECTOR, 1970

(Percentages)

<i>Sector</i>	<i>Brazil</i>	<i>Chile</i>	<i>Colombia</i>	<i>Peru</i>	<i>Venezuela</i>
Agriculture	10.0	12.6	17.9	4.0	13.3
Non-agricultural sectors	90.0	87.4	82.1	96.0	86.7
Goods		51.6	30.4	21.3	41.5
Mining		2.0	0.7	0.2	2.8
Manufacturing		25.5	20.4	19.7	20.2
Construction		24.1	9.3	1.4	18.5
Services		35.8	51.7	74.7	45.2
Commerce		11.2	18.9	6.6	14.4
Electricity, gas, water and sanitary services		0.7	1.4		1.5
Transport and communications		10.0	6.4	68.1 ^a	9.1
Other services		13.9	25.0		20.2

SOURCE: ECLA, on the basis of official statistics and national sources.

^a Including electricity, gas, water and sanitary services, transport and communications and other services.

markedly differential nature within individual countries. It is much higher in urban centres than at the national level and varies widely for different regions. Thus in 1970, the unemployment rate at the national level for Bolivia was 10.7 per cent and 15 per cent for urban areas; in Colombia the rates were 7.5 per cent and 10 per cent respectively, and in Chile rates of 6.2 per cent at the national level and 7.2 per cent for urban areas were reported.

The large metropolitan areas of Latin America also witnessed high unemployment levels. Even though varying degrees of contrast are indicated with respect to the national average, this is shown in the figures for seven major metropolitan areas presented in table 9 in which the critical nature of the employment problem becomes much more apparent especially in the case of Bogotá which experienced 13.1 per cent open unemployment in 1970.

It is of particular interest to note the differences in unemployment between the principal urban areas and small and medium-size cities since this reflects to some degree the labour absorptive capacity of the non-agricultural sector in internal regions. In this regard evidence from Argentina, Chile and Colombia shows unemployment to be higher in other cities than in the capital, a pattern which is consistent throughout a good part of the decade.¹⁸

¹⁸ See annex, tables D to F.

A tentative explanation for this pattern would be that the lesser cities are not equipped with the wide range of possibilities for absorbing labour into unproductive activities primarily in services, commerce and construction which the metropolitan centres offer. Thus, the employment problem more readily assumes the form of open unemployment, and these cities in turn provide another major staging ground for internal migration. Venezuela provides a case in point. Its urbanization process is one of the fastest in Latin America. In 1970 the 10 largest cities, each with over 100,000 inhabitants, held over 40 per cent of the nation's total population and 35 per cent inhabited the core region bounded by Caracas, Valencia and Puerto Cabello. However, in that year

Table 9
RATE OF OPEN UNEMPLOYMENT IN SOME
METROPOLITAN AREAS, 1970

<i>City</i>	<i>Rate</i>
Greater Buenos Aires	4.7
Bogotá	13.1
Greater Santiago	6.7
Lima-Callao	7.0
Department of Montevideo	7.3
Caracas	8.0
Federal District of Mexico ^a	5.5

SOURCE: ECLA, on the basis of official statistics.

^a Relate to 1969.

while the unemployment rate in Caracas affected 8 per cent of its labour force, the city of Guayana, undergoing intense in-migration consequent upon its recent rapid industrial growth, experienced levels as high as 15 per cent.¹⁹ Needless to say this hypothesis as well as the entire problem of the characteristics of labour force absorption by geographical areas requires detailed research and individual country analysis since the conditioning circumstances vary considerably within the region. It is by no means clear what direction employment-motivated migration takes although it does seem that the largest cities continue to attract the majority of all migrants.

In summary, even though unemployment related to internal migration patterns is by no means slight in the major urban centres, the available evidence implies that the unemployment strain consequent upon migration may be even greater in small and medium-size cities. This is indicated to some degree in table 10 which shows the unemployment situation in marginal areas of three Colombian cities of different size in 1971: Cali (an approximate population of 870,000), Santa Marta (125,000) and Villavicencio (64,000). Not only is the rate of open unemployment among this lowest socio-economic group exceptionally intense, rising to as high as 19.8 per cent, but also the period of unemployment is quite long. Of the four marginal *barrios* surveyed, from

¹⁹ Between 1961 and 1970, Caracas grew at an annual rate of 5.5 per cent from 1,336,000 inhabitants to 2,168,000. During the same period the city of Guayana increased its population from 39,000 to 136,000 at an annual rate of 14.7 per cent.

26.3 per cent to 42.6 per cent of the heads of households had been without work for over three months of the preceding year.²⁰

(d) *Unemployment, youth and education*

Another focal point of unemployment in Latin America is among the youth. In Peru (1970), 60.8 per cent of all unemployed were between the ages of 14 and 24, and in nine of the principal cities of that country two out of every three unemployed persons were in this age group.²¹ Very similar conditions also existed for the youth of Colombia, Chile, Mexico and Venezuela and in the capital cities as well (table 11). The problem of unemployment among the youth cannot be viewed as a developmental area failing exclusively within the domain of education programmes. Expanded educational systems will, of course, delay the entry of young people into the labour force but most probably only limited results may be expected. This is due to the intervention of numerous variables, both economic and non-economic in nature.

The age structure of the unemployed youth, for example, reveals that adolescents between the ages of 12 and 19 do not comprise the vast majority of unemployed among the young. In the urban centers of Peru, 51 per cent of the unemployed under the age of 24 were in the age group 20-24, and in Mexico 50.6 per cent were between the ages of 20 and 29.²² The sit-

²⁰ It may be recalled that the open unemployment rate for Bogotá in 1970 was 13.1 per cent.

²¹ Servicio del Empleo y Recursos Humanos (SERH), *Informe sobre la situación ocupacional del Perú, 1970* (Lima, 1971), p. II-17.

²² *Ibid.*, table 9 and table 11 in the present study.

Table 10
OPEN UNEMPLOYMENT AND REGULARITY OF WORK IN MARGINAL
AREAS OF THREE COLOMBIAN CITIES, 1971

(Percentages)

City	Area	Unemployment rate ^a	Number of months worked per year by head of household		Total
			Less than 9 months	9 months and over	
Cali	Lleras Restrepo	17.7	29.5	70.5	100.0
Santa Marta	Perehuetano and Ondas del Caribe	19.8	42.6	57.4	100.0
Villavicencio	El Embudo	13.6	26.3	73.7	100.0

SOURCE: Instituto de Crédito Territorial of Colombia.

^a Relates to open unemployment among the active population aged 15 years and over.

Table 11
OPEN UNEMPLOYMENT AMONG THE YOUTH, 1970
(Percentages)

<i>Country and city</i>	<i>Age</i>	<i>Percentage of total number of unemployed</i>	<i>Unemployed</i>	<i>Seeking work for the first time</i>	<i>Total</i>
Colombia	12-24	58.8	45.3	54.7	100.0
Chile	12-24	46.6	70.2	29.8	100.0
Mexico	12-29	57.7	85.1	14.9	100.0
	12-19	28.5	80.0	20.0	100.0
	20-29	29.2	90.1	9.9	100.0
Peru	14-24	60.8	60.9	39.1	100.0
Venezuela ^a	15-24	53.0	60.0	40.0	100.0
Bogotá	12-24	54.9	43.9	56.1	100.0
Federal District of Mexico	12-29	68.4	82.5	17.5	100.0
	12-19	35.3	75.3	24.7	100.0
	20-29	33.1	90.2	9.8	100.0

SOURCE: ECLA, on the basis of official statistics.

^a Relate to 1969.

uation is particularly complex among the poor where the decision of the adolescent to take on full-time student status or to enter the labour force is influenced by a great deal more than the availability of schools. Urban slum youth is found to be strongly influenced by such variables as income level of heads of families, unemployment among heads of families, prevalent attitudes and the difference in the incentive relationship existing between the youth and the mother or father.²³

The interrelationships between education and manpower utilization are not so simple as they have been conceived of in the past. What practically amounted to a consensus existed in which the major commonplace was that unemployment primarily affected those persons with little or no education. The argument advanced in this study is that if the phenomenon does exist, the available data do not confirm it. This does not mean to say that the hypothesis is totally invalid but rather that it has not been adequately examined and is most probably subject to certain qualifications in concrete circumstances which will be of importance to the planners of individual countries.

To what degree has the greater accessibility of education evidenced in the past decade corresponded to the opening of employment op-

²³ John Paul Walter, "The Economics of Labour Force Participation of Urban Slum-Barrio Youth in Cali, Colombia: A Case Study" (Ph.D. dissertation, University of Notre Dame, 1970).

portunities to the graduates of the educational system? Evidence is scarce in this area but table 12 provides a base upon which certain conjectures may be ventured. In the first place in both Chile and Venezuela that portion of the labour force which had received less than four years of education (including those who were illiterates) registered open unemployment rates below the national average. Although the unemployment rate for Chile in 1970 was 6.2 per cent, illiterates showed a corresponding rate of 4.6 per cent; persons who had not received any formal education 3.6 per cent; and for those who had completed three years of primary education the rate was 4.8 per cent. In Venezuela the same pattern may be seen.

In both countries the unemployment rate is higher than the national average only among those with more than four years of primary education and some secondary education. For those who have completed over four years of secondary education but who have not gone on to university the unemployment rates are less favourable than for those with the lowest preparation. It is only among people with higher educational levels that unemployment rates drop significantly.²⁴

²⁴ Evidence from Peru for 1969 and 1970 also shows highest unemployment rates for those with unfinished secondary education followed by that portion of the labour force with completed secondary education. On the other hand, in both years the lowest unemployment rates were registered by the economically active population with the lowest formal training. See table G and *Informe sobre la situación ocupacional del Perú*, op. cit., page II-12.

Table 12

PERCENTAGES AND RATE OF UNEMPLOYMENT ACCORDING TO LEVEL OF EDUCATION

<i>Level of education</i>	<i>Percentage</i>	<i>Rate</i>	<i>Level of education</i>	<i>Percentage</i>	<i>Rate</i>
<i>Chile 1970</i>			<i>Venezuela 1970</i>		
Illiterates	7.4	4.6	No education	22.5	5.6
Illiterates with no education of any kind	0.5	3.6	Primary education	57.1	6.2
1 to 3 years of primary education	15.1	4.8	First to third grade	(15.2)	5.4
4 to 8 years of primary education	44.0	4.9	Fourth to sixth grade	(41.9)	6.5
Less than 4 years of secondary education	20.2	7.1	Secondary education	17.1	7.0
More than 4 years of secondary education	11.9	4.7	Technical and teacher training ..	1.6	4.0
University training	0.9	1.5	Higher education	1.7	2.9
<i>Total</i>	<i>100.0</i>	<i>6.2</i>	<i>Total</i>	<i>100.0</i>	<i>6.0</i>

SOURCE: Chile: ECLA, on the basis of Luz Elena Cornejo, Olga Guarda and Boris Chacón, "El balance de mano de obra", *Nueva Economía*, No. 1 (periodical issued by the Planning Office, 1971), ta-

ble 4, and official statistics. Venezuela: Statistics and Census Office, *Encuesta de hogares por muestreo*, December 1970.

The above should not be construed to mean that education (as contrasted with illiteracy) is not a positive element in obtaining employment of some kind to remain out of the ranks of the jobless. If the unemployed could be identified not only according to educational level but also according to rural and urban area or agricultural and non-agricultural activity, most probably those in urban areas with at least over three years of schooling would be in a more favourable position than those who had not received any formal education. This is not evident from aggregated national data but is quite plausible given the fact that the vast majority of illiterates are to be found in the countryside where unemployment as such is very low.

Duration of unemployment, however, is quite another issue. Data for Venezuela, Caracas and Santiago suggest that educational levels and length of unemployment are directly related (table 13). In Venezuela only 16.1 per cent of those unemployed with less than three years' schooling remained out of work for 27 weeks or more, whereas 29.2 per cent of those with more than seven years of education stayed without work for that period of time. The most probable explanation for this is that those with low educational levels are in the lowest income groups and cannot afford to be without work for very long especially given the deficiencies in the region's social security systems. Moreover, the indivi-

duals with the highest educational levels when faced with unemployment generally require much more knowledge of the employment opportunities available in order to match their employment expectations, based upon the many years invested in study and prevailing social mores, with positions of compatible status.

Although it is quite plausible that a low level of education increases the probabilities of unemployment, the complete role of education in an employment oriented development policy is not clear. More analysis and a much wider conceptual base are required. In addition to information on educational level and occupational situation, data must be prepared according to age and non-formalized training, since the most intense unemployment is to be found among the youth who in turn have had most access to the region's educational system which has expanded in the past decade. One of the key elements for future evaluation efforts will undoubtedly be to inquire into the degree to which countries are relating the expansion of vocational technical and higher education to the manpower needs indicated by their employment strategies.

2. Underemployment in Latin America

(a) Some observations on the phenomenon

Open unemployment, for the most part, does not afford great insight into the under-utilization of human resources in Latin America. Al-

Table 13
UNEMPLOYED ACCORDING TO DURATION OF UNEMPLOYMENT,
BY LEVEL OF EDUCATION

Level of education	Venezuela ^a		Caracas ^a		Santiago ^b	
	Less than 15 weeks	27 weeks or more	Less than 15 weeks	27 weeks or more	20 weeks or less	More than 20 weeks
0-3 years	71.6	16.1	49.1	36.2	...	...
0-6 years	65.3	20.5	47.7	32.5	58.0	25.0
7 years or more ...	54.7	29.2	42.9	35.4	44.0	37.0

SOURCE: Venezuela and Caracas: *Encuesta de Hogares*, 1970. Santiago: Joseph Ramos, *Tres ensayos sobre desocupación* (Institute of Economics and Planning, Universidad de Chile, 1971), table 14.

^a Figures relate to 1970.
^b Figures relate to 1967.

though it is true that in some countries the unemployment figures are alarmingly high by themselves, especially in urban areas or for specific components of the population, this is not the predominant form of under-utilization of human resources in the region. In countries such as Brazil or Peru a low level of unemployment is not surprising since the definition requires that persons be dedicated exclusively to seeking employment. In the absence of unemployment insurance or previous savings, most persons are forced to engage in some activity for survival if it is below their normal salary level. Underemployment is generally agreed to be particularly prevalent in the services sector to which entry for migrants, for example, is relatively easy since the principal characteristics of that sector in terms of capital requirements, productivity, etc., are much less than in the goods producing sectors.

Underemployment is harder to quantify than unemployment, however, since it takes several different forms, and measurement of most of these depends on more or less arbitrary assumptions concerning norms. Some idea of the complexity of this problem area may be gained from figure I which provides a schematic view in simplified form of the distinction which may be made in the manipulation of employment statistics.

These are based primarily on the resolutions of the International Conference of Statisticians²⁵ and do not include some concepts recently developed in the region such as "total open unemployment rate", "equivalent unem-

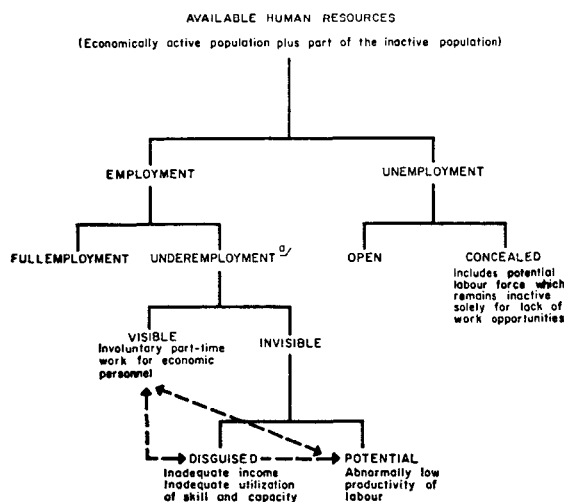
ployment" and "total unemployment". The latter are largely statistical artifices which sum together the different forms of unemployment and underemployment to give a single quantitative indication of the dimensions of under-utilization. In the case of the "unemployment equivalent" of underemployment the result does not represent a specific number of unemployed workers but rather the number of fully productive positions which would be required to provide full employment for all underemployed workers. The real significance of these global percentages for the purposes of concrete employment programmes is open to question since the calculations lump together forms of unemployment and under-utilization having quite different implications for the community. Reinforced by adequate distinctions and supporting data, however, these concepts may afford a useful indicator with which to gauge the over-all trend of the employment situation in a given country.²⁶

In figure I the term underemployment and its many variations—visible, invisible, disguised and potential—all represent an attempt to state the fact that a portion of the labour force is engaged in forms of livelihood which deviate to some degree from normal depending on the criteria applied. In the figure it is also noted that interrelationships exist among the various categories of underemployment and that the same group of people may be affected by

²⁶ For detailed explanations and the application of these concepts see Universidad de Chile, Instituto de Economía y Planificación, *Ocupación y Desocupación, Gran Santiago* (March 1971); ILO, *Towards Full Employment*, op. cit., chapter I; PREALC, *Employment and Unemployment in Jamaica* (PREALC/54, May 1972), pp. 58-63; and PREALC, "La situación y perspectivas del empleo en Costa Rica", op. cit., chapter IV.

²⁵ Principally the ninth and eleventh International Conference of Labour Statisticians, 1957 and 1966. See Undécima Conferencia Internacional de Estadígrafos del Trabajo, *Medicina del Subempleo: Conceptos y Métodos* (OIT, 1966).

Figure I
A FRAMEWORK OF PRINCIPAL HUMAN RESOURCES UTILIZATION CONCEPTS



* It should be noted that the different concepts of underemployment are not mutually exclusive. A continuum, in fact, exists which further hampers measurement, although in reality it no more than reflects the whole complex of conditions which constitute under-development.

more than one category. Thus an individual whose productivity is abnormally low may well have an inadequate income and most certainly the reverse is often true, or a person involuntarily working part-time for economic reasons may also represent an instance of inadequate utilization of skill and capacity.

The difficulty arises from the fact that except at the most ethereal level there is no agreement among human resource experts, international bodies or Governments as to exactly what must be measured and the nature of the data required to quantify the phenomena deemed to be of interest. Country practices in data collection and presentation vary widely. Consequently, the efforts of both national and international organizations should proceed towards the evaluation and improvement of the tools of analysis on these two levels: concepts and statistical elaboration.²⁷ In the present study an attempt will be made to indicate the probable dimensions of the

²⁷ The International Development Strategy for the Second Development Decade in fact exhorts countries to the improvement of labour force statistics (paragraph 66). A recent study which provides a detailed and critical analysis of the basic concepts is: ILO, *Concepts of Labour Force Under-utilization* (Geneva, 1971).

problem in the region within the framework of the limitations imposed by the lack and incomparability of the data forthcoming from different countries.

(b) *Visible underemployment*

As may be seen in table 14, the portion of the non-agricultural labour force involuntarily working part-time varies widely among the countries considered. In great part this reflects the differences in country practices in collecting data on the phenomenon.²⁸ Only countries in which the work preferences of those working less than the normal working time were expressed are included in the table. But these figures should not be taken as defining the extent of visible underemployment; they are rather chosen for illustrative purposes from the various data available. An example of the probable extent of this form of underemployment in the agricultural sector is provided in the case of Brazil. Sufficient data on hours worked per week exist to demonstrate that by any standard there is a high level of underemployment in the agricultural labour force of that country. The National Household Survey indicates that 14 per cent of the agricultural labour force worked less than 35 hours a week in the first quarter of 1970.²⁹ In Chile the corresponding figure for the first half of 1971 was 5.4 per cent.³⁰

(c) *Underemployment and poverty: "marginal" forms of subsistence*

Since one of the major functions of employment is to provide a reliable source of income adequate for the basic needs of both workers and their dependants, underemployment may be defined in terms of an abnormally low level of income. This perspective provides a statistical approach which links the employment problem directly to that of mass poverty. Unfortunately the empirical material collected in this area is of much more limited

²⁸ In no country except Venezuela are the variables of usual working time and reasons for working part-time divided according to economic and non-economic reasons and preferences for more work, all crossed in the same table.

²⁹ Fundação IBGE—Instituto Brasileiro de Estatísticas, *Pesquisa Nacional por Muestra de Domicílios* (first quarter of 1970). In the third quarter of 1968, the comparable figure was 13.8 per cent. It will also be recalled that 26 per cent of the agricultural labour force worked less than nine months in the year preceding the 1970 census.

³⁰ Instituto Nacional de Estadística, *Muestra Nacional de Hogares, A 12. Encuesta continua de mano de obra* (January-June 1971).

Table 14

VISIBLE UNDEREMPLOYMENT IN
NON-AGRICULTURAL ACTIVITIES^a

(Percentages of the economically active population)

Country and city	Year	Under-employment
Brazil	1970	5.7
Colombia ^b	1970	8.3
Chile	1971	3.2
Peru ^b	1971	3.4
Venezuela	1971	1.5
Bogotá, D.E. ^b	1970	4.4
Caracas ^b	1970	1.2

SOURCE: ECLA, on the basis of national household surveys.

^a Based on the definition of a normal working week for each country.

^b Corresponds to the urban area.

scope than even that for employment and unemployment, the magnitude of which is impossible to assess with any degree of accuracy in a number of countries. None the less, several countries do collect data on remuneration received from employment, which provide an indication of underemployment when measured against the standard of what each country considers to be the level of income below which a "marginal" or inadequate level begins (usually the statutory minimum wage).³¹

This approach yields results which are alarming in terms of the wasted human potential and poverty they represent (table 15). In Colombia (1970), over 2,138,000 full-time urban workers, 29.3 per cent of the entire urban labour force, earned less than 500 pesos monthly. The situation was much less serious in Bogotá although still unsatisfactory. In Peru (1971), 23.9 per cent of the urban labour force may be considered to be engaged in "marginal" forms of livelihood and this figure

³¹ The statutory minimum wage was applied in all cases except for Venezuela where legislation in this matter did not exist. For that country, however, a family monthly income of less than 500 bolivares in 1970 is defined by the Banco Obrero de Venezuela as a "marginal" income. Thus, for 1971 this figure, and 60 per cent of it, 300 bolivares, was used. In the case of Colombia an income of less than 500 pesos was utilized since this is the lowest category for which data are provided and approximates the legal minimum wage laws. The data for Colombia, Peru and Venezuela refer to full-time workers; those for Brazil and Chile consider all workers since the existing empirical material afford no breakdown by full-time or part-time working status.

Table 15

"MARGINAL" EMPLOYMENT IN
NON-AGRICULTURAL ACTIVITIES

(Percentages of the economically active population)

Country and city	Year	"Marginal" employment
Brazil	1970	19.5 ^a
Colombia ^b	1970	29.3
Chile	1968	12.3
Peru ^{b c}	1971	23.9
Venezuela	1971	21.5 ^d
	1971	25.8 ^e
Bogotá, D.E. ^b	1970	12.7
Caracas	1970	11.1 ^d
	1970	16.2 ^e

SOURCE: ECLA, on the basis of national household surveys.

^a Relates to wage-earners; the percentage is calculated on the basis of the total number of wage-earners.

^b Corresponds to the urban area.

^c Excluding domestic activities.

^d Income below 300 bolivares.

^e Income below 500 bolivares.

most probably grossly underestimates the true dimensions of the problem since it excludes all those working in domestic service activities. The situation was relatively less critical in Chile (1968) but even there 256,000 non-agricultural workers did not receive an income deemed large enough to meet the cost of a basic basket of consumer goods to cover the essential needs of a working-class family.

At the close of the last decade 19.5 per cent of the total non-agricultural wage-earners in Brazil earned less than the minimum wage. Although the margin of error involved in this figure is no doubt considerable since all wage-earners whether full-time or part-time are of necessity included (no disaggregated data are available), there are sufficient grounds for believing that this figure does not greatly exaggerate the employment conditions of that country in 1970. Further insight into the Brazilian case and also into the immense regional disparities is given in table 16. As with most of the facets of the Brazilian socio-economic structure, employment has decidedly regional characteristics. By either standard, visible unemployment or the income criterion, the nine states of the north-east region present a much more critical situation than the rest of the country. In spite of the fact that the backwardness and poverty of that region is a longstanding condition which has led to sizable

Table 16

BRAZIL: VISIBLE UNDEREMPLOYMENT^a AND "MARGINAL" EMPLOYMENT IN NON-AGRICULTURAL ACTIVITIES BY REGION, 1970

Region	Visible under-employment ^a	"Marginal" employment ^b
Region I: Guanabara, Rio de Janeiro	2.1	9.4
Region II: São Paulo	4.2	10.7
Region III: Paraná, Santa Catarina, Rio Grande do Sul	5.4	13.4
Region IV: Minas Gerais, Espírito Santo	4.5	32.8
Region V: Maranhao, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia	11.2	42.4
Total Brazil	5.7	19.5

SOURCE: ECLA, on the basis of Fundação IBGE, Instituto Brasileiro de Estatística, *Pesquisa Nacional por Amostra de Domicílios* (first quarter of 1970).

Note: The two measurements are not mutually exclusive and cannot be added, although relating largely to different groups.

^a As a percentage of the economically active population.

^b Among employed wage-earners.

migration from the north-east to the south central area, vast employment problems have persisted there.

The most acute manifestation of abnormally low-income employment is, of course, the mass poverty it signifies, which is most visible (like the tip of an iceberg), but by no means most serious, in the large urban centres. Indeed, evidence from Peru indicates that the great majority of migrants to metropolitan Lima felt in 1967 that their situation had improved markedly over what it was in their place of origin. In spite of the fact that relatively more migrants were underemployed in the metropolitan areas than the indigenous component of the population, approximately 75 per cent of the migrants cited economic and employment reasons for their attitude.³²

Additional insight into the extent of and interrelationship between "marginal" employ-

³² Servicio de Empleo y Recursos Humanos, "*Migración a Lima metropolitana*" (document prepared by Ana Rivera Salcedo using 1967 Household Survey data and presented to the Internal Migration Seminar,

ment according to income and mass poverty is provided in the case of Panama. In 1970, approximately 22 per cent of the wage-earners employed 35 hours or more per week earned less than 15 balboas weekly which was only 60 per cent of the statutory minimum wage.³³ The situation is somewhat less serious for heads of families at least on a national level and for urban areas (table 17). Even so, 14.4 per cent of the heads of families in Panama City and Colón earn less than the minimum wage and almost 5 per cent earn only 60 per cent of it. For the rest of the country outside the sphere of influence of these two cities, however, the marginal conditions of employment of family heads once again rises quickly to 20.5 per cent who earn substantially less than the minimum wage.

In most instances sufficient data are not available by which to judge the relative contribution to total underemployment of visible and invisible (by incomes) under-utilization. But information from Bogotá, Caracas, and Metropolitan Lima clearly shows the main problem is with incomes received rather than the length of time of work (table 18). "Marginal" employment weighs most heavily in the total: 74.3 per cent in Bogotá, 90-93 per cent in Caracas and 90 per cent in Lima. It should be stressed that no double counting is involved here. The categories are mutually exclusive—visible underemployment referring only to those who are working part-time involuntarily and "marginal" employment to those whose income does not meet a given minimum for a full working week.

The sectoral composition of "marginal" employment in non-agricultural activities for Venezuela (1971) confirms what is generally believed and sheds some further light upon the phenomenon (table 19). This form of livelihood is most common in the services and commerce sectors. Of interest, however, is the fact that it is also quite extensive in manufac-

Huayacucho, 25-28 November 1970). Also *Informe sobre la situación ocupacional del Perú*, op. cit., page II-15. It should also be noted that the SERH 1970 report found less unemployment although greater underemployment among migrants than natives for both 1969 and 1970.

³³ This includes both agricultural and non-agricultural sectors but excludes the indigenous population inhabiting collective settlements, as well as employees receiving commissions, tips, remuneration on a piece-work basis ("*pagos a destajo*"), or payment in kind. This leaves aside independent workers and others where underemployment levels are known to be high. See *Estadística panameña estadística del trabajo* (Encuestas de Mano de Obra), Series "O", 1970, table 17.

Table 17
PANAMA: AVERAGE WEEKLY WAGE OF HEADS OF FAMILIES AND
PERCENTAGE DISTRIBUTION OF FAMILIES, ACCORDING TO
WAGE OF HEAD OF FAMILY, 1970^a
(Population aged 15 years and over)

	Total	Metropolitan area ^b			Rest of the country
		Total	Panama City and Colón	Rest of metropolitan area	
Number of heads of families	98 400	78 300	68 700	9 600	20 100
Average wage (balboas)	37.42	42.35	43.60	32.95	22.77
Percentage distribution of families according to weekly wage (balboas)	100.0	100.0	100.0	100.0	100.0
Less than 15	8.5	5.5	4.9	9.7	20.5
15-24	16.2	10.7	9.5	18.9	38.0
25-34	21.9	23.3	22.8	26.9	16.7
35-49	20.4	21.6	22.3	16.6	15.4
50 and over	33.0	38.9	40.5	27.9	9.4

SOURCE: *Estadística panameña (Encuestas de Mano de Obra)*, series "0", 1970, table 28.

^a Excluding the indigenous population, persons inhabiting collective settlements, the rural population and employees receiving commissions, tips, remuneration on a piece-work basis or payment in kind. The percentages were obtained from figures which were not rounded.

^b The metropolitan area extends along both sides of the Panama Canal Zone, the centre of influence being Panama City and Colón. The main criterion for defining this area was established by the Department of Administration of the Office of the President of the Republic; it comprises the districts of Arraiján, La Chorrera, Capiña, Panama, special district of San Miguelito, Chepo (Corregimiento Cabecera and Santa Cruz de Chinina), Colón, Chagres, Portobelo and Santa Isabel.

Table 18
RELATIVE CONTRIBUTION TO THE UNDER-UTILIZATION OF HUMAN RESOURCES BY VISIBLE UNDEREMPLOYMENT AND "MARGINAL" EMPLOYMENT^a
(Percentages of the economically active population)

	Visible under-employment	"Marginal" employment	Total under-employment
Bogotá D.E. (1970) ^b	4.4	12.7	17.1
Caracas (1970) ..	1.2	11.2 ^c	12.4
	1.2	16.1 ^d	
Metropolitan Lima (1971) ^e	3.3	29.4	32.7

SOURCE: ECLA, on the basis of national household surveys.

^a The same criteria used in tables 14 and 15 were applied.

^b Urban area only.

^c Income below 300 bolívares.

^d Income below 500 bolívares.

^e Excluding domestic service activities.

turing and construction reflecting once again the heterogeneity to be found in these sectors.

Until reliable and adequate time series data are available it will be impossible to measure fluctuations in the dimensions of underemployment, or to determine the specific sectors of the population it affects most. As has been seen, the phenomenon is fairly serious at the beginning of the Second Development Decade and is most conspicuous in the cities, although it is no doubt at least as serious in rural areas and in all probability worse.³⁴ There are also indications that, far from abating, underemployment has increased or, at best, remained

³⁴ SERH, applying another measurement technique based upon sectoral productivity levels, reported that in Peru (1970) 64 per cent of all underemployment was to be found in the agricultural sector, and that 46 per cent of the total labour force was underemployed according to this technique. See SERH, *Informe sobre la situación ocupacional del Perú*, op. cit., tables A-II and A-II-2.

constant.³⁵ If policy-makers are seriously disposed to apply employment policy to the relief of mass poverty, it is clear that these policies must form an integral part of the development strategies currently being forged in the region and that internal consistency and continuity is the least that can be expected of national planning efforts if they are based only upon recommendations of a more limited nature in the area of employment.

³⁵ Evidence from Peru reveals that total under-employment (as measured by sectoral productivity) amounted to 45.1 per cent of the labour force in 1969, 46 per cent in 1970 and 44.4 per cent in 1971. The income-yielded technique for full-time workers, however, has given the following results for Lima-Callao: 27 per cent of its labour force in 1969, approximately 30 per cent in 1970 and 33 per cent in 1971. The last figure is undoubtedly an underestimate of the actual situation since domestic service activities are excluded. The importance of this variety of the employment problem may be appreciated from the following analysis of the 1967 Lima Household Survey: domestic service workers represented 11 per cent of the total labour force of Metropolitan Lima and 80 per cent were underemployed by the joint hours-worked and income criteria. The great majority of domestic help were migrant females between 15 and 35 years of age and this type of employment accounted for 29 per

Table 19
VENEZUELA: "MARGINAL" EMPLOYMENT
BY NON-AGRICULTURAL SECTORS OF
ACTIVITY

(Percentages of the employed wage-earning
population)

Sector	Venezuela 1971 ^a
Mining and quarrying	3.2
Manufacturing	15.0
Construction	15.1
Electricity	7.4
Commerce	24.0
Transport	13.2
Services	27.0
<i>Total</i>	20.6

SOURCE: ECLA, on the basis of national household surveys.

^a Income below 300 bolivares.

cent of the female labour force of Lima. Sources: SERH, *ibid.*, *Encuesta de Hogares 1971*, and Jaime Gianella, *Marginalidad en Lima Metropolitana* (Centro de Estudios y Promoción del Desarrollo, Cuadernos DESCO, December 1970), pp. 45 and 55.

IV. TRENDS AND CHARACTERISTICS OF THE LABOUR FORCE

(a) *Evolution of the labour force, 1960-1970*

In those countries which account for the vast majority of the population of Latin America and whose demographic trends are most representative of the region, the population of economically active age is increasing by about 3 per cent annually.³⁶ The census data for the first part of the decade revealed that this potential labour force is predominantly young, most especially in urban areas. It was also reported that the population in young age groups accounted for a much higher proportion of the total in Latin America than in other more developed regions.³⁷ The situation remained the same at the end of the First Development Decade. The population of working age still constitutes a relatively low percentage of total population. In most of the countries it was about 50 per cent, whereas in Eastern and Western Europe, the United States and Canada, its share in the 15-64 age group is approx-

imately 60-65 per cent. Furthermore, recent evidence from several countries indicates that the trend is towards even higher rates of dependency which the economically active population must support in the coming years (table 20).

(b) *Economic activity by age and sex*

Throughout the decade some notable changes have occurred in the age-sex composition of the labour force. These modifications are significant in so far as they reflect major trends, demographic, economic and social in nature, which influence the structure of the economically active population in the region. Unfortunately, the shortage of reliable empirical sources presents a stumbling block to a thorough examination of the economically active population in Latin America; the 1970 censuses taken so far have demonstrated no improvement over the 1960 round of censuses, and in some cases they are of even poorer quality. None the less, on the basis of existing data some comments may be made which serve to reveal the major currents of events during the decade.

³⁶ For country statistics see table 20.

³⁷ See chapter IV in United Nations, *Social Change and Social Development Policy in Latin America* (Sales No. E.70.II.G.3).

Table 20
GLOBAL INDEXES OF DEPENDENCE FOR SELECTED COUNTRIES

Dependence ratios	Chile		Venezuela		Mexico		Nicaragua	
	1960	1970	1960	1970	1960	1970	1960	1971
$\frac{\text{Total population}}{\text{Economically active population 15-64}} \times 100$	325.41	388.74	338.14	348.49	346.16	353.34	345.85	413.28
$\frac{\text{Total population}}{\text{Economically active population all age groups}} \times 100$	308.06	371.54	314.89	329.52	313.47	317.66	308.85	375.75
$\frac{\text{Total population}}{\text{Population of working age}} \times 100$	179.30	177.17	191.63	197.94	195.51	198.94	199.34	205.03

SOURCE: ECLA, on the basis of National Censuses and Household Surveys.

Participation rates have undergone an overall decline between 1960 and 1970, especially for males. This is of importance since participation rates in themselves measure the relation between the number of economically active persons in specific age groups and the total population in that same category. The resulting rate constitutes an indicator of the degree to which a given segment of the population is being incorporated into the labour market. In Mexico, although the global participation rates for the population 12 years of age and over increased from 45.2 per cent in 1960 to 46.2 per cent in 1970, this was largely due to an increase in female activity which rose from 16.1 per cent to 19.5 per cent. It should be noted that for the same period male activity rates fell from 75.3 per cent to 73.7 per cent. Due to errors in the 1970 census of Chile, participation rates with different absolute levels may be calculated depending upon the adjustment factors which are applied. All results, however, register a decline of approximately 10 per cent in the global activity rate for the population 12 years of age and over.

In figures II to V it may be seen that male participation rates for those under 25 years of age fell during the last decade in Chile, Mexico, Venezuela and Costa Rica—countries which are representative of different types of national situations to be found in Latin America. The sharpest declines are to be found in the youngest age groups—12 to 14 and 15 to 19 years. The oldest age groups also reg-

istered declines, especially for persons of 60 years of age and over. For Costa Rica during the period 1950-1967, participation rates for boys between the ages of 12 and 14 fell by 50 per cent. For those in the 15-19 age group the drop was over 20 per cent, and a decline in economic activity of over 25 per cent was reported for persons of 65 years of age and over.³⁸

The reasons which may explain the lower participation rates especially among the youth and older age groups are several. They range from a considerable expansion in the educational system throughout the decade which delays the entry of young people into the labour market and a simultaneous extension of social security services, to a negative appraisal of the opportunities which the labour market has to offer on the part of people who would ordinarily declare themselves economically active. This latter aspect, often referred to as "disguised" unemployment or unemployment among the potentially active population who declare themselves economically inactive, has been shown to be of considerable importance in Colombia, Chile and Peru. For 1970, this group accounted for 5 per cent of the inactive population in Metropolitan Lima and approximately 8 per cent for Santiago.³⁹

³⁸ PREALC, *La situación y perspectivas del empleo en Costa Rica* (Working Document, final version, PREALC/52 (Rev.1), August 1972), chapter VI.

³⁹ Ministerio de Trabajo, Servicio del Empleo y Recursos Humanos; *Informe sobre la situación ocupacional del Perú 1970*, pp. 1-18. The figure for San-

Significant alterations in the participation of women in the labour force is another of the trends which deserves to be noted. Although the global participation rates of women in most of Latin America remains below 20 per cent, rising to 25 per cent in countries with low dependence ratios, female economic activity has risen substantially in several countries. Costa Rica affords a particularly illustrative example. Until 1963, the participation of women was less than 16 per cent. But as the decade advanced, the situation changed. According to the 1967 household survey the global female activity rate had risen to 21 per cent. This increase was reported for all age groups but reached a high of 31 per cent for those women in the 20 to 24 age group.⁴⁰

tiago takes into account only those who replied that they wished to work at least 20 hours weekly throughout the year in the quarterly household survey of the Instituto de Economía y Planificación, Universidad de Chile. For Colombia see ILO, *Towards Full Employment* (Geneva, 1970), chapter 1.

⁴⁰ PREALC, *La situación y perspectivas del empleo en Costa Rica*, op. cit.

Similar increases may be noted in the cases of Chile, Mexico and Venezuela, although the age specific patterns of female economic activity vary among these countries. In Chile, women between the ages of 25 and 45 years have increased their participation significantly throughout the decade although they did not surpass the high point reached in 1960 for the 20-24 age group. This age group registered important increases in economic activity in Mexico, however, as did all women of fertile age for that country.

These changes respond to the influence of a number of variables since the factors determining female incorporation into the labour force are extremely complex. Inferences may be made, however, with regard to at least some of the major forces which can be assumed to be operative: (1) a substantial decline in fertility (quite important in Costa Rica and Chile); (2) changing social attitudes towards working wives together with increased facilities for working mothers; (3) large-scale migration of young women to metropolitan centres; (4) lower wage

Figure II

CHILE: RATES OF PARTICIPATION OF ECONOMICALLY ACTIVE POPULATION IN TOTAL POPULATION BY SEX AND AGE, 1960-1970

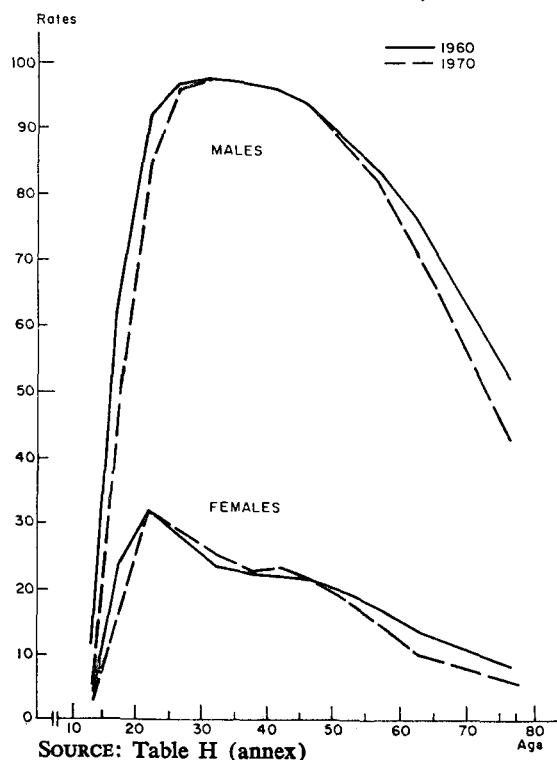
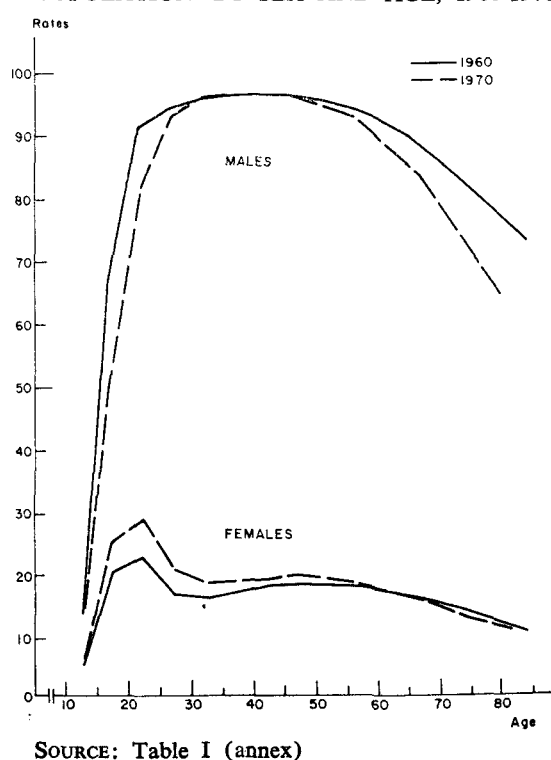


Figure III

MEXICO: RATES OF PARTICIPATION OF ECONOMICALLY ACTIVE POPULATION IN TOTAL POPULATION BY SEX AND AGE, 1960-1970



rates for female labour and (5) modernization of economic systems especially in urban centres.⁴¹

It should be stressed that increased female economic activity does not indicate a fuller utilization of human resources. On the contrary, it may well occur during periods of growing over-all unemployment as women who would normally be inactive enter the labour force to supplement falling family incomes. In the Caribbean countries, female participation rates are significantly higher (36 per cent in Trinidad and Tobago in 1968 and 58.8 per cent of female "available manpower" that same year

⁴¹ Although comparable data on female economic activity for Mexico and Mexico City indicate the co-existence of two economic systems, the trend from 1950 on points to the growing prevalence of modern techniques of production and distribution in that country favourable to the employment of the younger generation. See Henry Kirsch, *Development Strategy Implications of Population Growth and Labour Force Absorption in Latin America* (ECLA, Working Document, mimeographed, November 1971), pp. 40-42.

in Jamaica⁴²) and are rising in situations of high open unemployment. The Government of Trinidad and Tobago has expressed concern that cheaper female labour is being substituted for male workers and that rising female participation is thus accompanied by rising male unemployment.⁴³

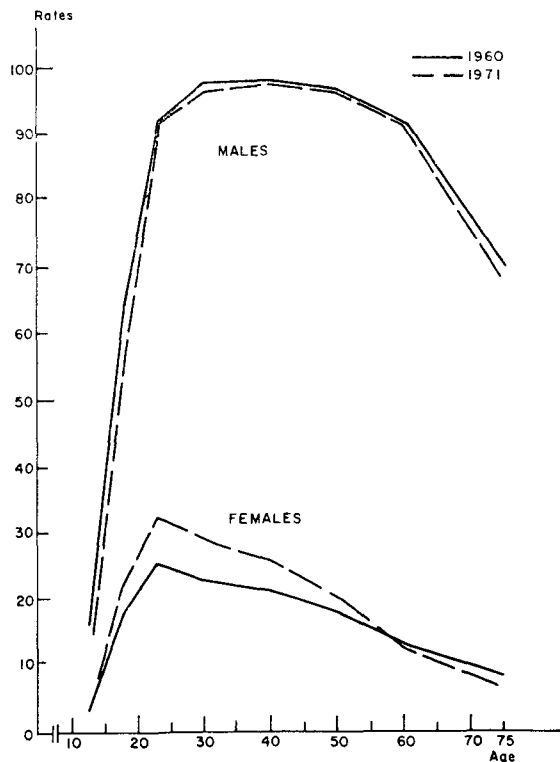
A more detailed analysis of the expansion of female economic activity would also reveal an unsatisfactory utilization of this labour force

⁴² The "manpower availability" concept has been developed by PREALC for use in Jamaica in lieu of the more conventional concept of the labour force as those employed plus those actively seeking work since, given the available data, this definition would result in a gross understatement of that country's employment problem. Manpower availability includes "employment during the year plus visible and concealed unemployment, with previous work experience plus unemployment without work experience". See PREALC, *Employment and Unemployment in Jamaica* (Working Document, PREALC/54, May, 1972), Appendix 1, p. 151.

⁴³ *Third Five-Year Plan, 1969-1973*, chapter XII.

Figure IV

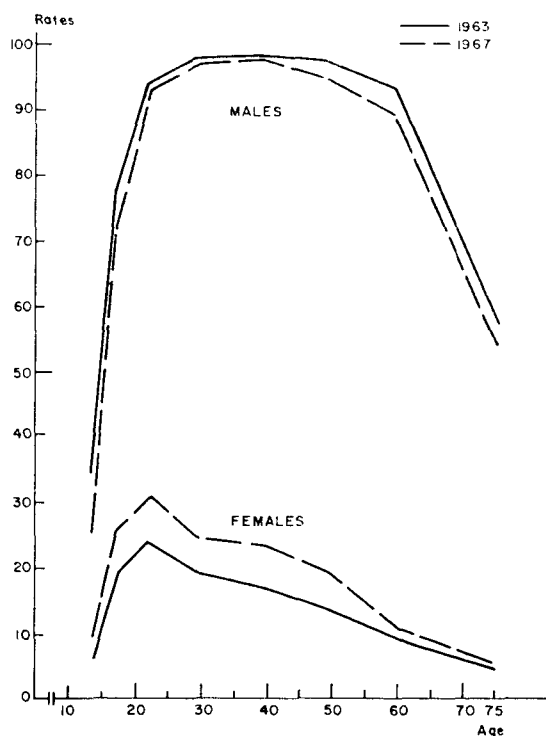
VENEZUELA: RATES OF PARTICIPATION OF ECONOMICALLY ACTIVE POPULATION IN TOTAL POPULATION BY SEX AND AGE, 1960-1971



SOURCE: Table J (annex)

Figure V

COSTA RICA: RATES OF PARTICIPATION OF ECONOMICALLY ACTIVE POPULATION IN TOTAL POPULATION BY SEX AND AGE, 1963-1967



SOURCE: Table K (annex)

reserve. This is especially true when the qualifications and educational levels of the female population are related to the level of participation and the type of employment opportunities offered those who do enter the labour force. In 1971, for example, only 40 per cent of all Venezuelan women with higher education were economically active. For those who seek work, the cultural bias which more qualified women still must confront in their search for jobs compatible with their preparation was manifest in Chile. Studies based upon interviews with industrial supervisory personnel in different cities of that country have shown the overwhelming reluctance of these men to accept women who had graduated from technical secondary schools in either a technical or lower supervisory capacity consistent with their qualifications. These are but illustrations of the significant loss of highly qualified human resources to Latin American economies which persist as a result of social prejudices and family behavioural patterns.⁴⁴

(c) *Labour force structure: sector, region and occupation*

Changes in the structure of the economically active population by economic sector follow those trends reported in earlier studies on the

⁴⁴ Oficina Central de Coordinación y Planificación, *La Planificación y la Situación Actual de los Recursos Humanos en Venezuela* (July 1972), p. 16; Alicia Ivansko, "Final Report from the Mission: Pilot Project

labour force in Latin America. Reasonably acceptable data for the active population (as distinguished from those who are actually employed) are not available for the entire region. Table 21, however, gives information for eight countries which provide a profile of the range of different national situations to be found in the region. It indicates that the share of agriculture in the labour force has undergone an extensive decline—a fall which was compensated for by the relative increase in those sectors which are predominantly urban such as commerce, construction, services and manufacturing. As mentioned in the section on employment structure, the relatively high rate of labour absorption in manufacturing for certain countries (e.g. Venezuela and Panama) should not be construed as sufficient evidence to refute the common opinion held of this sector's general inability to provide sufficient employment opportunities and alleviate the structural distortions present in the labour force.

In reality the phenomenon is much more complex. In great part this trend stems from the lack of productive employment opportunities in the rural areas of Latin America. The reasons for this situation must be sought in

on the Access of Women to Technological Careers" (UNESCO, Reg./CH/LSOC/1), June 1970; M. Teresita de Barbieri, *Acceso de la Mujer a las Carreras y Ocupaciones Tecnológicas de Nivel Medio* (ELAS/UNESCO, January 1972).

STRUCTURE AND GROWTH OF THE ECONOMICALLY ACTIVE POPULATION

Country	Agriculture			Mining and quarrying			Manufacturing		
	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate
	1960	1970		1960	1970		1960	1970	
Argentina	...	...	...	...	...	...	...	...	...
Bolivia	...	...	...	...	...	...	...	...	...
Brazil ^a	53.7	44.2	0.7	...	...	...	17.9	22.1	4
Colombia	...	...	...	...	...	...	...	...	...
Chile ^a	29.5	20.8	-0.9	4.1	2.2	-3.2	19.1	22.6	4
Ecuador	...	...	...	...	...	...	...	...	...
Peru ^{a b}	50.4	45.6	1.9	2.2	1.9	1.6	13.3	14.7	4
Venezuela ^{a b}	32.6	21.0	-1.4	2.3	1.9	1.3	12.3	18.8	8
Panama ^a	47.3	35.0	0.3	0.0	0.2	—	7.9	11.2	7
Mexico ^a	52.1	43.5	1.5	1.3	1.4	4.2	14.4	16.7	5
Nicaragua ^a	62.0	52.5	1.1	0.9	0.7	0.1	11.5	13.2	4
Honduras ^{a c}	66.6	65.2	3.0	0.3	0.2	0.1	7.9	8.4	3

SOURCE: ECLA, on the basis official figures.

^a Excluding persons seeking work for the first time.

the evolution of the agricultural sector in the region. This sector is characterized by a relative stagnation in output as well as by a change in the composition of the labour force in recent years. Almost without exception agricultural output has grown at much slower rates than the rest of the economy—for some countries agricultural growth rates have risen by as little as a quarter of that of the gross domestic product.⁴⁵ Moreover, the available evidence, mostly of a qualitative nature, indicates that in many countries the composition of the agricultural labour force has tended to change in recent years. "As a result of a combination of mechanization, minimum wage and social security legislation and in some cases changed regulations regarding sharecropping, there has been a tendency in some areas for the larger farms to reduce their permanent labour forces. At the same time, increasing mechanization has tended to reduce seasonal requirements for additional casual labour and the net effect has probably been to concentrate the available work into a smaller number of actual jobs."⁴⁶

⁴⁵ One exception worthy of note is that of Costa Rica where PREALC reports the rapid expansion of agricultural output most probably to have been responsible for the high levels of rural labour retention. See PREALC, *La situación y perspectivas del empleo en Costa Rica*, op. cit., chapter V.

⁴⁶ *Perspective Study of Agricultural Development in South America* (mimeographed, August 1972), chapter I.

The changes noted in the sectoral distribution of the labour force also respond to variables which operate to accentuate the differential behaviour of the labour market not only among sectors but within sectors and which are often of a conjunctural nature. Thus, a boom in traditional exports might be sufficient to increase substantially fiscal income resulting in expanded public sector spending in the areas of urban construction and infrastructure projects. In addition to its direct employment effects, the larger public spending might also stimulate a considerable employment multiplier based upon increased aggregate demand for those goods or basic services produced internally. On the other hand, plant managers in the private sector might consider this expanded demand to be a short-term phenomenon and prefer to utilize excess capacity through longer hours for existing workers rather than by contracting additional labour.⁴⁷ Technology and labour vary so greatly within sectors, the relative scarcity of factor inputs among different sectoral levels differ so widely (credit availability for a small shop versus a large supermarket chain); and occupational mobility from low to high productivity strata are so hindered that for purposes of analysis and planning it is more proper to speak in the plural—in terms of labour markets. This ap-

⁴⁷ The provisions of the labour codes concerning dismissal would most surely condition their response.

21

BY BRANCHES OF ACTIVITY, BY COUNTRIES, 1960-1970

Construction			Basic services			Trade			Services			Total		
Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate	Percentage		Growth rate
1960	1970		1960	1970		1960	1970		1960	1970		1960	1970	
...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	2.2
...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	2.6
...	...	...	...	...	...	6.7	8.9	5.6	21.7	24.8	4.1	100.0	100.0	2.7
...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	2.6
6.1	8.0	5.6	6.1	8.9	6.6	10.8	13.6	5.1	24.3	23.8	2.4	100.0	100.0	2.6
...	...	...	...	...	...	...	...	...	...	...	...	100.0	100.0	3.1
3.4	3.0	1.8	3.7	4.1	4.3	9.0	11.1	5.4	18.0	19.6	4.1	100.0	100.0	3.1
5.6	5.5	3.3	6.1	8.2	7.1	12.8	18.4	7.8	28.3	26.2	2.6	100.0	100.0	3.5
4.2	5.7	6.4	3.6	4.8	6.2	9.4	12.9	6.6	27.6	30.2	4.3	100.0	100.0	3.3
3.7	4.4	5.3	3.7	3.2	1.9	9.4	9.2	3.2	15.4	21.6	7.2	100.0	100.0	3.2
3.2	3.9	5.1	2.5	3.3	5.6	6.6	8.8	5.8	13.3	17.6	5.6	100.0	100.0	2.8
2.1	2.2	4.2	1.5	2.4	7.8	...	...	...	21.6	21.6	3.2	100.0	100.0	3.2

^b For 1961-1970.

^c For 1961-1971.

proach is often frustrated by the lack of adequate data and empirical studies. But at least it has the merit of providing an orientation which can stimulate the production of the necessary data on the part of Governments by destroying the shibboleth of a homogeneous and almost monolithic labour market which continues to guide much of the research and planning up to the present.

Given the heterogeneous nature of all sectors, the growth of the manufacturing or mining labour force cannot *a priori* be assumed always to be a valid indicator of development nor can the expansion of commerce and services be identified only with the dysfunctional aspects of urbanization. Although this may well often be proved true, much more disaggregated data and detailed analysis is required before the processes interrelating the sectoral distribution of the economically active population and the employment problem are clearly understood. For the present, however, it may reasonably be assumed that the expansion of the labour force in commerce, services and even construction was in great measure accompanied by an increase in underemployment typified by such occupations as street vendors, part-time gardeners, domestic servants and non-union construction workers hired by "maestros de primera" as is the case in Colombia.⁴⁸

Unfortunately sufficient data do not exist for most countries to permit a detailed analysis by occupational categories and groups across the decade. There is an urgent need for both the 1960 and 1970 census rounds as well as the continuous household surveys to be processed with uniform tabulation plans in line with appropriate definitions.⁴⁹

Chile, one of the more advanced countries in the area of empirical data, offers a case in point. As may be appreciated from table 22,

⁴⁸ The relative productivity declines in these sectors noted for several countries is suggestive of the expansion of occupations in which underemployment is prevalent. See tables 4 and 5. It is generally agreed that minimum wages are not paid by the independent "maestros de primera" who have been sub-contracted by construction firms to hire labourers. See ILO, *Towards Full Employment*, p. 135.

⁴⁹ Once again the heterogeneity of conventional classifications arises as a major stumbling block. For example, the category of executives, managers and employers and that of salesmen conceal great divergence in productivity and income by which underemployment may be measured. The first category ranges from those engaged in the neighbourhood vegetable store or newspaper stand to the largest enterprise; likewise a salesman may be a peanut vendor or a sales representative of an electronics firm.

the available sources register widely differing results in the structure of the labour force by occupational category. Analytical possibilities are thereby severely limited. According to the estimates of PREALC, it appears that the category of employers is considerably exaggerated and quite possibly inflated by a number of own-account workers erroneously reported as employers.

Nevertheless a trend for the own-account workers to increase may be culled from the data. This would confirm the impression that a major characteristic of employment in the decade, especially in its closing years, has been an expansion of underemployment since it is generally agreed that this condition is especially manifest among own-account workers.

The absorption of labour by the services sector, greater than the goods producing branches of economic activity, is also evidenced by the pronounced increase in *empleados* and the marked decline in the *obrero* category. In part this is the result of a legal artifice—the addition of certain occupations to the *empleado* group previously classified as *obrero*. But the consistency of the pattern from both census and household survey data especially the time series for Greater Santiago (table 23) gives added weight to the interpretation that labour, particularly that portion entering the urban labour market, is gravitating towards service activities rather than the goods-producing sector where the proportion of *empleados* to *obreros* is much less intense.

A somewhat similar pattern is provided in the case of Peru. Table 24 shows the change in the Peruvian labour force by occupational groups. The most impressive change, of course, is the sharp decline in agricultural occupations. But among those occupations which are predominantly urban perhaps the most significant aspect is the increase among salesmen, a trend noted by the Peruvian human resources authorities to reflect the growth in marginal activities during the past decade.⁵⁰

(d) Educational structure of the labour force

Both the degree and real meaning of changes in the educational level of the labour force in Latin America are particularly difficult to gauge, not only because of the lack of basic data but also because of the problem of interpreting global educational trends in terms of their rele-

⁵⁰ Servicio del Empleo y Recursos Humanos, *Informe sobre la situación ocupacional del Perú, 1970*, pp. 1-21.

Table 22

CHILE: STRUCTURE OF THE LABOUR FORCE BY OCCUPATIONAL CATEGORY, 1960-1970

(Percentages)

Occupational category	1960 ^a	1967 ^b	1968 ^c	1969 ^d	1970 ^e	1971 ^f
Employers	1.4	2.1	1.6	1.5	1.2	3.1
Own account workers	18.8	21.2	21.9	21.9	22.7	19.2
Employeees	29.0	23.4	23.2	23.6	24.9	34.6
Workers	44.9	46.9	46.1	46.7	46.4	35.5
Others ^h	5.9	6.4	7.2	6.3	4.8	7.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Prepared by PREALC on the basis of: Dirección de Estadística y Censos, *XIII Censo de Población*; Instituto Nacional de Estadísticas, *Evolución de la mano de obra chilena*, March 1967-December 1970 (mimeographed), Santiago, 1971, table III-5; Instituto Nacional de Estadísticas, *XIV Censo Nacional de Población, Muestra de Adelanto de Cifras Censales, total del país* (mimeographed), Santiago, May 1971.

^a DEC. XIII Census, table 3.4.7.

^b Average of March-June and July-October 1967 results of the INE survey.

^c Average of November 1967-February 1968, March-June and September-December results of the INE survey.

^d Average of January-June and July-December 1969 results of the INE survey.

^e Average of the January-August and September-December 1970 results of the INE survey.

^f XIV Census, op.cit., table No. 17.

^g Including domestic servants, who only appear separately in the Censuses.

^h Including relatives not receiving wages, persons seeking work for the first time and persons not clearly specified.

Table 23

GREATER SANTIAGO: LABOUR FORCE BY OCCUPATIONAL CATEGORY, 1960-1970

(Percentages)

Occupational category	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Employers	3.2	3.3	3.3	2.9	2.3	2.1	2.2	2.2	2.5	2.4	1.9
Own account workers	19.0	17.4	18.8	18.3	17.7	17.9	18.6	17.6	17.7	18.3	17.6
Employees	28.2	30.8	30.3	30.9	30.6	31.3	31.8	32.5	34.2	35.3	37.7
Labourers	46.6	45.6	44.5	44.5	46.5	45.5	44.5	45.1	42.8	40.6	39.3
Relatives not receiving wages	1.9	1.8	2.2	2.5	2.0	2.2	1.9	1.7	1.7	2.1	2.1
Unspecified											
Seeking work for the first time	1.1	1.0	0.9	0.9	0.9	1.0	1.0	0.9	1.1	1.3	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Prepared by PREALC on the basis of employment and unemployment surveys by the Instituto de Economía y Planificación, Universidad de Chile.

Table 24
PERU: STRUCTURE OF THE LABOUR FORCE
BY OCCUPATIONAL GROUPS, 1961, 1970
(Percentages)

<i>Occupational groups</i>	1961	1970
Professionals and technicians	3.4	4.7
Managers, administrators and directors	1.5	1.8
Office workers	4.5	5.8
Salesmen	7.6	9.4
Farmers, stockmen and fishermen	51.6	46.9
Miners and quarry-workers	1.2	0.2
Transport drivers	2.4	3.0
Artisan workers, operatives, labourers and day-labourers	18.4	19.4
Service workers	9.4	8.8
<i>Total</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: Servicio y Empleo y Recursos Humanos, *Informe sobre la situación ocupacional del Perú 1970*, table 10.

vance to legitimate labour market requirements and societal needs. This question will be discussed elsewhere and need not be treated in detail at this point. Some data on this problem area, however, are provided below, primarily for illustrative purposes to discern the outline of what has occurred during the past decade.

In 1960, almost 16 per cent of the Chilean labour force was illiterate while almost half of the Venezuelan economically active population (1961) and 33 per cent of that of Peru

(1961) were in that condition (table 25). By 1970 this rate had fallen to about 8 per cent for Chile, 21 per cent for Venezuela; in Peru the respective figure was 24 per cent of the labour force.⁵¹ Unquestionably, then, advances have been made but a more detailed analysis of the data reveals the persistence of serious deficiencies.

In Chile only a little over one third of the labour force had completed primary school in 1970; a similar situation existed in Venezuela although the notable expansion of formal preparation along all levels of the educational system projects a more favourable trend line for the labour force of that country.⁵² The high percentage of the economically active population who had not received more than three years of education (almost 17 per cent in Venezuela and 21 per cent in Chile) remains a major problem area since it is most probable that a number of them will revert to illiteracy.

⁵¹ In 1970, over 35 per cent of the Brazilian labour force were illiterate and over 28 per cent had not received more than three years of education; in Panama, only 4 per cent of the non-agricultural employed population were classified as illiterate but 54 per cent had received no more than primary education (including incomplete primary which is not segregated). *Anuario Estadístico do Brasil 1971, Estadística Panameña, Serie "O" (Encuesta de Mano de Obra, 1970)*.

⁵² Of course this says nothing about the relevance of the Venezuela educational system to the labour market, an issue of concern in a recent study of that country conducted by the Inter-American Committee on the Alliance for Progress (CIAP), see *El esfuerzo interno y las necesidades de financiamiento externo para el desarrollo de Venezuela* (CIAP/568, mimeographed, August 1972).

Table 25
EDUCATIONAL STRUCTURE OF THE LABOUR FORCE,
SOME SELECTED COUNTRIES
(Percentages)

<i>Level of education</i>	<i>Chile</i>		<i>Peru</i>		<i>Venezuela</i>	
	1960	1970	1961	1970	1961	1970
None	15.7	8.3	33.0	24.2	47.8	20.2
Primary	56.4	52.2	52.6	52.7	43.9	55.6
1-3 years	(20.9)	(15.5)	...	...	(18.8)	(16.9)
4-6 years	(35.5)	(36.7)	...	...	(25.1)	(38.7)
Secondary	22.4	31.5	11.2	17.8	6.5	17.0
7-9 years	(12.0)	(13.6)	...	...	...	...
10-12 years	(10.4)	(17.9)	...	...	...	...
University	2.6	3.3	2.3	5.3	1.8	3.5
Unspecified	2.9 ^a	4.7 ^a	—	—	—	3.7 ^a

SOURCE: ECLA, on the basis of official figures.
^a Including special studies.

An aspect of the expansion of education during the past decade which is mostly likely to have important implications for those entering the labour market in the coming years is the increased educational demands made at all but the lowest occupational levels. This implies that youth from lower social strata have not seen the advantages of their higher educational levels (higher only in relation to the past levels of that strata) translated into better employment opportunities. To the extent that labour supply has exceeded demand, the educational requirements of the labour market "have risen faster than educational levels and act as a screening device and as a means of restricting the more desirable jobs to the social strata previously monopolizing them".⁵³

On the other hand, the "traditional" structure of the educational systems in many countries, with emphasis on the humanities and relatively little preparation in technical and scientific areas, suggests very strongly that the rapid expansion of secondary school and university enrolments over the last decade may well be resulting in a manpower *élite* hard pressed to apply its training in the labour market. Symptomatic of this are educated unemployment and increased pressure to accept jobs of lower status. The former has already been discussed in the section dealing with unemployment. Partial insight into the latter may be gleaned by examining the changes in educa-

⁵³ United Nations, Department of Economic and Social Affairs, *1970 Report on the World Social Situation* (Sales No. E.71.14.13), p. 44.

tional levels of the occupational groups of the Peruvian labour force 1961-1970 (table 26). The substantial increase in university training for salesmen (from 1.6 per cent in 1961 to 4.8 per cent in 1970) and for service occupations (from 0.8 per cent to 7.9 per cent) must certainly be highlighted in this regard. No less noteworthy is the substantial increase in the number of transport drivers with secondary school preparation (from 20.9 per cent to 28.3 per cent).

Changes in the secondary and higher educational systems which would provide students with greater alternatives geared to more diversified labour force participation should be explored. This should be accompanied by increased technical and vocational training and expanded adult education as well as vocational guidance at lower levels so as to expose students to a wider range of occupations. Each level should be more attentive to the contribution it makes in preparing the student for the labour market and not merely in conditioning him for the next educational step.⁵⁴

⁵⁴ There is evidence to suggest that an awareness of this problem is appearing in some countries; in Peru, for example, the 1972 educational reform states: "Respondiendo a ese espíritu, la Ley cancela la tradicional separación entre educación común o general y educación vocacional técnica, separación de dudosa base teórica y de nulos efectos prácticos, como lo prueba la experiencia educacional en nuestro país. Introduce en cambio, el principio de la necesaria integración de la educación general y de la capacitación para el trabajo en los diferentes niveles y etapas del proceso educativo y para todos los educandos". *Ley General de Educación, Decreto Ley No. 19326, March 1972, p. 2.*

V. EMPLOYMENT STRATEGIES AND POLICY ALTERNATIVES

(a) *Employment policies and development strategies in the past*

Throughout most of the past decade explicit employment policies are not to be found in the national plans generated in the region. Not only is employment lacking as a principal element, it is often not even mentioned in the development programmes, and when discussed, it is always in relation to trends in the aggregate economic situation. Only at the close of the decade and in the national plans formulated since then have full or higher levels of employment been listed as a specific objective of planning efforts. At the base of this situation was the belief that what was lacking was product demand. Even

when employment began to receive more attention on the part of international agencies and individual students of development, the underpinning assumptions remained much the same—nor has the greatly intensified interest in the redistribution of income done much to remove the theoretical framework from its excessive neo-classical dependence on the remarkable therapeutic properties of the market mechanism.

Although most thinkers on the subject no longer equate development with economic growth and now stress the importance of income distribution, very little empirical work has been done to test the hypothesis implicit in

Table 26
PERU: EDUCATIONAL PROFILE OF THE ECONOMICALLY ACTIVE POPULATION BY OCCUPATIONAL GROUP, 1961-1970
(Percentages)

<i>Educational levels</i>	<i>Occupational groups</i>															
	<i>Professionals, technicians</i>		<i>Managers</i>		<i>Office workers</i>		<i>Salesmen</i>		<i>Farmers</i>		<i>Drivers</i>		<i>Artisan workers and labourers</i>		<i>Service workers</i>	
	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>	<i>1961</i>	<i>1970</i>
No education	—	—	—	—	1.7	0.5	17.1	16.0	49.0	39.2	3.3	0.9	18.9	14.2	35.8	15.9
Primary	18.2	13.6	33.5	27.5	26.4	16.0	59.7	54.0	49.1	55.7	75.3	70.3	68.7	60.2	55.4	59.9
Secondary	34.4	28.1	49.8	47.1	64.0	64.4	21.6	25.2	1.8	4.8	20.9	28.3	12.2	24.7	8.0	16.3
Higher	47.4	58.3	16.7	25.4	7.9	19.1	1.6	4.8	0.1	0.3	0.5	0.5	0.2	0.9	0.8	7.9
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: SERH, *Informe sobre la situación ocupacional del Perú*, op. cit., Table AI-3.

a great deal of the literature and development strategies that to eliminate underemployment in all of its guises as well as unemployment, the necessary and sufficient requirement is an increase in the level of total effective demand for labour, which in turn is a function of the aggregate demand for capital and consumer goods and services. But even taking into account the possible effects on demand structure of income redistribution, the problem is not quite so simple because, among other things, the elasticity of substitution between capital and labour is often low, the technological alternatives are not well known and consequently the specific item produced (even if of mass consumption) does not determine the productive process.

(b) *Recent strategies and positions: three camps—the academician, the planner and the implementer*

In vivid contrast to the situation depicted for the greater part of the past decade, employment has now come to occupy a central position in almost all national plans and documents generated by international agencies. Nevertheless, there exists a growing sensation that the problem is being handled on three distinct levels, by different groups who are not really addressing each other in meaningful terms but rather laying down barrages of models, strategies, plans and position papers whose hope of being translated into effective action is questionable. In great part, this condition of multiple and simultaneous monologues has arisen from the particular perspective through which each group has come to convert employment into one of the most important themes of development. In brief these views may be identified as representing the positions of the academician, the planner, and the decision-maker or actual implementer. Forthcoming from each of them are different frames of reference regarding the scope and dimensions of the employment problem, the time factor involved and the interaction of employment policy and other basic developmental problems within over-all planning efforts.

At its best the academic approach (so denoted only because of the gap often existing between its proposals and the range of alternatives deemed viable by decision-makers) strives towards an organized and multidisciplinary body of employment theory in which the different functions of employment—economic, sociological, psychological and political

—may be specified for a society experiencing a determined style of development.⁵⁵ Policy recommendations stemming from this approach treat full employment not as an end in itself but as a means of accomplishing a defined combination of the functions in accord with measures coherently outlined in a comprehensive development strategy, as in the case of the recent ILO mission to Colombia.⁵⁶

The proposals of this mission, while not treating the multiple functions of employment operating upon human welfare, do provide a strategy which implies a global development programme oriented towards the expansion of productive employment opportunities.⁵⁷ The strategy defines three non-agricultural sectors chosen according to their relative capital or labour intensity. It entails modifications in the structure of the economy's output towards the production of goods and services whose factor inputs are relatively more labour intensive combined with the application of less capital oriented technology in the non-agricultural sector. A reduction in the rate of growth of labour productivity although not value added is projected in that sector. On the other hand, agriculture would receive the benefits of an increased growth in labour productivity consequent upon such improvements as irrigation, the use of better seeds, fertilizers, pesticides and selective mechanization.

Major structural alterations form an integral part of the ILO strategy as do other measures both short- and long-term in nature, designed to reduce distortions and rigidities in the factor market. These measures include: agrarian reform, reductions in the artificial distortions of factor prices, fiscal reforms, income redistribution, changes in the consumption pattern of goods and services, more appropriate production techniques, a transformed educational structure, modifications in labour legislation, improved credit facilities and tech-

⁵⁵ See United Nations, *Preliminary Report on Unified Approach to Development Analysis and Planning* (UNRISD/72/C.66, mimeographed, October 1972); United Nations, *Social Change and Social Development Policy in Latin America*, op. cit., chapter VIII; Albert Lanterbach, *Employment, Unemployment and Underemployment in Developing Areas: A Conceptual Re-examination* (PREALC, mimeographed, working document PREALC/51, October 1971).

⁵⁶ It should be noted in passing that no clear definition of "full employment" exists in the compendium of international resolutions.

⁵⁷ ILO, *Towards Full Employment*, op. cit.

nical assistance for small enterprises, an increased emphasis on regional planning, expansion of non-traditional exports and regional integration, improved employment services to systematize and diffuse labour market information, adequate health services, especially in rural areas and finally the need for Colombia to delve into the issue of population policy.

It may be appreciated that rather than a specific and detailed employment plan, the range of recommendations and issues covered in the ILO survey offer a set of general guidelines defining a major change in global development strategy. Innumerable obstacles exist to the implementation of such a formula. Many are of a technical nature; information on technological alternatives, labour force data and national resources, for example, remain limited even if the scope of the problem is clearly formulated at one point of time. Moreover, even when a selected number of useful measures extracted from a comprehensive strategy find expression in a national plan, close inspection often reveals that what is presented turns out to be a summary of poorly integrated projects which might or are to be undertaken with little discussion of their relation to past efforts, their coherence, or their position with respect to over-all national objectives. Planners must certainly feel overwhelmed by the size and complexity of the measures required by the recommendations of a thorough diagnosis such as that of the ILO in Colombia or one of a similar nature in Ceylon.⁵⁸

It is also at this point that planners and implementers most often part ways. The best conceived combination of measures is subject to what the actual decision-makers deem viable according to the existing power base and political realities. It is not at all unusual to find that the broad declarations calling for steps leading to the enhancement of human welfare in terms which accommodate the concerns of both academician and planner are divorced from what the Government in fact does. This is a major obstacle not only to the formulation of employment policy but to development in general. An employment programme designed to reduce the distortions in factor prices can hardly fail to clash with certain vested interests. The application of shadow pricing to determine the social cost of capital, for example, may require substantial changes in interest rates, tariff structure and the foreign exchange sys-

tem. This will undoubtedly meet the immediate resistance of those *entrepreneurs* who benefited from the existing system. If conditions are not appropriate for the adoption of a major shift in development policy, however, it can only be expected that the decision-makers will act upon those recommendations, more limited in nature, which do not call for major structural alterations or which imply modifications in the distribution of power and income.

(c) *Current national plans and major employment policy themes*

A review of the statements on employment in the national plans of different countries reveals a variety of positions on the major themes generally associated with this problem area. Practically all countries refer to the issue of expanded employment opportunities in their national plans but occasionally in such vague terms that not even a target is set for the over-all rate of growth of employment (table 27). In others, global rates are planned but the corresponding sectoral composition is not specified.

When one descends from these aggregate levels to a more detailed examination of the consistencies among the policy declarations, the changes, if any, actually proposed in such matters as fiscal policy, public sector spending, etc., and the alternatives which in pragmatic terms present themselves, the differences in some country positions become less evident as the principal elements which inexorably compose a coherent employment programme come to the forefront.

Among the first basic components of employment policies formulated in the region is that of high and sustained levels of economic growth. In all countries this increase is now formulated as that rate which is compatible with both growth and full employment objectives. Some countries deem a 6-6.5 per cent rate as adequate; in many of them 7-8 per cent is considered necessary; and Brazil places its objective at 8-10 per cent annually. Indeed there exists general agreement among students of employment policy that a certain dynamism in economic growth must be maintained but it is almost always accompanied by the caveat that this is a necessary but not sufficient condition for reaching higher levels of employment. But in spite of the numerous good intentions present in the national plans with regard to the importance of the expansion of productive employment opportunities, scepticism remains as to the viability of the projected

⁵⁸ ILO, *Matching Employment Opportunities and Expectations—A Programme of Action for Ceylon* (Geneva, 1971).

Table 27
RATE OF GROWTH OF TOTAL ECONOMICALLY ACTIVE POPULATION AND
OF EMPLOYMENT BY NATIONAL PLANS

Countries	Population		Employment			Total
	Total	Economically active	Agricultural	Industrial	Mining	
Argentina	1.52	1.39	-0.23 ^a	2.75	...	2.17
Brazil	2.80	3.1	1.2	3.5	...	3.1
Costa Rica	2.79	3.02	...	5.3	...	3.4
Chile	1.67	...	...	...	...	4.9
Ecuador	3.41	3.4	2.1 ^b	5.2 ^b	...	6.2 ^b
Guatemala	2.88	...	...	...	...	...
Haiti	2.64	...	...	...	...	...
Paraguay	3.61	...	...	...	...	...
Peru	3.16	3.6	4.3	8.4	...	6.7
Dominican Republic	3.58	3.2	4.7	5.9 ^c	12.7	4.8
Trinidad and Tobago	1.6	2.5	1.7	2.5	-1.6	2.9
Venezuela	3.44	2.3	1.0	4.6	1.4	4.0

SOURCE: ECLA, on the basis of national plans.

^a Including fishing and mining.

^b Obtained from the difference between the growth rates of the product and productivity.

^c Sugar sector: 3.5 per cent, manufactures 9.4 per cent.

growth and employment figures.⁵⁹ Exactly to what extent GNP growth has been "dethroned" as the central target for development planning in the minds of central planners and politicians is still an open question.⁶⁰

The second element is a balanced or adequately structured sectoral growth rate. This point is not well defined since it is closely related to the technological options open to the region and to considerations regarding alterations in consumption and production patterns as well as the distribution of income. On these issues considerable variations exist among country policies, but detailed analysis of the plans and supplementary government documents unfolds a nest of problems, unanswered questions and apparently unresolved inconsistencies which call attention away from the di-

vergent policy declarations and move it to the more mundane sphere of the feasibility of the Governments facing up their announced ambitions. The employment policies, as in the case of Peru, may seem quite coherent in over-all terms, but from an operational perspective they often display excessive generalities. Rather than concrete plans in many cases what seems to be presented are the skeletal guidelines of a global medium- to long-term strategy whose form becomes more indeterminate as it approaches the immediate and short-term.

The question of deciding upon the appropriate product mix that balanced sectoral growth implies raises enormous political and bureaucratic problems as each of the interest groups involved struggles to lay claim to its "rightful share" of the resources contained in the development package. This issue cannot be ignored in the Peruvian National Plan 1971-1975 which sets down as a major goal the creation of approximately 1,164,000 *fully productive jobs* by the end of that period. This means that within five years that country must increase its fully employed labour force by over 38 per cent. Yet this awesome task is pursued in accordance with a policy whose investment pattern seems hardly labour intensive (table 28). Most of the increases in public investment

⁵⁹ This is particularly apparent in recent country surveys of the International Bank for Reconstruction and Development and those of CIAP. In this regard it is well to remember that rapid economic growth rates have often been accompanied by high levels of unemployment. Illustrative of this point are the examples of Trinidad and Tobago, Panama and Jamaica.

⁶⁰ See John P. Lewis, *The Public-Works Approach to Low-End Poverty Problems: The New Potentialities of an Old Answer* (United Nations, Committee for Development Planning, Eighth Session, Geneva, 10-21 April 1972, E/AC.54/L.42), pp. 4-6.

Table 28
PERU: SECTORAL PUBLIC INVESTMENT
1960-1967 AND 1971-1975

(Percentages)

	1960-1967	1971-1975
Agriculture	8.0	7.6
Transportation	30.2	16.4
Mining	-1.0	16.4
Manufacturing	14.2	25.1
Fishing	-1.0	4.2
Others	47.6	30.3
<i>Total</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: *Plan Nacional del Desarrollo para 1971-1975*, vol. I, table 4.

are planned in mining, basic industries, and those exporting sectors which do not seem to offer a range of alternatives appropriate for the application of labour intensive technological processes. On the other hand, relatively labour intensive sectors such as agriculture, transport and construction will all receive a decreased proportion of public sector spending.

Governmental optimism stemming from the positive effects of structural changes may be justified but it is impossible to evaluate in meaningful terms for the present. Furthermore, the time factor which is associated with such measures as agrarian reform (begun in 1969), colonization programmes, the formation of more co-operatives, a not well defined technological "freeze" and income redistribution policy is generally long-term with the employment absorption benefits only beginning to be felt within the period of five to 10 years.

It should be stressed, however, that other measures of a decidedly short-term nature are included in the Peruvian employment policy and relate to increased use of labour intensive techniques in construction, selective agricultural mechanization for those units producing for the domestic market and a vague proposal to study the possibility of increased productivity and income levels in commerce and services. These aspects appear promising, but valid statements in regard to their relative contribution to the attainment of the 1975 employment objectives are hampered by inadequate information. Certainly the capacity of the bureaucracy to work imaginatively with efficiency and in unison as well as the ability of the governmental leaders

to marshal popular support and willingness to undergo sacrifice will test the mettle of this plan.

Regional development and migration flows are other basic components of an employment-oriented development strategy. In this regard the Brazilian experience provides some interesting insight. This was a system of tax incentives for private investment to draw capital into the north-east and is most commonly known as the 34/18 system by the numbers of the decrees which govern the operation of Sudene, the regional development agency. The objective was to stimulate development in the poverty-stricken north-east. Any attempt to gauge the effect of the 34/18 scheme must take into account that a considerable portion of the projects had not been completed according to the latest data available.⁶¹ Most of the investments, however, have been made in the chemical industry, followed by textile and metal industries.

The approach has been widely criticized because by making capital readily accessible to private investors, it encourages the development of capital intensive production techniques. In addition, the point rating system utilized to determine the proportion of the total investment required by each project which can be financed with 34/18 funds contains this same bias towards capital intensive techniques. Thus the cost of industrial job creation is estimated in recent years to have been approximately \$US 16,000 per worker as compared with a corresponding \$US 13,000 national average.⁶² Consequently, the employment effects of this system may be considered as insufficient given the vast employment deficiencies in the region.

The present 1972-1974 National Development Plan announces a series of further new undertakings aimed at the fuller utilization of human resources through regional development projects, especially the road construction and

⁶¹ By the end of 1970 only 35 per cent of the projects approved had actually been completed.

⁶² This may be compared to about \$US 12,000 in Colombia, \$US 42,000 for new establishments and \$US 15,000 for expansion of existing plant facilities in Chile. It should be emphasized that these figures reflect the relative high capital intensity of industry in the region since the IBRD reports that the cost of industrial job creation has been much lower in such Asian countries as Korea and Taiwan.

colonization programmes in the Amazonia which envisage the settlement of 100,000 families by 1974 in settlements along the Transamazonian Highway network. As yet it is too premature to venture a judgement on the employment effects of these programmes; however, the probability of creating sufficient numbers of productive employment opportunities for the people in these settlements to match the increasing national deficit does not appear very likely even under the most optimistic assumptions.⁶³

One of the most contested issues in the regional developmental programmes is that of the relation existing between income distribution, employment promotion and the attack on mass poverty. Recent declarations from international agencies point to the need for employment programmes "to be regarded both as a means of accelerating growth and as a means of redistribution of income and consumption".⁶⁴ This position, none the less, raises a number of basic questions, the answers to which are not at all as clear as they might at first appear to be. What is the nature of the interrelations and feedback among income redistribution, consumption patterns, production techniques and employment? To what degree will aggregate consumption be modified by income redistribution? May technology be considered as a parameter for industries of mass consumer goods and the direction and degree to which production systems in these areas will react to expanded demand likewise be thought to function within limits already given for the region? The conventional approach singles out the apparent failure of industry to absorb manpower as a function of its capital intensive nature which responds to the type of goods produced. These are consumer durables, capital goods, so called luxury items which reflect the demand structure of societies whose income distribution is extremely skewed. In contrast to these "modern" industries, there

exists the "traditional" sector of manufacturing defined in accordance with the basic consumer goods it produces—food, beverages, textiles, clothing, food processing and furniture. All that is needed, the conventional argument advises, is for massive consumer demand of the poor to reach these industries through income redistribution for vastly higher levels of employment in manufacturing to be reached.

This system has influenced the formulation of national plans in the region. On the categories of consumer goods industries, intermediate goods industries and capital goods industries are imposed different technological characteristics.⁶⁵ Recent investigations, however, have shown that the same product is often produced under widely differentiated technological conditions in the region. Food, beverages, tobacco, and in certain cases textiles, are examples of industries which have been found to be of a more capital-intensive nature than the consumer durables or even the capital goods sectors in countries such as Peru, Venezuela, Brazil and Chile.⁶⁶

In view of the positions that nations such as Chile, Peru and Mexico are taking with respect to the problem area of the links between income redistribution and employment, the issue is far from academic; indeed, its relevance is much more immediate and requires serious consideration on the part of national planners and international agencies alike. Under circumstances of income redistribution, it is important to be attentive to such problems as which firms will actually meet increased demand. Since the same product can be produced and increased demand satisfied by enterprises operating with entirely different technological characteristics, the employment effect will also vary according to who takes up the

⁶³ The Banco do Nordeste do Brasil estimates the 1970 job backlog of open unemployed to be 1,700,000. This is projected to 1,300,000 by 1980 which under the best circumstances will be reduced by the Amazon colonization of 700,000 families. Not only does underemployment not enter into the calculation but considerably more empirical study is required before projected migratory patterns in Brazil can be clearly understood.

⁶⁴ United Nations Committee for Development Planning, *Attack on Mass Poverty and Unemployment*, Eighth Session, Geneva, 10-21 April 1972 (E/AC.54/L.50), p. 5.

⁶⁵ *Plan del Perú 1971-1975*, op. cit., pp. 114-115. For an explicit presentation of the conventional line of reasoning see ECLA, *El Proceso de Industrialización en América Latina* (Sales No. 66.II.G.4), pp. 49-51.

⁶⁶ Víctor E. Tokman, *Tecnología y empleo en el sector industrial del Perú* (ILPES, mimeographed, March 1972); by the same author, *Distribución del ingreso, tecnología y empleo en el sector industrial de Venezuela* (ILPES, mimeographed, July 1972); ILPES, *Programa de Investigaciones, Distribución del ingreso y ocupación—El caso de Chile* (Working Draft, May 1972); Esteban Lederman and Paulo Renato Souza, *Planificación, Ocupación y Desarrollo*, document presented to the Seminario sobre Empleo Población y Desarrollo (Lima, November 1971, mimeographed), pp. 64-69.

slack in increased production.⁶⁷ The Brazilian National Plan proposes a reduction in the real cost of basic consumer goods through incentives for the modernization of "traditional" industries such as the textile industry. But such a policy could well have negative effects on another important objective, that of employment, even though it is expected that the major labour absorptive sectors during the lifespan of the plan will be in services, construction and in the expanding rural frontier in the interior.

The most recent Chilean experience with regard to income redistribution and an intensive employment programme merits attention. An effective redistribution of income was accomplished in a remarkably short period of time and the Government was able to reduce the open unemployment rate from 6.2 per cent in 1970 when the Unidad Popular assumed power to 3.3 by the end of 1971. There is no questioning the short-run success of the employment programme. Yet certain features should be noted. The recovery was founded to a great extent on those sectors in which employment is intimately linked to State activity such as construction financed by the public sector and public services. Indeed, a large portion of the employment expansion was based on an increase in public administration, health and educational services, augmented public spending in housing projects and certain emergency projects.⁶⁸

The income redistribution effected during the same period was directed almost exclusively at wage earners, leaving own-account workers to the side, especially in Greater Santiago. As was to be expected, consumer demand increased rapidly. But this was not accompanied by a significant rise in employment in private industry. The employment multiplier effect was much lower than would ordinarily

be expected. The reason for this was that employers chose to meet the increased demand by drawing down upon excess capacity through more intensive use of their existing personnel rather than hiring additional workers. This may be explained in terms of the *entrepreneurs'* pessimistic appraisal of the future evolution of the economy.⁶⁹

It is believed by many that during the Second Development Decade, the main burden of absorbing the increase in the labour force will fall on agriculture.⁷⁰ A principal element in this design is that of agrarian reform. But it is hardly the only one. For just as efforts to reduce urban unemployment by expanding the number of productive urban jobs will be self-defeating since an increased wave of new migrants will be attracted by the new opportunities and huge rural-urban wage differential, so also land reform alone can prove to be a frustrating experience. In order for the human resources in agriculture to be galvanized into productive activity much more is required and caution must be exercised particularly in regard to mechanization.

The need to apply selective mechanization techniques is at least stated in some of the region's planning documents. To what extent such policy declarations will be followed is doubtful, however, for several reasons. On the part of many agricultural programme implementers, especially those whose formation is essentially in agricultural engineering, there exists a widespread reluctance to believe that mechanization displaces labour to a considerable extent. No doubt this attitude in great part stems from the fact that in the Latin American experience of the last two decades about three quarters of the increase in agricultural production has come from the expansion of area and only about a quarter from increased yields per hectare. Yet it has been estimated that about three workers are displaced by each tractor in Chile, and about four in Colombia and Guatemala.⁷¹ Numerous

⁶⁷ An equally important issue is to know what consumption changes may actually be expected. The Tokman surveys indicate that the structure of consumption would not be significantly altered by a policy of income distribution. See Tokman, *Peru*, op. cit., pp. 43-45 and *Venezuela*, op. cit., pp. 25-34. Similar findings for Brazil and Mexico are to be found in W. Cline, "The Potential Effect of Income Redistribution on Economic Growth in Six Latin American Countries" (Ph.D dissertation, Princeton University, 1969), tables X and XI, pp. 112-113.

⁶⁸ A detailed examination of the Chilean experience is to be found in PREALC, *La Política y la Evolución del Empleo en Chile durante 1971* (PREALC/53 (Rev.1), Santiago, April 1972), document presented to the meeting of the CIAP sub-committee on Chile, Washington, 24-28 April 1972.

⁶⁹ *Ibid.*, pp. 48-56. The provisions of Chilean labour legislation concerning wage increments, social security payments and dismissal of workers probably influenced employers' decisions also.

⁷⁰ ILO, *Some Elements in the Strategy of Employment Promotion in Developing Countries*, paper prepared for the Eighth Session of the Committee for Development Planning (E/AC.54/6.43), p. 13.

⁷¹ K. C. Abercrombie, *Agricultural Mechanization and Employment in Latin America* (Joint ECLA/FAO Agriculture Division, mimeographed, January 1972), p. 25.

factors operate to affect the relative advantages of using machinery or hired labour. Among the major ones may be cited: distortions in factor prices resulting in relatively low costs for capital, minimum wages regulations and social security systems which although often disregarded are gradually becoming more effective, trade union activity, social unrest in the countryside and incipient land reform.

It should be noted that an effective agrarian reform system may, but does not necessarily, ensure greater labour absorption in the rural sectors. It does not mean that a policy of selective mechanization will be followed or that more emphasis will be placed upon yield-increasing improvements such as irrigation and the use of improved seeds, fertilizers and pesticides. Indeed, it has been reported that "the rapid increase in Mexican agricultural production in recent years has been associated with a steadily falling share of labour and a steadily rising share of machinery in the total product. Hired labour has been displaced particularly in those areas where the demand for it was previously greatest."⁷²

At the state level, Governments are often moved to increase mechanization in their desire to modernize agriculture. International assistance for mechanization has been readily accessible, and on occasion aid is available on no other basis than the provision of the tractors themselves. Furthermore, mechanization is not resisted by the beneficiaries of land reform who look much more favourably upon the entrance of a tractor to their communal agrarian settlements than that of more people to share in the fruits of reform. Indeed it may be asserted that in Chile by 1970, the reformed agricultural settlements were among the most mechanized productive units in that sector.⁷³ Caution must be exercised so that co-operative production units formed within the context of agrarian reform do not opt for economies of scale production techniques and mechanize in an indiscriminate fashion. This does not mean to say that a trade-off between agricultural output and employment is suggested. On the contrary, estimates for Colombia indicate that the yield increase to be obtained from such improvements as irrigation and the use of

better seeds, fertilizers and pesticides is about three times that obtainable from mechanization.⁷⁴

If consideration is given not only to the difficulties surveyed above but also to the highly seasonal nature of agricultural employment in general and to the ancillary factors which spur rural-urban migration, it may be argued that a much wider frame of reference than agrarian reform is needed to increase the labour-absorptive capacity of the rural sector during the coming years. In fact, one could more approximately discuss the problem in terms of "rural" reform.⁷⁵ The conceptual orientation of rural employment policy needs to be broadened to include the complex of variables which condition human welfare in those areas. Alternative employment opportunities are required, part-time as well as full-time. Possible candidates for such programmes are to be found in the construction of roads, schools, hospitals, recreation facilities, irrigation and drainage works, as well as conservation and forestation efforts.

Care must be taken so that the public sector financed infrastructure works are handed out to contractors on a labour-intensive basis except in certain special cases such as highway construction or dam and energy plant building where, even with considerable shadow-pricing, the opportunity costs of labour become unreasonable. The programme outlined in the Brazilian National Plan 1972-1974 for the Transamazonian Highway and colonization movement contains many possibilities in this regard especially if an adequate secondary road network utilizing labour-intensive methods is included.

Another possible area for rural employment promotion is provided by industries processing agricultural products and those industries and services furnishing inputs for agricultural production. Many of the industries processing agricultural products can be advantageously located in the rural areas where the raw

⁷² *Ibid.*, p. 28.

⁷³ Between 1965 and 1970, the Chilean Agrarian Reform Corporation acquired over 1,200 tractors and a large quantity of other machines. See Corporation de la Reforma Agraria, *Reforma Agraria Chilena, 1965-1970*, p. 86.

⁷⁴ Colombia. Ministerio de Agricultura, *Consideraciones sobre el papel de la maquinaria en la agricultura colombiana* (Doc. Min. Agr.—OSPA-051, March 1971 versión preliminar), table 4. Also see Fernando Fuenzalida and Gerson Gomez, *Implicaciones sobre el empleo en la agricultura colombiana de algunas proyecciones alternativas de la producción agrícola* (Joint ECLA/FAO Agriculture Division, mimeographed, May 1972).

⁷⁵ This section rests heavily upon ideas and propositions formulated in the FAO *Perspective Study of Agricultural Development in South America* (August 1972), chapters I and IV.

materials are produced. Many of these can also be economically operated as small-scale ventures with relatively labour-intensive production methods. In addition, one of the major concerns of regional development, that of industrial decentralization, may have considerable impact upon employment in this regard. Needless to say, a major effort on the part of Governments to provide the required infrastructure and fiscal incentives will be necessary to enhance the attractions of cheaper labour and plant sites in rural areas. They may well also have to overcome the opposition of powerful vested interests already established in the large urban centers. But there are indications that some Governments, notably Mexico, are taking some of the necessary measures to attend to the enormous backlog of rural needs.⁷⁶

(d) *Short-term measures for employment generation*

Much of the foregoing analysis has pointed out the difficulties which obstruct the capacity of the regional economies to generate a significant increase in the productive absorption of the labour force in the next decade. Moreover, the gestation period of many proposals are long-term in nature. Both the modern techniques and the labour-intensive techniques as they exist at present are found unsuitable for the task; the former because they are too often imposed upon the region with no regard for the utilization of human resources, the latter because it is characterized by extreme inefficiency and poor quality. The search for original solutions proposed by countries such as Argentina and Brazil, however, implies a research and development inquiry into adequate technologies which will be of long duration. Furthermore, the need to make the educational system more relevant to labour market demands with integrated planning for training and utilization of the labour force as expressed by such countries as Mexico, Peru and Venezuela is also a long-term affair.

Although this survey has sought to place employment policy within the framework of a comprehensive development strategy whose fundamental orientation is the reduction of mass poverty, it has also indicated that unless Governments are in a position to design and act upon measures which entail structural change

⁷⁶ This observation is based upon the document entitled *Un Mayor Nivel del Empleo* prepared by the Secretaría de la Presidencia, Dirección General de Documentación e Informe Presidencial (1972).

and alterations in the power base, only the more tempered programmes will receive serious consideration by decision-makers. In addition, any long-term policy requires supplementary short-run measures so designed as to have an almost immediate improvement in the employment situation of particular sectors of the population. Quite obviously, possibilities do not exist in the modern areas of any sector in the economy, be it industry, public works or services. The most eligible candidates for this type of programme are housing construction, urban infrastructure and rural public works.

Other possibilities exist in the improvement of employment conditions in those areas which in fact are absorbing labour—commerce and services—but such alternatives may be feasible for a limited number of countries only and are linked to more fundamental alterations such as income redistribution. On the other hand, if public sector sponsored programmes geared for their immediate impact upon employment are successful, the increased demand which their effectiveness implies might well be taken advantage of by such private sector initiatives as two shifts or increased part-time work in industry and commerce.⁷⁷

The concept of public work programmes to reduce unemployment and underemployment is by no means a new one; such schemes are shouldering the employment policies of several countries in the region. Recognition of the character of these programmes as essentially short-run and relatively narrow in horizon, without the pretensions of the basic alterations discussed in earlier sections, none the less facilitates an examination into the ways in which they may be most effective in mobilizing wasted labour resources.

Among the major pitfalls in the public works approach is that it is often difficult to ensure that social and not monetary costs are applied. Politicians generally desire to witness the completion of a housing complex, road or dam during their term of office and ruling exchange rates and prices may well make contractors prefer bulldozers to men. The construction of urban housing offers a particularly attractive possibility for Governments not only for its employment effects but especially be-

⁷⁷ This assumes that labour code provisions do not represent impediments for employers to draw on existing idle capacity through the hiring of additional workers.

cause it serves to cover over the most conspicuous aspects of poverty in developing countries.

The technological alternatives existing in the construction of housing are quite flexible, however, and if employment generation is a major goal, contracts should specify the use of labour-intensive methods. The development of technologically advanced construction techniques throughout the last decade is evident in the metropolitan areas of several countries at least.⁷⁸ The expansion of prefabricated and pre-moulded processes in the region as well as the intensified unionization of construction workers also makes labour-intensive techniques somewhat vulnerable.⁷⁹

The public works approach, in general, must seek to overcome the series of shortcomings which have characterized it in many countries in the past.⁸⁰ In many cases these failings have resulted from the hastily conceived *ad hoc* fashion in which the programmes have been put together. Symptomatic of this has been an insufficient supply of technical competence, poor integration among the different governmental levels involved (local and national, as well as among the various ministries concerned), insufficiently financed efforts which never go beyond the "pilot project" stage, and shoddy post-construction maintenance.

Another important pitfall which must be taken into consideration is that of discontinuity of public work programmes both at the national level, consequent upon a change in government policy, and on a regional base once the project is completed. The latter is evidenced to some degree in the construction of a new

petrochemical complex at El Tablazo announced in the Fourth Venezuelan National Plan 1970-1974. One of its objectives is to improve the employment situation on the State of Zulia and the city of Maracaibo across the bay from which El Tablazo is located. As a result of the projected migration to this area, a newly created city with a maximum expected population of approximately 300,000 is being created. This hope is based on the expected growth in secondary industry primarily in basic consumer goods as well as metalworking and metallurgical enterprises which would presumably be attracted to the area by the petrochemical complex. During the construction phase which may last five years from 1970, the demand for labour will reach a peak of about 17,000 workers. Since employment in the operation itself will not require more than 2,500 workers, however, the primary increase in employment will be purely temporary and will experience a sharp decline. Moreover, the relatively small labour force in the petrochemical plant whose high wages no doubt tend to orient their consumer preferences towards imported goods does not provide much of a market for the local manufacture of industrial goods.

Public works and construction of urban housing, which occupy key positions in the plans of Colombia and Venezuela as primary employment-generating projects, are also vulnerable on other counts. The first of these may be illustrated by the experience of Chile in the second half of the decade. From 1965 to 1968, but most especially in the last two years of this period, public sector spending shifted away from infrastructure and housing projects and towards the importation of machinery and industrial equipment.⁸¹ This change in policy was influenced by the high price in the international markets which copper commanded at the time and which represented a tremendous increase in the country's capacity to import. The turn-about in public sector investment, however, had disastrous consequences for employment both in the construction sector and on the national level. An intense recession followed in 1967 and 1968, first in the construction sector and then in the rest of the economy. The reason for the effect upon the other sectors lies in the fact that in Latin America strong backward linkages exist between con-

⁷⁸ See W. Paul Strassmann, "Productividad y empleo en la construcción en los países en vías de desarrollo", in OIT, *La cuestión del empleo* (Geneva, 1971), pp. 159-178.

⁷⁹ At the end of November 1972, a large plant of Soviet design for the production of preformed construction panels was inaugurated near Valparaíso, Chile. This plant has an installed capacity of 16,880 apartments per year. The superstructure of a four-story housing block comprising 16 apartments made from these panels may be put together in a period of 8-10 days.

⁸⁰ For additional analyses of public sector programmes see OAS, *Experience with Employment-Generating Projects* (OEA/Ser.K/XII.4 TRABAJO-IV/118), document presented to the Fourth Inter-American Conference of Ministers of Labour, Buenos Aires, 17-27 November 1972; John P. Lewis, *The Public Works Approach to Low-End Poverty Problems: The New Potentialities of an Old Answer*, paper presented to the Committee for Development Planning, Eighth Session, Geneva, 10-21 April 1972 (E/AC.54/L.43).

⁸¹ See Oficina de Planificación Nacional, *Plan de la economía nacional 1971-1976: Antecedentes sobre el desarrollo chileno 1960-1970* (Santiago, 1971), tables 7-9.

struction and the numerous industries which supply it. Moreover, the loss of domestic output generated by the construction sector and of the incomes earned principally by low-income workers with high consumption propensities generated a negative multiplier effect across the economy.

Financing projects is yet another sensitive issue in the public-works approach. To the extent that countries rely on these measures to reduce unemployment with little change elsewhere, the task of financing public expenditures becomes a heavier burden over the years. In the case of Colombia, for example, national

government current expenditures have shown large increases in recent years to the extent that current surplus in real terms is expected to decline in 1972.⁸² The strain upon the financing of current expenditures will require a heavy commitment of external assistance. Even if substantial external financing is obtained, the need remains for internal fiscal efforts to be more strenuous and innovative if employment oriented development programmes centred around what are essentially short-term measures are to be maintained.

⁸² The increases were 24 per cent in 1969, 26 per cent in 1970 and 22 per cent (provisional) in 1971.

VI. DATA REQUIREMENTS AND RESEARCH STRATEGY

(a) *The empirical base: some comments on the state of the art*

Throughout the preceding study, attention has been called repeatedly to stumbling blocks which impede the formulation and application of "realistic" quantitative targets in an employment-oriented development strategy. These obstacles stem from the fact that the nature of the problem itself has been so poorly formulated, as well as from the trend for the presentation of the data to become increasingly subject to political considerations as the employment problem itself takes on more palatable forms (e.g., mass urban poverty). A critical evaluation of the sources, meaning and degree of reliability of employment and employment-related statistics that are being collected at present is required. This effort should lead to a rethinking of the elements which comprise employment policy, a clarification of what the data needs are and how best to obtain them. Obviously, improvements on these issues are a long-term affair but they merit serious consideration now from the beginning of the Second Development Decade at a moment when many countries are redesigning their national household surveys consequent upon the results of the 1970 census round.

Advances as well as several setbacks have been made in the field of labour statistics collection and diffusion. Periodic sample surveys are available for a larger number of countries than in the past and they offer a wider range of information. For those themes which give most insight into the issue, however, the data are not only very seldom comparable among countries but what is more im-

portant they do not measure the same phenomena within a single country across a period of time. At best only rough comparisons between periods several years in the past are possible for those indicators which show most promise in identifying the variety of employment problems and their relative importance within an individual country.

Occasionally, sample survey inquiries into specific aspects of the employment situation such as income received have been discontinued before reaching even the end of the last decade. In Chile, a country with relatively advanced labour statistics, for example, family income data are not available from the sample surveys after 1968, and even then income was not crossed with such variables as number of hours worked, position of income earner within the family or number of workers per family. On the other hand, caution and reserve are required in the utilization of the data published in census returns and household surveys.

Little progress has been made in the degree of reliable information available on the labour force in the most recent censuses. Indeed on the basis of those returns which have been published so far, it appears that in some countries the quality of data is poorer than that of the 1960 census round.⁸³ Although

⁸³ To date only six countries have published even preliminary results from their 1970 censuses dealing with the economic characteristics of the population. In some cases, such as Brazil, the information is scant; in others, such as Mexico, Chile and the Dominican Republic, considerable reporting difficulties are to be found.

periodic household surveys have the same problems inherent in all sampling methods, they possess the advantage of being able to offer a dynamic perspective in the time-series which may be built upon them. Yet even this advantage may be lost if the phenomenon which is the subject of the investigation changes and the measurement techniques do not respond to this alteration.

An example of one way in which this may occur is given in the case of Bogotá. The only source which provides a regular seasonal time-series on employment and unemployment in Bogotá (dating from 1963) is the survey conducted by the Research Centre for Economic Development (CEDE). Along with independent scholars, however, the ILO mission to Colombia found that the reporting in this survey contained a clear and increasing downward bias deriving in part from the fact that the surveys had not adequately covered the poorest sections of Bogotá mainly because the new "invaded districts" had not been included.⁸⁴ Since unemployment and marginal forms of livelihood are presumably quite intense in these areas, the true size of Bogotá's employment problem is understated.

Even if the collection of data by way of sample surveys is found adequate for the researcher's needs, much of the information may be lost to the user of this material if careful attention is not given to the processing and publication of the survey results. If the latter is poorly done, extraordinary and time-consuming efforts must be made to retrieve the required data which at the very least entail the processing of unpublished tabulations or the programming of new ones. It is not uncommon to find that the published results may be of little use or even misleading.⁸⁵

⁸⁴ ILO, *Towards Full-Employment*, op. cit., p. 356. The CEDE time-series is given in table A-7 of the present study, but for the purposes of analysing Bogotá's employment problems the results of the 1970 National Household Survey conducted by Departamento Administrativo Nacional de Estadística (DANE) are used.

⁸⁵ An example of this problem is the publication of the results of the 1970 National Household Survey in Peru. All the tables are in percentage form. The number of cases and an expanding device are included but the tables cannot be re-designed in most cases due to multiple entries and other methodological problems. Nor can the figures be expanded without the assistance of a great deal of supporting information which is not contained in the same publication and which is most difficult to come by. See SERH, *Algunas características socioeconómicas de la educación en el Perú* (Lima, 1971). A similar problem is to be found in the publi-

Finally, it should be recognized that the shortcomings of statistics which attempts to measure the adequacy of employment are not merely the result of conceptual or technical inadequacies. They are subject to considerations of the society and the established order which generates them. As more knowledge of a country's employment situation, its problems and tendencies become increasingly demanded at an international level, it is subsequently highlighted within the nation itself. As a result, Governments become much more sensitive to demonstrating a degree of success based upon certain reasonable-sounding indicators. The possibilities are ample as the need for "percentage based" documents and speeches arises. Figures may be deliberately tampered with although this is probably not very common. More often those indicators which are published do not refer to real groups but rather to composites; they conceal more than reveal, and statistical indicators which are potentially embarrassing are simply not applied.

(b) *Future research objectives*

An effort has been made in the course of this survey to identify areas where sufficient data and specialized studies necessary for a more precise formulation of employment deficiencies both on a national and supra-national basis are lacking. Specific themes have been mentioned among which may be noted the need for a more detailed analysis and re-examination of such areas, the interrelationships and feedbacks among employment inadequacies, income redistribution, agrarian reform and the selection of adequate technologies. The precise characteristics of the unemployed and underemployed in relation to migratory status, educational level as well as age-sex and family status are not yet identified for many countries nor are employment problems differentiated by spatial distribution clearly understood. The extent of concealed or hidden unemployment among the so-called "economically inactive population" is but another area which presents major difficulties in conceptual definition and measurement.

cation of the Colombian 1970 national survey; many valuable tabulations are not published, and since those that have been presented appear in percentages by region, it is impossible to retool many tables on a national base. Some of the data from this survey are irrevocably lost since problems with the master computer tapes prevent the reconstruction of certain tables in the original tabulation programme. See DANE, *Encuesta de Hogares* (Bogotá, 1971).

In-depth analysis of the recent experience of individual countries is certainly one important direction for research in the immediate future, particularly since adequate data for a large number of countries is not likely to be forthcoming in the near future especially for those countries in which certain dimensions of employment policy, such as population control or income redistribution, are political issues.

In this regard the efforts of PREALC, the regional operating arm of the ILO, are worthy of note. PREALC has approached the problem of employment in Latin America through country studies which thus far have been applied to Jamaica, Costa Rica, Chile, Peru, Nicaragua and Panama. With the addition of several more countries and perhaps some updating of earlier reports, a base will have been laid which might permit: (a) clearer identification of the variety of employment problems of different sectors of the population and (b) the construction of a typology of employment situations to be found in the region or at least a systematic analysis of the major differences in the region. It may be expected that such an effort would greatly assist in distinguishing those policy measures potentially of key importance and those whose impact upon employment problems is almost certain to be minor.

A critical element in this strategy is the restatement of the employment problem from its conventional perspective. The relevance of the formulation of a multi-disciplinary body of employment theory was explored earlier. The United Nations Committee for Development Planning has expressed the need for employment policy to be viewed principally within the context of an attack on mass poverty and the ILO has recommended that the essential unit to be considered in data collection, studies and policy formulation is the family.⁸⁶ Consequently, the entire concept of the "utilization of human resources" should be subjected to searching examination and quite possibly modified, revamped or completely discarded. Perhaps too much emphasis is still being placed, if only in the instruments of analysis, on the fact of production and not the content or justification of that process in terms of human welfare. Leading questions to be considered which might stimulate thinking on the applicability of a new approach might be: who is being utilized? for what purpose? by whom? how?

⁸⁶ See Committee for Development Planning, *Attack on Mass Poverty and Unemployment*, op. cit.; ILO, *Measuring the Adequacy of Employment in Developing Countries*, document presented to the Eighth Session of the Committee for Development Planning (E/AC.54/L.44).

Annex

Table A

PERU AND CHILE: MAIN REASONS FOR MIGRATING (Percentages)

Reason	Metropolitan Lima		Greater Santiago	
	Male	Female	Male	Female
Work	33	31	62	56
Family reasons (including health)	21	45	8	15
Education	16	8	9	10
Low level of living	16	6		
Attraction of city	6	8		
Military services	5	—		
Other reason	3	2	21	19
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

SOURCE: Statistics and Census Office, *Encuesta de Inmigración de Lima Metropolitana*, 1965 (Lima, 1966); CELADE, *Encuesta sobre Inmigración en el Gran Santiago* (Series A, No. 15, 1962).

(Tables continue on following pages)

Ta
SECTORAL PRODUCTIVE
(Dollar

Country	Agriculture		Mining and quarrying		Manufacturing	
	1960	1970	1960	1970	1960	1970
Argentina	1 828.80	2 421.08	4 595.00	6 700.00	2 746.79	4 418
Bolivia	198.80	238.49	1 385.36	2 123.72	573.21	536
Brazil ^a	342.77	489.38			1 577.73	1 937
Colombia	763.92	996.37	2 895.52	3 678.66	1 245.83	1 684
Chile	651.89	778.72	4 097.84	6 278.78	2 150.12	2 635
Ecuador	534.62	621.96	6 825.00	9 275.00	939.36	1 605
Peru ^b	496.46	478.36	3 864.28	4 024.69	1 462.17	1 941
Venezuela	476.74	930.27	28 472.00	32 871.42	2 115.50	1 851
Panama	726.66	1 189.87	—	2 600.00	2 341.66	3 393
Mexico ^{a c}	558.44	666.05	6 280.76	7 352.84	2 372.00	3 256

SOURCE: ECLA, on the basis of official statistics.

^a Calculated on the basis of the economically active population.

Y COUNTRY, 1960-1970

(60 prices)

<i>Construction</i>		<i>Basic services</i>		<i>Commerce</i>		<i>Services</i>		<i>Total</i>	
1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
1 500.90	1 832.33	2 393.80	3 502.31	2 716.44	3 793.85	1 401.68	1 161.47	2 102.81	2 743.20
836.00	733.33	1 906.89	1 707.40			888.61	1 212.94	436.25	597.29
				2 588.42	2 625.99	888.77	1 026.46	832.89	1 132.03
877.45	1 401.44	1 809.31	2 417.52			1 533.70	1 654.36	1 110.62	1 431.05
1 313.84	1 445.50	2 441.66	3 837.96	2 625.76	2 470.06	1 588.40	1 524.03	1 651.48	1 989.61
1 042.85	1 491.42	1 461.90	1 705.17			1 374.82	1 851.13	837.93	1 122.52
1 489.32	1 358.40	1 604.23	1 722.35	1 715.27	1 602.40	1 600.18	1 957.08	1 076.15	1 230.77
2 257.95	1 533.56	2 372.88	2 505.32	2 610.25	2 140.99	2 801.35	4 322.33	2 409.34	2 976.95
2 620.00	2 978.26	3 160.00	4 235.00	1 857.14	2 266.07	2 080.76	2 502.38	1 462.00	2 196.52
2 010.29	2 602.97	2 037.39	3 497.27	5 725.37	7 919.98	2 298.24	2 073.68	1 756.41	2 339.54

^b Figures relate to 1961-1970.

^c Figures relate to 1960-1969.

Table C
RATES OF OPEN UNEMPLOYMENT IN SELECTED
COUNTRIES, 1967-1971

<i>Country</i>	1967	1968	1969	1970	1971
Argentina	7.5	6.8	5.6	5.6	...
Colombia	9.5	9.5	9.1	7.5	...
Chile	4.7	4.9	5.9	6.2	4.2
Peru .....	...	...	5.9	4.7	4.4
Uruguay ^a .....	...	8.4	8.7	7.5	7.6
Venezuela	8.6	5.5	6.6	6.0	5.8

SOURCE: ECLA, on the basis of official statistics.
^a Department of Montevideo.

Table D
ARGENTINA: RATES OF OPEN UNEMPLOYMENT IN SEVEN CITIES, 1963-1972
(Percentages of the economically active population)

<i>Date of survey</i>	<i>Greater Buenos Aires</i>			<i>Córdoba</i>	<i>Rosario</i>	<i>San Miguel de Tucumán^a</i>	<i>Greater Mendoza^a</i>	<i>Formosa</i>	<i>Posadas^a</i>
	<i>Total</i>	<i>Federal capital</i>	<i>Sectors of Greater Buenos Aires</i>						
July 1963	8.8	5.3	12.1	...	...	...	...	...	...
April 1964	7.5	5.4	9.6	...	...	...	...	...	...
July 1964	7.4	6.0	8.8	...	...	...	...	...	...
October 1964	5.7	5.1	6.2	9.5	7.6	9.2	9.2	...	...
April 1965	5.5	4.5	6.3	8.6	8.9	5.5	6.0	...	...
July 1965	6.1	5.2	6.6	...	...	...	...	...	...
October 1965	4.4	4.1	4.5	6.3	5.5	6.4	4.7	...	...
April 1966	6.4	5.9	6.7	7.3	7.2	9.5	3.8	...	...
July 1966	5.2	4.7	5.5	...	...	...	...	...	...
October 1966	5.0	3.5	6.0	6.6	5.8	7.4	2.7	...	...
April 1967	6.2	5.5	6.8	8.9	6.5	10.3	2.4	...	...
July 1967	6.8	6.0	7.3	...	...	...	...	...	...
October 1967	6.2	5.1	6.9	7.3	6.1	10.2	2.6	...	...
April 1968	5.4	4.5	6.1	7.3	4.7	10.8	2.5	...	...
July 1968	4.7	3.8	5.2	...	...	...	...	...	...
October 1968	4.7	4.3	5.0	4.3	5.9	12.7	2.4	...	...
April 1969	4.0	3.8	4.2	6.1	5.5	12.4	2.5	...	...
July 1969	4.8	3.7	5.6	...	...	...	...	...	...
October 1969	4.0	3.3	4.5	3.2	5.5	11.4	2.7	...	...
April 1970	4.8	3.6	5.7	4.2	5.5	10.9	3.8	8.7	8.4
July 1970	4.7	4.0	5.1	...	...	...	...	6.7	10.0
October 1970	5.0	4.6	5.3	4.7	4.9	10.4	3.3	8.7	6.8
April 1971	5.7	5.0	6.2	5.2	5.2	11.7	4.1	7.2	11.6
July 1971 ^b	6.3	5.5	6.9	...	...	...	...	...	8.8
October 1971 ^b .....	...	...	...	4.4	3.5	12.2	3.6	6.1	5.9
April 1972 ^b	7.4	6.7	7.8	7.2	6.2	14.2	4.8	4.6	5.0

SOURCE: National Statistical Institute, *Encuestas de empleo y desempleo*.

^a Cities with markedly seasonal activities.
^b Provisional rates.

Table E

CHILE: RATES OF OPEN UNEMPLOYMENT IN GREATER SANTIAGO,
CONCEPCION-TALCAHUANO AND LOTA-CORONEL, 1960-1971

(Percentages of the economically active population)

Year	Rates of unemployment		
	Greater Santiago	Concepción-Talcahuano	Lota-Coronel
1960	7.4	...	...
1961	6.6	...	...
1962	5.2	...	...
1963	5.1	...	...
1964	5.2	...	...
1965	5.4	...	...
1966	5.3	...	...
1967	6.1	11.0	12.8
1968	6.0	11.2	14.6
1969	6.2	9.9	14.2
1970	7.1	10.1	16.1
1971	5.5	9.1	14.2

SOURCE: Greater Santiago: Institute of Economics and Planning, Universidad de Chile, *Ocupación y desocupación, Gran Santiago* (annual average of quarterly survey); Concepción-Talcahuano and Lota-Coronel: Institute of Economics and Planning, Universidad de Chile, *Ocupación y desocupación, Concepción-Talcahuano y Lota-Coronel*, October 1971.

Table F

COLOMBIA: OPEN UNEMPLOYMENT RATES IN SOME MAJOR CITIES,
1963-1969

(PEA percentages)

Year	Bogotá	Medellín	Cali	Barranquilla	Other cities
<i>1963</i>					
March	8.4	—	—	—	—
June	8.7	—	—	—	—
September	7.4	—	—	—	—
October	—	—	—	—	9.9 ^a
November	—	12.8	—	—	—
December	7.1	—	—	—	8.9 ^a
<i>1964</i>					
March	6.7	13.6	—	—	8.6 ^a
June	7.2	—	—	—	6.9 ^a
July	—	13.6	—	—	—
September	7.4	—	—	—	8.5 ^a
November	—	11.3	—	—	—
December	—	—	—	—	8.3 ^a
<i>1965</i>					
March	9.2	12.0	13.2	—	—
June	8.8	—	—	—	—
July	—	10.7	—	—	—
September	9.7	—	11.8	—	—
November	—	9.7	—	—	—
December	8.0	—	—	—	—

Table F (continued)

Year	Bogotá	Medellín	Cali	Barranquilla	Other cities
1966					
March	10.1	10.6	—	—	—
June	11.6	—	—	—	—
July	—	11.5	—	—	—
August	—	—	—	—	11.0 ^b
September	9.6	—	—	—	—
December	9.2	—	—	16.0	—
1967					
January	—	10.9	—	—	—
March	—	—	—	—	—
April	16.1	—	—	—	—
May	—	—	14.9	—	13.1 ^c
June	12.7	—	—	—	—
September	10.6	—	—	—	—
October	—	14.5	—	18.4	{ 9.8 ^d 17.4 ^e 10.8 ^f
1968					
March	13.5	—	—	—	—
May	—	—	14.9	—	—
June	11.6	—	—	—	9.9 ^g
September	11.2	—	—	—	—
December	9.8	—	—	—	—
1969					
March	11.0	—	—	—	—
April	—	—	—	—	7.5 ^h
June	11.6	—	—	—	—
July	—	—	—	—	8.5 ^a
September	8.9	—	—	—	—
December	6.9 ⁱ	—	—	—	—

SOURCES: ILO, *Towards Full Employment*, op. cit., pp. 391-2, based on: Centro de Estudios sobre Desarrollo Económico, Universidad de Los Andes; Centro de Investigaciones Económicas (CIE), Universidad de Antioquia; Centro de Investigaciones sobre Desarrollo Económico (CIDE), Universidad del Valle; Departamento de Investigaciones Económicas (DIE), Universidad del Atlántico.

^a Girardot; ^b Pereira; ^c Ibagué; ^d Bucaramanga; ^e Manizales; ^f Popayán; ^g Cúcuta; ^h Barrancabermeja; ⁱ Provisional result.

Table G
PERU: METROPOLITAN AREAS, UNEMPLOYMENT RATES
BY LEVEL OF EDUCATION

(PEA percentages)

Level of education	1969	1970	Average 1969-1970
Without education and primary education incomplete	5.5	3.0	4.3
Primary complete	5.6	5.8	5.7
Secondary incomplete	10.4	10.0	10.2
Secondary complete	6.2	7.6	6.9
Higher	8.0	3.6	5.8

SOURCE: Servicio del Empleo y Recursos Humanos (SERCH), *Household Survey*.

Table H
CHILE: RATES OF PARTICIPATION BY SEX AND AGE, 1960-1970

Age	1960		1970	
	Males	Females	Males	Females
12-14 years	11.8	3.9	4.5	1.9
15-19	61.7	23.5	43.6	16.6
20-24	91.6	32.5	84.8	32.3
25-29	97.0	27.9	96.4	28.8
30-34	97.5	23.8	97.5	25.1
35-39	97.0	22.5	97.3	23.1
40-44	95.7	22.2	96.0	23.2
45-49	93.4	21.3	93.8	21.2
50-54	88.0	19.4	88.2	18.6
55-59	83.7	16.8	81.8	14.9
60-64	76.8	13.7	72.6	10.6
65 years and over	51.0	8.1	41.5	5.7

SOURCE: PREALC on the basis of: 1960: Dirección de Estadística y Censos, *XIII Censo de Población*, 29-II-60. 1970: Instituto Nacional de Estadísticas, *XIV Censo de Población*, 28-IV-70.

Table I
MEXICO: RATES OF PARTICIPATION BY SEX AND AGE, 1960-1970

Age	1960		1970	
	Males	Females	Males	Females
12-14 years	15.0	4.7	13.2	5.1
15-19	68.2	20.8	51.3	25.0
20-24	91.8	23.0	81.7	29.0
25-29	94.7	16.9	93.0	21.0
30-34	95.9	16.1	95.7	19.0
35-39	96.7	17.1	97.0	19.0
40-44	96.6	18.3	97.0	19.2
45-49	96.3	18.3	97.0	20.0
50-54	95.4	18.1	95.0	19.0
55-59	94.0	17.7	93.0	17.7
60-64	91.8	17.0	89.0	17.1
65-69	88.8	15.9	84.0	15.4
70-74	84.5	14.4	65.0 ^a	11.2 ^a
75 years and over	72.2	10.1	—	—

SOURCE: 1960: Colegio de México, *Dinámica de la Población de México*. 1970: ECLA on the basis of official figures and national sources.
^a Corresponds to the age group of 70 and over.

Table J
VENEZUELA: RATES OF PARTICIPATION BY SEX AND AGE, 1960-1971

Age	1960		1971	
	Males	Females	Males	Females
10-14 years	16.1	3.4	9.7	1.9
15-19	62.0	17.9	52.2	22.3
20-24	92.1	25.7	91.7	32.3
25-34	97.7	23.2	96.8	29.1
35-44	98.2	21.6	97.8	25.9
45-54	97.2	18.1	96.6	20.3
55-64	91.9	13.4	91.6	12.8
65 years and over	70.3	8.3	68.5	7.0

SOURCE: 1960: CELADE, *Boletín Demográfico*, Year 1, Volume II. 1971: Dirección General de Estadística y Censos Nacionales, *Encuesta de hogares por muestreo*, April 1971.

Table K
COSTA RICA: RATES OF PARTICIPATION BY SEX AND AGE, 1963-1967

Age groups	1963			1967		
	Total	Males	Females	Total	Males	Females
12-14 years	19.4	33.6	5.0	17.5	26.1	8.7
15-19	48.2	77.8	19.7	47.6	70.5	26.0
20-24	58.4	94.1	24.4	61.2	92.7	31.2
25-34	58.2	98.0	19.5	59.9	97.2	24.7
35-44	57.6	98.3	17.3	60.1	97.8	23.6
45-54	56.0	97.4	13.8	57.0	94.8	19.2
55-64	51.5	93.0	9.6	50.4	89.4	11.1
65 years and over ^a	31.5	58.9	5.0	29.7	54.3	5.9
<i>Total</i>	<i>49.6</i>	<i>83.7</i>	<i>16.0</i>	<i>50.2</i>	<i>80.1</i>	<i>21.2</i>

SOURCE: PREALC, on the basis of: 1963: Dirección General de Estadística y Censos, *Censo de Población*, 1963. 1967: Dirección General de Estadística y Censos, *Encuesta de hogares por muestreo*, July 1966-July 1967.

^a Including age unknown.

POPULATION TRENDS IN THE 1960s: SOME IMPLICATIONS FOR DEVELOPMENT

BY CÉSAR PELÁES AND GEORGE MARTINE*

INTRODUCTION

It is beyond doubt that, in recent decades, the population of Latin America has undergone drastic changes in its pattern and rate of growth as well as in its forms of spatial distribution. Therefore, in view of the magnitude of these changes and their probable significance for the region's development alternatives, the main purpose of the present study will be to evaluate the structure and dynamics of population evolution in the 1960-1970 period. To this end, the following trends and topics will be reviewed and discussed in the order in

which they appear below: population growth during the 1960s; components of population growth (fertility, mortality and international migration); future growth perspectives; urbanization and spatial distribution; internal migrations; population and development; population policies.

The discussions and materials presented herein are largely based on data from the 1960 and 1970 rounds of censuses (where available) or, in their absence, on other official sources, projections and estimates.

1. POPULATION GROWTH DURING THE 1960s

That the population of many Latin American countries and of the region as a whole has been growing at an unprecedented pace in recent decades is a well-documented fact. It is also widely believed that these growth rates somehow exert a significant influence on the development alternatives of the region, although the nature and consequences of this influence remain ambiguous. At all events, the recognition of an intimate though indeterminate relationship between the two lends the question of population growth a sense of considerable urgency in the present Latin American circumstances.

The first question to be answered in this context is whether the previous trends towards ever-rising rates and levels of population growth have persisted during the 1960s or whether we can detect signs of a diminution or reversal of these trends? In absolute terms, as may be seen from table 1, the population of Latin America grew from 210 million in 1960 to 279 million in 1970. This increase of 69 million people (compared with an increase of

50.5 million in the previous decade) represents a rise of almost one third in the over-all population volume during the decade and, of itself, constitutes a population mass somewhat larger than that which inhabited the entire region at the turn of the century. That the absolute increase by countries is closely correlated to their original population size at the beginning of the decade hardly comes as a surprise, but it is noteworthy that 55 per cent of the total Latin American increment was accounted for by only two countries—Brazil and Mexico.

The annual average rate of population growth for the region as a whole showed a negligible increase during the decade, from a level slightly below 2.9 per cent in 1960 to one slightly above that figure in 1970. Analysis of the long-term trends (table 2) confirms that the trend towards constantly-rising growth rates observed since 1930 was maintained during the past decade.¹ However, it is signi-

¹ The apparent momentary stabilization of growth rates during the periods 1955-1960 and 1960-1965 suggested by table 2 is probably due to the combination of changes in age structure and the diminution of foreign immigration in such countries as Argentina, Brazil and Venezuela, rather than to any interruption of the long-range pattern.

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Table I
POPULATION OF LATIN AMERICA, BY COUNTRIES, 1920-1970

<i>Country</i>	<i>1920</i>	<i>1925</i>	<i>1930</i>	<i>1935</i>	<i>1940</i>	<i>1945</i>	<i>1950</i>	<i>1955</i>	<i>1960</i>	<i>1965</i>	<i>1970</i>
Argentina	8 861	10 358	11 896	13 044	14 169	15 390	17 085	18 908	20 850	22 545	24 352
Bolivia	1 918	2 022	2 153	2 314	2 508	2 740	3 013	3 322	3 696	4 136	4 658
Brazil	27 404	30 332	33 568	37 150	41 233	46 126	52 326	60 586	70 327	80 954	93 245
Colombia	6 057	6 669	7 350	8 147	9 077	10 202	11 629	13 516	15 877	18 692	22 160
Costa Rica	421	456	499	551	619	717	849	1 020	1 249	1 494	1 736
Cuba	2 950	3 364	3 837	4 221	4 566	4 932	5 520	6 133	6 819	7 553	8 341
Chile	3 783	4 084	4 424	4 778	5 147	5 556	6 058	6 823	7 683	8 691	9 717
Ecuador	1 898	2 009	2 160	2 352	2 586	2 863	3 225	3 709	4 323	5 098	6 028
El Salvador	1 168	1 301	1 443	1 531	1 633	1 753	1 922	2 210	2 512	2 917	3 441
Guatemala	1 450	1 532	1 771	1 996	2 201	2 596	3 024	3 450	3 965	4 581	5 282
Haiti	2 124	2 260	2 422	2 610	2 825	3 085	3 380	3 727	4 138	4 633	5 229
Honduras	783	862	948	1 027	1 119	1 236	1 389	1 581	1 849	2 182	2 583
Mexico	14 500	15 204	16 589	18 089	19 815	22 841	26 640	30 798	36 046	42 696	50 718
Nicaragua	639	687	742	809	893	999	1 133	1 292	1 501	1 745	2 021
Panama	429	464	502	524	595	675	765	882	1 021	1 197	1 406
Paraguay	699	785	880	988	1 111	1 213	1 337	1 526	1 740	2 041	2 419
Peru	4 862	5 229	5 651	6 134	6 681	7 285	7 968	8 790	10 024	11 649	13 586
Dominican Republic	1 140	1 258	1 400	1 567	1 759	2 002	2 303	2 673	3 129	3 671	4 348
Uruguay	1 391	1 540	1 704	1 836	1 947	2 060	2 198	2 366	2 542	2 718	2 889
Venezuela	2 408	2 650	2 950	3 300	3 710	4 335	5 330	6 405	7 741	9 112	10 755
<i>Subtotal (20 countries) ...</i>	<i>84 885</i>	<i>93 066</i>	<i>100 889</i>	<i>112 968</i>	<i>124 104</i>	<i>138 606</i>	<i>157 094</i>	<i>179 717</i>	<i>207 032</i>	<i>238 205</i>	<i>274 914</i>
Other countries of the region											
Barbados	155	156	159	168	179	194	211	227	233	245	254
Guyana	295	302	309	325	344	376	423	486	564	648	745
Jamaica	855	922	1 009	1 108	1 212	1 298	1 385	1 489	1 629	1 790	1 996
Trinidad and Tobago	389	390	405	451	510	566	632	721	831	973	1 067
<i>Total other countries</i>	<i>1 694</i>	<i>1 770</i>	<i>1 882</i>	<i>2 052</i>	<i>2 245</i>	<i>2 434</i>	<i>2 651</i>	<i>2 923</i>	<i>3 257</i>	<i>3 656</i>	<i>4 062</i>
<i>Total</i>	<i>86 579</i>	<i>94 836</i>	<i>104 771</i>	<i>115 020</i>	<i>126 439</i>	<i>141 040</i>	<i>159 745</i>	<i>182 640</i>	<i>210 289</i>	<i>241 861</i>	<i>278 976</i>

SOURCE: CELADE, *Boletín Demográfico*, No. 10, July 1972.

Table 2

LATIN AMERICA: RATES OF POPULATION GROWTH, BY COUNTRIES, 1920-1970

Country	1920-1925	1925-1930	1930-1935	1935-1940	1940-1945	1945-1950	1950-1955	1955-1960	1960-1965	1965-1970
Argentina	3.17	2.81	1.86	1.67	1.67	2.11	2.05	1.98	1.58	1.56
Bolivia	1.06	1.26	1.45	1.62	1.78	1.92	1.97	2.16	2.29	2.41
Brazil	2.05	2.05	2.05	2.11	2.27	2.55	2.97	3.03	2.86	2.87
Colombia	1.94	1.96	2.03	2.19	2.36	2.65	3.05	3.27	3.32	3.46
Costa Rica	1.61	1.82	2.00	2.35	2.98	3.44	3.74	4.13	3.65	3.05
Cuba	2.66	2.67	1.93	1.58	1.55	2.28	2.13	2.14	2.07	2.00
Chile	1.54	1.61	1.55	1.50	1.54	1.74	2.41	2.40	2.50	2.26
Ecuador	1.14	1.46	1.71	1.91	2.06	2.41	2.83	3.11	3.35	3.41
El Salvador	2.18	2.09	1.19	1.30	1.23	2.05	2.51	2.90	3.04	3.36
Guatemala	1.11	2.94	2.42	1.97	3.36	3.10	2.67	2.82	2.93	2.89
Haiti	1.25	1.39	1.51	1.60	1.78	1.84	1.95	2.15	2.28	2.45
Honduras	1.94	1.92	1.61	1.73	2.01	2.36	2.62	3.18	3.37	3.43
Mexico	0.95	1.76	1.75	1.84	2.88	3.12	2.94	3.20	3.45	3.50
Nicaragua	1.46	1.55	1.74	2.00	2.27	2.55	2.66	3.04	3.06	2.98
Panama	1.58	1.59	0.86	2.57	2.55	2.53	2.89	2.97	3.23	3.27
Paraguay	2.35	2.31	2.34	2.37	1.82	2.01	2.60	2.78	3.24	3.46
Peru	1.47	1.56	1.65	1.72	1.75	1.81	1.98	2.66	3.05	3.12
Dominican Republic	1.99	2.16	2.28	2.34	2.62	2.84	3.02	3.20	3.25	3.44
Uruguay	2.06	2.04	1.50	1.18	1.13	1.30	1.48	1.44	1.35	1.23
Venezuela	1.93	2.17	2.27	2.37	2.84	3.11	3.99	3.92	3.31	3.37
Subtotal (20 countries)	1.86	2.03	1.89	1.91	2.22	2.54	2.73	2.85	2.85	2.91
Other countries of the region										
Barbados	0.13									
Guyana	0.47									
Jamaica	1.52									
Trinidad and Tobago	0.05									
Subtotal other countries	0.88	1.22	1.74	1.82	1.63	1.72	1.97	2.19	2.34	2.13
Total	1.84	2.01	1.88	1.91	2.21	2.52	2.71	2.84	2.84	2.90

SOURCE: Computed from CELADE, *Boletín Demográfico*, No. 10, July 1972

ficant that the 1960s were marked by a deceleration in the rise in growth rates: a fact which assumes considerable importance in any analysis of long-range trends. Indeed, closer examination of these tendencies and their projection into the future would seem to indicate that Latin America has now reached its peak rate of population growth and that, after a few more years at approximately this level, the rate will begin to decline towards the beginning of the next decade.

Nevertheless, it should be borne in mind that, as shown in table 3, these global figures for the region conceal considerable diversity in national patterns. Argentina and Uruguay are already well into the last stage of the demographic transition, and their growth rates, which were already comparable to those of many developed nations, as far back as 1960, have continued to decline during the period, reaching levels of 1.5 and 1.2 per cent respectively in 1970. Cuba and Chile are also

found in an advanced stage of the transition, and current annual growth rates in these countries have declined to around 2.0 per cent.²

Three other countries, Brazil, Venezuela and Costa Rica, reached their highest level of population growth around 1960 but their rates began to decline during the period under consideration. In Brazil, the change was only a minor one, since the annual growth rate diminished from just over 3.0 per cent in 1960 to slightly below 2.9 per cent in 1970. In Venezuela the decline was more significant, but since it started from a much higher level it

² It will be noted that in this discussion the rates of natural increase shown in table 2 are equated with rates of population growth. This procedure was adopted for two reasons: first, quantitative data on the dimensions of international movements at the beginning and end of the decade are difficult to obtain, and second, in the great majority of Latin American countries and in the region as a whole, international movements have not really had any noticeable effect on growth rates during the period.

Table 3
AVERAGE ANNUAL CRUDE RATES OF NATURAL INCREASE, BIRTHS AND DEATHS,
BY COUNTRIES, 1960-1970

Countries	Population 1970 (thousands)	Average annual rate of natural increase (per thousand)		Crude birth rate (per thousand)		Crude death rate (per thousand)	
		1960	1970	1960	1970	1960	1970
Argentina	24.352	1.66	1.52	23.3	22.9	6.7	7.7
Bolivia	4.658	2.30	2.46	44.0	43.8	21.0	19.2
Brazil	93.245	3.03	2.88	39.8	37.3	9.5	8.5
Colombia	22.160	3.29	3.51	45.0	44.0	12.1	8.9
Chile	9.717	2.45	1.96	38.3	27.4	13.8	7.8
Ecuador	6.028	3.23	3.41	46.0	45.0	13.7	10.9
Paraguay	2.419	2.95	3.53	45.0	45.0	15.5	9.7
Peru	13.586	2.85	3.14	43.0	41.0	14.5	9.6
Uruguay	2.889	1.39	1.21	22.0	21.1	8.1	9.0
Venezuela	10.755	3.59	3.26	43.4	40.6	7.5	8.0
Costa Rica	1.736	3.89	2.92	48.0	34.5	9.1	5.3
El Salvador	3.441	2.81	3.44	47.6	46.7	19.5	12.3
Guatemala	5.282	2.88	2.88	47.6	42.5	18.8	13.7
Honduras	2.583	3.12	3.30	46.7	48.3	15.5	15.3
Nicaragua	2.021	3.05	3.12	47.0	46.4	16.5	15.2
Panama	1.406	3.10	3.26	42.1	39.8	11.1	7.2
Mexico	50.718	3.32	3.50	45.0	44.0	11.8	9.0
Cuba	8.341	2.42	2.00	31.5	28.0	7.3	8.0
Haiti	5.229	2.20	2.54	44.0	44.0	22.0	18.6
Dominican Republic	4.348	3.22	3.51	49.1	48.3	16.9	13.2
<i>Subtotal (20 countries)</i>	<i>274.914</i>	<i>2.90</i>	<i>2.91</i>	<i>40.1</i>	<i>38.2</i>	<i>11.1</i>	<i>9.2</i>
Other countries of the region ^a	4.062						
Total	278.976						

SOURCE: Estimates based on census and vital statistics information and on projections by CELADE in *Boletín Demográfico*, año V, No. 10, July 1972.

^a Barbados, Guyana, Jamaica and Trinidad and Tobago.

still left Venezuela in the high growth category with a rate of 3.3 per cent in 1970. In Costa Rica, however, the growth rate dropped abruptly from one of the highest levels ever experienced in Latin America (1960) to one well below the 3.0 per cent mark (1970).

In the remaining countries (except Guatemala, which was basically stationary) growth rates actually accelerated during the decade. Bolivia and Haiti stand at one extreme, since their 1960 growth rates were lower than all other countries except Argentina, Uruguay and Cuba. Slight improvements in the mortality levels of these countries during the period resulted in a moderate increase to annual growth rates of around 2.5 per cent in 1970, but these were still well below the regional average. In Panama, Nicaragua, Peru and Honduras, the pace of growth also underwent a moderate acceleration, but as these countries began the period with much higher growth rates (between 2.9 and 3.1 per cent) than Haiti and Bolivia, they reached rates of between 3.1 and 3.3 per cent by 1970. Increases of similar magnitude also occurred in Colombia, Ecuador, Mexico and the Dominican Re-

public: these countries started out the period with even higher annual growth rates ranging from 3.2 to 3.3 per cent and ended it at levels ranging from 3.4 and 3.5 per cent. The fastest acceleration in growth rates, however, was registered in Paraguay and El Salvador, where the annual growth rates were well under 3.0 per cent in 1960 yet exceeded 3.4 per cent by 1970.

To sum up, then, examination of growth rate patterns over the decade leads to the delimitation of six broad categories, two of which showed a decline in growth rates while the other four experienced an acceleration. The trends range from a substantial decrease in countries which already had low rates of increase at the beginning of the decade, to substantial increases in countries which began the period with high growth rates and ended it with even higher ones. The net result of these mutually compensating tendencies for the region as a whole was the practical stagnation of growth rates at their previous high levels. Examination of the components of growth in subsequent paragraphs will provide a better basis for evaluation of probable future trends.

2. COMPONENTS OF POPULATION GROWTH

Although the data relating to the evolution of population growth inspire reasonable confidence, information on the components of growth—i.e., fertility, mortality and international migration—is of a somewhat more speculative nature. The available information does permit the formulation of general estimates and these can be complemented with more specific case studies for countries which possess more detailed information, but the highly tentative nature of the figures should nevertheless be borne in mind.

(a) *Fertility trends*

For the region as a whole (see table 3), the birth rate has decreased slightly from a level of around 40 per 1,000 in 1960 to one of about 38 per 1,000 in 1970. The reduction in the birth rate during the decade has varied from country to country, but it has been observable in practically all of them. Chile and Costa Rica led the decline, with annual crude birth rates which fell from 38 and 48 per 1,000 in 1960 to 27 and 35 per 1,000, respectively, in 1970. Less abrupt, but still substantial, declines were also recorded in Cuba, Brazil, Venezuela,

Guatemala and Panama. The reduction in Latin America's birth rates is probably attributable largely to the decreases experienced by this latter group of countries.

In Argentina and Uruguay, birth rates declined slightly from the low levels recorded at the beginning of the decade. For most of the remaining countries, our estimates indicate very slight declines: so slight, in fact, that it is safe to assume that they are fluctuations around a level rather than evidence of an imminent substantial decline in birth rates.

In sum, the fertility experience of Latin America in the 1960s shows considerable heterogeneity in both level of fertility and magnitude of change. On the whole, fertility levels remain very high, but since they can be expected to decline sooner or later, it may be worth while to focus attention briefly on the manner in which this decline is taking place in particular countries. In this connexion, the cases of Brazil and Costa Rica warrant particular attention—the first because of its inordinate weight in the over-all configuration, and the second because it has recently experienced a demographic transformation which

might be emulated by a number of other countries in forthcoming decades.

In Brazil, the availability from the last four censuses of information on the number of live births per woman permits an analysis of fertility behavior spanning the last three decades. According to these data, Brazil's birth rate has declined from a level of 45.7 per 1,000 in 1940 to 39.8 per 1,000 in 1960 and 37.3 per 1,000 in 1970. Similarly, the gross reproduction rate decreased from 2.80 during the 1940-1950 period to 2.61 during 1960-1970.³ Nevertheless, it should be pointed out that although these declines are significant from the standpoint of the long-term trend, they remain relatively small. Moreover, the number of children born in 1970 was 25 per cent higher than in 1960 and twice as high as in 1940. On the other hand, had the 1940 birth rate persisted to the present day, the 1970 total of births, for example, would have been over 700,000 higher than it actually was.

Obviously, these global tendencies for Brazil represent the net outcome of the varied patterns observed in different regions, social groups and individuals. The figures on fertility rates by cohort given in table 4 demonstrate that the decline in the birth rate for the total population of the country is attributable principally to declines in the fertility of all age groups except the 25-29 group, which has experienced a slight increase. These tendencies follow the classic pattern of fertility decline by age group and could tentatively be interpreted as resulting from a slight increase in the average age at marriage, coupled with wider use of birth control practices, particularly in the second half of the reproductive period.

At the level of the individual regions, fertility declines were recorded during the 1960-1970 period, albeit unevenly, in four of the five great physiographic regions. The sparsely-settled northern region was the only one to experience an increase, and by 1970 it had the highest age-standardized fertility rate of any region. The decline was greatest in the southeast, that is to say, precisely in that region which long ago attained the highest level of socio-economic development in the country and which already had a significantly lower level of fertility than the remainder of the nation in 1960. The frontier center-west region,

³ Figures taken from Carmen Arretx — "Revisión de las estimaciones de la fecundidad de Brasil, a base de los censos de 1940, 1950, 1960 y 1970". CELADE, S/66/25.

in contrast, had the highest fertility levels in 1960 but these declined significantly over the decade, while the southern region experienced a lesser reduction from lower initial levels. The less-privileged north-eastern region practically maintained its high levels throughout the period, undergoing only an insignificant decline. In short, barring the northern region, whose fertility patterns differ radically from the remainder of the country, fertility decline in Brazil during the 1960s was in direct relation to the level of modernization and dynamism of the respective regional economies.

Since populationist policies have always reigned in Brazil and, as we shall see in a later section of this paper, public and private support of family planning programmes is of little relative influence, the aforementioned reductions in fertility by age groups and regions simply reflect the sum of simultaneous individual initiatives in fertility control. *Grosso modo*, the fertility decline can be attributed to the combined influences of rapid urbanization, the diffusion of education, and the impact of the consumer society which affects in one way or another an increasingly extensive sector of at least the urban population.

Taken together, these influences lead an admittedly small but growing proportion of spouses to perceive that, under circumstances where mortality has been greatly reduced, unlimited reproduction would stand in the way of the realization of newly-formed aspirations. Moreover, although data on fertility differentials by rural-urban residence or by socio-economic strata are still sketchy, it can be affirmed that those born in cities generally exhibit lower fertility rates than the remainder of the population and that social class is inversely related to fertility. Because the lower socio-economic strata form a high proportion of the over-all population, however, future reduction in fertility levels will largely depend on the reproduction patterns of these strata.

In contrast with the slow and gradual decline of the birth rate in Brazil, that of Costa Rica has experienced one of the most abrupt reductions ever observed in the Western world. The case of Costa Rica is of particular interest because it suggests that just as the decline in mortality was much more rapid in the underdeveloped countries than in the developed ones, the same could occur, in certain circumstances, with the decline in fertility. As can be seen from figure I, birth rates in Costa Rica during the 1950s were close to the highest levels ever recorded in the world, and in 1960 they still

Table 4
AVERAGE NUMBER OF CHILDREN EVER BORN ALIVE TO BRAZILIAN WOMEN BY AGE AND
PHYSIOGEOGRAPHIC REGION 1960 AND 1970

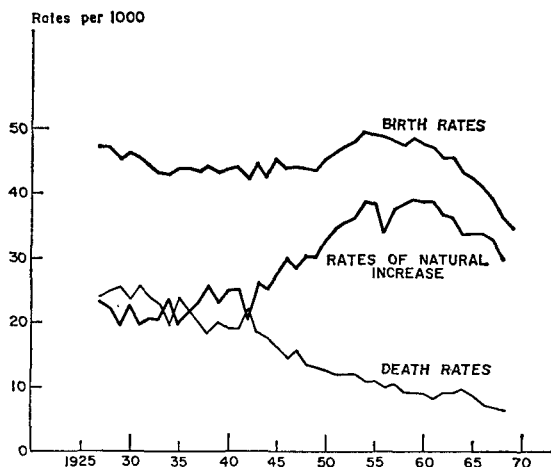
Age groups	Brazil		North		North-east		South-east		South		Centre-west	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
15-19	12.9	12.4	15.3	21.6	14.4	14.6	11.5	8.9	11.3	13.3	17.6	17.4
20-24	128.2	100.6	147.7	142.7	135.7	113.3	119.5	82.8	127.4	103.0	149.6	134.4
25-29	220.8	240.7	259.6	284.4	237.5	277.8	201.9	206.5	221.4	241.9	263.6	283.8
30-39	433.6	415.0	483.3	515.3	512.3	492.6	376.4	356.5	420.1	411.4	487.5	459.9
40-49	563.3	525.8	598.7	634.1	653.0	634.9	496.4	446.3	553.0	532.7	632.7	570.1
50 and +	575.4	548.9	558.0	659.5	612.8	628.1	544.4	488.6	574.4	553.2	649.0	593.4
Average number of children ever born alive	323.3	307.7	334.1	346.4	358.8	354.7	298.1	274.8	314.4	303.2	342.2	317.1
Age standardized number of children ever born alive	347.6	330.6	365.1	404.2	387.5	386.5	316.2	286.5	343.1	332.6	394.3	366.5

SOURCES: For 1960: Operación Muestra de Censos (OMUECE), CELADE, *Programa de Tabulaciones Básicas*, Brazil, table 31 for 1970 IBGE, VII Recenseamento Geral, 1970. *Tabulações Avançadas do Censo Demográfico, Resultados Preliminares*, table 13.

reached 48.0 per 1,000 population. These rates declined gradually during the early years of the 1960s, but in the second half of the decade they dropped at such an accelerated pace that, by 1970, the birth rate had fallen to around 35.0 per 1,000: a 30 per cent reduction over the decade.

Figure I

BIRTH RATES, DEATH RATES AND RATES OF NATURAL INCREASE, COSTA RICA, 1925-1970



SOURCE: Ricardo Jiménez J., *Estadísticas Demográficas de Costa Rica 1970*, Asociación Demográfica Costarricense, San José, Costa Rica, 1970, table 2, p. 6.

In view of the low quality of statistical information which generally prevails in Latin America, one immediately tends to suspect that such an abrupt decline can be traced back to deficiencies in the data.⁴ In this case, however, measurement errors can be dismissed as an explanation, since Costa Rican vital statistics are generally conceded to be full and accurate, and calculations carried out on the data fail to reveal any significant error.

What then was the reason for this sudden decline in fertility rates? First, the analysis of age-standardized fertility rates indicates that the decrease is not attributable to changes in the age composition of the female population of reproductive age. Moreover, it demonstrates that, in contrast to the classic pattern usually observed in the initial phase of fertility decline,

⁴ The following discussion is based largely on papers presented at the *Quinto Seminario Nacional de Demografía*, Costa Rica, September 1970, and particularly on Miguel Gómez B., "El rápido descenso de la fecundidad en Costa Rica", pp. 271-308.

whereby the reduction in the childbearing activities of women in the second half of the reproductive period is countered by a slight increase in activity of the 20-29 age-group, Costa Rica's fertility decline has extended to all age-groups and indeed was even greatest in the 20-34 age-group. This means that Costa Rica's fertility reduction has been more concentrated than in the classical pattern and that whatever socio-psychological factors are contributing to changing values and attitudes with regard to family size are having a great impact on all age-groups, thus accelerating the pace of the over-all reduction.

Secondly, the average age at marriage fell slightly in the period under consideration, as did the gross nuptiality rate. Calculations using age-standardized rates demonstrate, however, that less than a quarter of the total decrease could possibly be attributed to changing nuptiality patterns. In any case, abrupt changes in such patterns would in all probability also reflect changing values and attitudes with regard to family size. Thus, it can be concluded that the rapid decline in Costa Rica's birth rate is largely attributable to a real modification in family size values, to the increased diffusion of birth control practices in important sectors of the population of childbearing age and, possibly, to the use of more effective modern methods.

In view of the fact that public support for family planning activities in Costa Rica has increased markedly in recent years, one is tempted to infer the existence of a causal relationship between this support and the fertility decline. The facts seem to argue otherwise, however, since public assistance in family planning activities only began on a large scale after the abrupt decline had already been initiated (see table 5). To be sure, in view of the favourable attitude of the population towards family planning, it can be assumed that public action will contribute significantly to the continuation of present trends and will exert particular influence among women aged 30 and over who have already reached their ideal family size but who, because of material or educational problems, would otherwise be unable to control the number or spacing of their children. The fact remains, however, that the decline in the Costa Rican birth rate began *after* the country had reached a moderately high level of socio-economic development relative to other countries in the region, and it is running a parallel course to other manifestations of the development process such as reductions in

Table 5

COSTA RICA: NEW AND CONTROL CASES IN PRIVATE AND OFFICIAL FAMILY PLANNING CLINICS, 1966-1970

Years	Total			Private		Official	
	Total	New	Control	New	Control	New	Control
1966	6 645	6 645	..	6 645	..	..	..
1967	10 793	4 810	5 983	4 810	5 980	..	..
1968	27 254	10 238	17 016	4 215	9 106	6 023	7 910
1969	46 662	12 753	33 909	2 002	6 574	10 751	27 335
1970	33 960	7 391	26 569	11 148	4 467	6 243	22 102

SOURCE: ECLA, on the basis of official statistics.

general and infant mortality rates, improved educational levels, expansion of means of mass communications and so forth.

From this analysis of the Costa Rican situation, it might be inferred that various other countries or subregions may eventually record similarly rapid declines subject to the proper combination of favourable attitudes and improved levels of living. The small size and peculiar conditions of this nation make it a risky matter, however, to formulate predictions on the basis of this one experience.

(b) Mortality trends

As we saw in table 3, between 1960 and 1970 Latin America's crude death rate declined gradually from 11 per 1,000 to 9 per 1,000. This decline was lower than that which had been registered in previous decades, but this was only to be expected in view of the low levels which had already been reached by many countries at the start of the period. Indeed, current levels of crude death rates in Latin America are practically equivalent to those prevailing in the United States or Canada and are lower than those of either northern or western Europe, which obviously have older populations than Latin America.

The disparities between Latin American countries as regards mortality levels are just as notable as those mentioned earlier with respect to fertility. Moreover, were the corresponding data available, they would surely indicate considerable heterogeneity between the regions of any given country. Nevertheless, there is a definite tendency towards convergence with the passage of time as basic improvements in the control of epidemic and parasitic diseases bring about significant reductions in the death rates of the less-developed countries while the ageing of the population in more advanced

nations tends to cause a reversal in the downward trend which had characterized them in earlier periods. This latter fact explains why the crude death rates of Argentina, Uruguay and Cuba rose slightly during the period.⁵ In the remaining countries, crude death rates declined at a pace which varied basically in accordance with the level of their rates at the beginning of the period. Nevertheless, mortality rates continue to be high in several countries, particularly Bolivia, El Salvador, Guatemala, Honduras, Nicaragua, Haiti and the Dominican Republic. This evidently reflects these countries' relatively lower level of development, but even so these rates can be expected to continue declining in coming decades whether or not significant advances are brought about in the general levels of socio-economic welfare.

Because comparisons of crude death rates between countries or regions are subject to distortions caused by differences in age compositions, comparisons between countries are best carried out in terms of life expectancy at birth. However, most of the available estimates of life expectancy refer to 5-year periods, thus making it difficult to present information for the beginning and end of the decade. At all events, as may be seen from table 6, life expectancy for males increased between 1960-1965 and 1965-1970 from 54.9 to 58.9 years and for females from 60.2 to 63.6 years. In the 1965-1970 period, 7 countries had male life expectancies of over 60 years and 4 others of under 50 years. Amongst females, life expectancy was over 70 years in Argentina and Uruguay, between 60 and 70 in eight other countries and below 50 in Haiti and Bolivia.

⁵ Our figures also appear to show a slight increase in Venezuela, but this is probably due to the exclusion of international migrations from our computations.

Table 6
LIFE EXPECTANCY AT BIRTH IN LATIN AMERICA, BY COUNTRY AND SEX,
1960-1965 AND 1966-1970

	<i>Males</i>		<i>Females</i>	
	<i>1960-1965</i>	<i>1965-1970</i>	<i>1960-1965</i>	<i>1965-1970</i>
Argentina	62.6	64.4	69.3	72.0
Bolivia	42.8	45.2	44.8	45.8
Brazil	55.9	58.9	60.6	63.8
Colombia	54.8	56.3	57.9	59.6
Chile	55.6	58.7	61.4	64.1
Ecuador	52.9	56.2	55.7	59.2
Paraguay	55.4	58.8	59.3	62.7
Peru	52.6	56.5	55.4	59.5
Uruguay	65.1	66.3	70.7	72.6
Venezuela	59.4	62.5	62.6	65.7
Costa Rica	62.0	65.0	64.9	67.8
El Salvador	49.3	53.2	52.5	57.7
Guatemala	48.0	50.3	49.4	53.6
Honduras	44.9	45.6	48.7	51.2
Nicaragua	60.4	62.5	62.5	64.1
Panama	44.3	49.2	46.6	51.2
Mexico	58.8	61.3	61.6	64.4
Cuba	62.6	64.9	66.0	68.7
Haiti	41.0	43.2	43.0	46.2
Dominican Republic	48.4	50.4	50.9	53.7
Subtotal (20 countries)	54.9	58.9	60.2	63.6
Other countries of the region ^a				
Barbados		67.2		71.4
Guyana		61.1		65.7
Jamaica		64.9		69.3
Trinidad and Tobago		63.8		67.6

SOURCES: Carmen Arretx and José Pujol, "La mortalidad en América Latina en el período 1965-1970" and Jack Harewood, "El nivel de mortalidad por sexo y edad en el Caribe Británico en 1965" in *Conferencia Regional Latinoamericana de Población, Mexico, 1970*, vol. I, pp. 30-35 and 36-41. Jorge Somoza, "Mortality in Latin America, present level and projections", International Population Conference, London, 1969, vol. 2, pp. 889-902.

^a 1964-1966.

The index for males varied by as much as 23 years between the countries of highest and lowest mortality (Uruguay and Haiti) and by as much as 27 years for females (between Uruguay and Bolivia).

For the region as a whole, it is estimated that the life expectancy at birth in the 1965-1970 period was around 61 years, a level considerably higher than the 43 years estimated for Africa, or the 49 years estimated for the less-developed countries of South Asia, but still well under the 70 years attained by the more developed regions of the world.⁶ It has been calculated that had Latin America attained the mortality levels which prevail in the devel-

oped nations, only 1.3 million deaths would have occurred in the region instead of the actual 2.5 million during the 1965-1970 period.⁷

Life expectancy at birth is closely correlated with the incidence of mortality in the first five years of life: the higher the mortality level of a country, the greater the proportions of deaths which will occur among young children. Thus it has been estimated that 1 million of the 2.5 million deaths which occurred in Latin America between 1965 and 1970 corresponded to children, under five years of age. Had the mortality levels been equal to those of the developed countries, the number of deaths

⁶ Estimates from United Nations, *The World Population Situation in 1970*. Population Studies No. 49, New York, 1971. ST/SOA/Series A/49.

⁷ Jorge Somoza, "La Mortalidad en América Latina" in *Conferencia Latinoamericana Regional de Población, Mexico, 1970*, vol. I, p. 5.

among children aged less than five would have been only 300,000 instead of 1 million.⁸ In other words, the excessive mortality of developing areas has its worst effects on the youngest age-group.

Mortality levels, whether measured in terms of life expectancy, crude death rates or child mortality, also vary with education, level of urbanization, occupation, etc., but the type of information which would permit closer investigation of these themes is still largely lacking in Latin America.

To sum up, the investigation of mortality patterns over the last decade demonstrates the persistence of a large gap between different countries and between the region as a whole on the one hand and the developed nations on the other. Mortality levels have generally been lowered during the decade, particularly in the less advanced, higher mortality countries, but these improvements have not been

⁸ *Ibid.*, p. 5.

as marked as in past decades, nor have they been sufficient to alter the qualification of several countries and regions within countries as "high mortality areas".

(c) *International migration*

Although the information on international movements to Latin American countries or between Latin American countries during the 1960s is incomplete, everything appears to indicate that previous trends towards reduced migration from European nations have been accentuated during the present period. Moreover, it is safe to assume that international movements, particularly from outside Latin America, have contributed very little to the population growth processes in the region during the decade. What migration flows have been registered emphasize movements between contiguous countries whose dimensions are generally insignificant by comparison to the population size of either receiving or sending countries.

3. GROWTH PERSPECTIVES

The review of the present levels and recent trends of the components of population growth enables some general considerations to be formulated as regards the probable tendencies of future growth.

The rhythm of population growth observed during the 1960s in Latin America will probably be maintained at the same level until the end of the present decade, because the decline in death rates—which in the past has been responsible for accelerated rates of population growth—will probably be slight and will increasingly be countered by the continuation of the gradual decline in fertility rates already noted in the 1960s.

The trend foreseen for the region as a whole constitutes the net result of varied tendencies in different groups of countries which compensate each other and give rise to the prognosis of unaltered rates of population growth over the next decade.

Firstly, the rate of population growth in Argentina and Uruguay, which was already quite low in the 1960s, will continue to diminish somewhat, due to the combined effect of the continuation of the present gradual descent in birth rates and the slight increase in death rates which were already noticeable in the 1960-1970 period as a result of the ageing process in these populations.

A similar descent, but of greater magnitude, can be expected in the cases of Costa Rica, Cuba and Chile, where death rates are already so low as to make substantial future descents improbable but where birth rates have a much wider margin for decline than in the case of Argentina and Uruguay.

In a third group of countries, which includes Brazil, Colombia, Ecuador, Peru, Mexico, Panama, and Venezuela, rates of growth will probably fluctuate during the present decade around the same levels observed during the 1960s. Inasmuch as these seven countries contain some 72 per cent of Latin America's population, the explanation of the probable stabilization in growth during the coming decade which was given earlier with respect to the population of the region holds particular validity for this group of countries.

The group which includes Bolivia, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay and the Dominican Republic is currently in an earlier stage of the demographic transition and consequently, the potential for more rapid growth in the coming decade is very high. It is hard to see how the currently high birth rates in these countries can be substantially modified before 1980. On the other hand, since present mortality levels in these countries are still high and since the reduction of the death rate can be achieved with minimal

expenditure or socio-economic development, it can be foreseen that they will experience a substantial decrease in their death rates in the near future. The acceleration of population growth will thus tend to be in direct proportion to the decline in present mortality levels.

Should these tendencies be verified, particularly in the more populous countries, Latin America would contain some 90 million more people in 1980 than in 1970 (see table 7). The bulk of the increment would be in Brazil,

Mexico, Colombia and Peru, which together would account for over 70 per cent of the Latin American increment during the decade. Population projections for longer periods are increasingly more conjectural, but barring unforeseen radical changes in population dynamics the best estimates would place the total Latin American population at over 640 million by the end of the century, with Brazil alone having a larger population than did the entire Latin American region in 1960.

Table 7
PROJECTION OF THE POPULATION OF LATIN AMERICA
BY COUNTRIES, 1970-2000

<i>Countries</i>	<i>1970</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
Argentina	24 352	28 218	31 909	35 274
Bolivia	4 658	6 006	7 782	10 081
Brazil	93 245	124 000	164 374	215 510
Colombia	22 160	31 366	43 130	56 731
Chile	9 717	11 461	13 734	16 272
Ecuador	6 028	8 440	11 774	16 149
Paraguay	2 419	3 456	4 860	6 619
Peru	13 586	18 527	25 143	33 491
Uruguay	2 889	3 251	3 642	3 999
Venezuela	10 755	14 979	19 952	26 100
Costa Rica	1 736	2 281	2 945	3 682
El Salvador	3 441	4 904	7 122	10 372
Guatemala	5 282	7 018	9 357	12 355
Honduras	2 583	3 661	5 182	7 205
Nicaragua	2 021	2 818	3 951	5 460
Panama	1 406	1 938	2 669	3 633
Mexico	50 718	71 387	99 669	135 089
Cuba	8 341	10 075	12 053	14 337
Haiti	5 229	6 838	9 144	12 347
Dominican Republic	4 348	6 197	8 866	12 539
<i>Subtotal 20 countries</i>	<i>274 914</i>	<i>366 821</i>	<i>487 258</i>	<i>637 245</i>
Barbados	254	263	236	212
Guyana	745	995	1 309	1 646
Jamaica	1 996	2 382	2 754	3 102
Trinidad and Tobago	1 067	1 255	1 411	1 555
<i>Subtotal 4 countries</i>	<i>4 062</i>	<i>4 845</i>	<i>5 710</i>	<i>6 515</i>
<i>Total</i>	<i>278 976</i>	<i>371 666</i>	<i>492 968</i>	<i>643 760</i>

SOURCE: CELADE, *Boletín Demográfico*, vol. V, No. 10, July 1972.

4. URBANIZATION AND SPATIAL DISTRIBUTION

The most significant fact that stands out in the analysis of the spatial distribution of the population in Latin America is the intensity of the urbanization process. Even the briefest examination of this process reveals continuous and substantial concentration of the Latin American population over the last few decades. Before going deeper into this analysis, however, it is worth making two brief com-

ments on the methodology used.

First, the definition of "urban" used in this analysis is based on population size criteria alone: "urban" populations are considered to be those residing in centres containing at least 20,000 inhabitants. Obviously, other lesser concentrations would also qualify as urban were we to possess information permitting a more discriminatory classification of popula-

tion nuclei according to their economic function, occupational composition or socio-economic characteristics, but in the absence of such information we are forced to adopt this somewhat arbitrary operational criterion, although we are conscious of the inevitable discrepancies thereby created. In accordance with this criterion, the remainder of the population (i.e., that not living in centres of 20,000 or more) is qualified as "rural" more for the sake of convenience in expression than for accuracy in description.

One consequence of using a size criterion to define the "urban" population is that the measurement of urban dynamics over any period implies the progressive inclusion of localities which had not been considered at the beginning of the period. In other words, the number of localities having 20,000 or more people is generally larger at the end than at the beginning of a decade and the urban population increases not only through the growth of existing cities but also through the reclassification of previously non-urban areas. Thus, throughout the following discussion it will be well to keep in mind that, as shown in table 8, between 18 and 19 per cent of all urban increase in Latin America during the past two decades is traceable to the inclusion of new localities in the "urban" category.

Secondly, it is imperative to bear in mind the distinction between two basic sub-manifestations of the urbanization process—namely, urban growth and urbanization—for the purpose of greater clarity both in the investigation of trends and in the discussion of their effects, for if we were to focus exclusively on "urbanization", defined as the increase in the proportion of the total population living in urban areas, we might well conclude that recent tendencies in Latin America are not greatly divergent from past patterns. Thus, for instance, during the past two decades (see table 8)

the urbanization rate for the entire region (i.e., the rate at which the proportion of the total population living in centres of 20,000 or more inhabitants increased) is estimated to have been 2.53 between 1950 and 1960 and 2.33 between 1960 and 1970. These rates are actually much lower than the rates which were attained by the developed regions during their peak periods of urbanization.

Closer examination of past and present patterns of population growth and redistribution indicates that Latin America's urbanization rates are not higher for the simple reason that the high urban growth rates are being counter-balanced by the sizable rates of growth of the rural population. Since the latter still contains considerably more than half of the region's entire population, Latin America's urbanization rates do not really point to an immediate and unprecedented urban boom. Moreover, since urbanization is an inherently finite process it is not surprising that the 1960-1970 urbanization rate of 2.33 per cent annually was somewhat lower than that of the previous decade, nor that the rate of growth of the total population in the latter decade was higher than in the former one, despite slight declines in the rates of growth of both the urban and rural populations.

Hence, it is only when we examine "urban growth", or the increase in the number of persons residing in urban localities, that we can gain some idea of whether the region has undergone an exceptional urban transformation or not. Present annual rates of urban growth, which hover around the 5 per cent level, indicate that the urban population of the region is doubling its size in less than 15 years' time or even in a little over 10 years in some countries. To be sure, such rates have also been reached in the history of the developed nations, but they occurred at a stage when much higher levels of socio-economic develop-

Table 8
LATIN AMERICA: SUMMARY OF URBAN GROWTH AND
URBANIZATION, 1950-1970

Period	Average annual rates of growth			Rates of urbanization	Percentage of urban growth due to inclusion of new cities
	Total population	Rural population	Urban population		
1950-1960	2.8	5.4	1.7	2.53	18.9%
1960-1970	2.9	5.3	1.5	2.33	17.9%

SOURCES: For total population: CELADE, *Boletín Demográfico*, vol. V, No. 10, 1972. For urban and rural population: estimates by Social Affairs Division, ECLA.

ment had already been reached, and moreover those rates were achieved in developed countries as a result of rapid rural depletion, whereas Latin America's rural population continues to grow in absolute terms in almost all countries.

Our estimates (see table 9) show that the number of urban inhabitants increased by 28 million in the 1950s and by some 46 million in the 1960s. The rural population, however, only grew by some 22 million people in each decade. This means that urban centres absorbed the equivalent of 56 per cent of the region's total population increase during the 1950-1960 decade and 67 per cent in the 1960-1970 period. The increase in the urban population shown in table 9 is substantial in all countries, but it is particularly significant in the larger countries. Over-all, the proportion of the region's total population living in urban areas rose from approximately 26 per cent in 1950 to 33 per cent in 1960 and 41 per cent in 1970.

There can be no doubt that these patterns of urban growth are changing the structure of Latin America's urban network. Thus it is that, as shown in table 10, the number of cities increased from 319 in 1950 to 512 in 1960 and

833 in 1970. The proliferation of urban nuclei was, as might be expected, greatest in the smallest size class where the number of cities grew from 200 in 1950 to 316 in 1960 and 516 in 1970. The urban boom also manifested itself, however, in the proliferation of large cities, since the number of localities with 500,000 or more inhabitants grew from 12 to 34 between 1950 and 1970, while the number of really big cities with more than a million inhabitants increased from 7 to 16 during the same period.

In this connexion, one of the salient features of the urbanization process in Latin America is the fact that, despite the multiplication of the number of cities, the urban population is increasingly becoming concentrated in the larger centres. Thus, if we look at the distribution of the population by city-size class in table 10, we find that an increasing proportion of Latin America's urban and total population is being concentrated in large cities. In 1950, some 49 per cent of the region's urban population and 13 per cent of the total population of Latin America lived in cities of 500,000 or more inhabitants. By 1960, these figures had reached 52 and 17 per cent, respectively, and

Table
LATIN AMERICA: COUNTRIES: TOTAL, RURAL

Country	1950				
	Total (thousands)	Urban		Rural	
		(thousands)	%	(thousands)	%
Argentina	17 085	8 834	51.7	8 251	48.3
Bolivia	3 013	593	19.7	2 420	80.3
Brazil	52 326	11 053	21.1	41 273	78.9
Colombia	11 629	2 438	21.0	9 191	79.0
Costa Rica	849	180	21.2	669	78.8
Cuba	5 520	1 942	35.2	3 578	64.8
Chile	6 058	2 342	38.7	3 716	61.3
Ecuador	3 225	570	17.7	2 655	82.3
El Salvador	1 922	240	12.5	1 682	87.5
Guatemala	3 024	312	10.3	2 712	89.7
Haiti	3 380	159	4.7	3 221	95.3
Honduras	1 389	94	6.8	1 295	93.2
Mexico	26 640	6 638	24.9	20 002	75.1
Nicaragua	1 133	161	14.2	972	85.8
Panama	765	180	23.5	585	76.5
Paraguay	1 337	207	15.5	1 130	84.5
Peru	7 968	1 448	18.2	6 520	81.8
Dominican Republic	2 303	238	10.3	2 065	89.7
Uruguay	2 198	1 000	45.5	1 198	54.5
Venezuela	5 330	1 645	30.9	3 685	69.1
<i>Total Latin America</i>	<i>157 094</i>	<i>40 274</i>	<i>25.6</i>	<i>116 820</i>	<i>74.4</i>

SOURCE: Cf. table 8.

by 1970, 56 per cent of all urban dwellers and 23 per cent of all Latin Americans lived in large cities. Moreover, at each of these dates the great majority of the large city residents lived in cities with a population of more than a million. Nevertheless, although this information is not shown here, it is worth pointing out that the degree of primacy, as measured by the proportion of a country's urban population living in its principal centre, has declined steadily in the region during recent decades, largely because of the proliferation and dynamic growth of large centres in some of the region's more populous countries.

It should be noted that the global tendencies described in the previous paragraph do not immediately reveal the great heterogeneity in the respective urbanization processes of the nations making up the region. In order to summarize the various situations, countries with similar characteristics in their urbanization process can be classified into three broad categories. The figures and characteristics summarized for each of these groups in tables 11 and 12 and described in the following paragraphs provide a valid summary for the group, al-

though individual countries may vary from the group mean.

The first category is formed by the countries of earliest urbanization, that is, countries which already had more than one third of their entire population living in localities of 20,000 or more inhabitants as far back as 1950. These include Argentina, Uruguay, Chile and Cuba. In 1960, 55 per cent of the population of these countries lived in urban areas, with Argentina having the highest percentage, followed by Uruguay, Chile and Cuba in that order. Because of the initially high level of urbanization in this group and of the finite nature of the urbanization process, the urban gain registered during 1960-1970 was relatively small, and the level of 61 per cent of urban dwellers was reached in 1970. In the interim, the urban population had increased at approximately 3 per cent per annum, a rate only about half that recorded by the other two groups. At the same time, however, the rural population was also growing at a much slower pace compared with the other two groups. Indeed, it is a matter of considerable significance that the absolute number of rural dwellers actually diminished during the past decade in all of these countries except

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AND URBAN POPULATION IN 1950, 1960, 1970

Total (thousands)	1960				1970				
	Urban		Rural		Total (thousands)	Urban		Rural	
	(thousands)	%	(thousands)	%		(thousands)	%	(thousands)	%
20 850	11 948	57.3	8 902	42.7	24 352	16 279	66.8	8 073	33.2
3 696	815	22.0	2 881	78.0	4 658	1 086	23.3	3 572	76.7
70 327	20 441	29.1	49 886	70.9	93 245	36 679	39.3	56 566	60.7
15 877	4 761	30.0	11 116	70.0	22 160	9 520	43.0	12 640	57.0
1 249	278	22.3	971	77.7	1 736	560	32.3	1 176	67.7
6 819	3 122	45.8	3 697	54.2	8 341	3 963	47.5	4 378	52.5
7 683	3 842	50.0	3 841	50.0	9 717	5 542	57.0	4 175	43.0
4 323	1 103	25.5	3 220	74.5	6 028	1 986	32.9	4 042	67.1
2 512	426	17.0	2 086	83.0	3 441	670	19.5	2 771	80.5
3 965	504	12.7	3 461	87.3	5 282	937	17.7	4 345	82.3
4 138	250	6.0	3 888	94.0	5 229	362	6.9	4 867	93.1
1 849	203	11.0	1 646	89.0	2 583	397	15.4	2 186	84.6
36 046	11 646	32.3	24 400	67.7	50 718	20 565	40.5	30 153	59.5
1 501	283	18.8	1 218	81.2	2 021	498	24.6	1 523	75.4
1 021	356	34.9	665	65.1	1 406	555	39.5	851	60.5
1 740	289	16.6	1 451	83.4	2 419	506	20.9	1 913	79.1
10 024	2 609	26.0	7 415	74.0	13 586	4 418	32.5	9 168	67.5
3 129	569	18.2	2 560	81.8	4 348	1 202	27.6	3 146	72.4
2 542	1 436	56.5	1 106	43.5	2 889	2 026	70.1	863	29.9
7 741	3 282	42.4	4 459	57.6	10 755	6 062	56.4	4 693	43.6
207 032	68 164	32.9	138 868	67.1	274 914	113 813	41.4	161 101	58.6

Table 10
LATIN AMERICA: (20 COUNTRIES) NUMBER OF CITIES AND
DISTRIBUTION OF THE URBAN POPULATION BY CITY SIZE, 1950-1970

<i>City size</i>	<i>No. of cities</i>			<i>Urban population (thousands)</i>			<i>Urban pop. in each size class (percentage)</i>			<i>Total pop. in each size class (percentage)</i>		
	1950	1960	1970	1950	1960	1970	1950	1960	1970	1950	1960	1970
1 million +	7	11	16	16 350	29 881	51 794	40.6	43.8	45.5	10.4	14.4	18.8
500 000-1 million	5	8	18	3 336	5 385	12 279	8.3	7.9	10.8	2.1	2.6	4.5
100 000-500 000	49	72	114	10 430	15 601	22 312	25.9	22.9	19.6	6.6	7.5	8.1
50 000-100 000	58	105	169	3 916	7 354	11 721	9.7	10.8	10.3	3.6	3.6	4.3
20 000- 50 000	200	316	516	6 242	9 943	15 707	15.5	14.6	13.8	4.0	4.8	5.7
<i>Total</i>	<i>319</i>	<i>512</i>	<i>833</i>	<i>40 274</i>	<i>68 164</i>	<i>113 813</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>25.6</i>	<i>32.9</i>	<i>41.4</i>

SOURCE: Cf. table 8.

Table 11

SUMMARY OF URBANIZATION AND URBAN GROWTH IN THREE GROUPS OF LATIN AMERICAN COUNTRIES, 1960-1970

Countries	Average annual rate of growth			Rate of urbanization	Percentage of decennial population increase absorbed by cities
	Total population	Rural population	Urban population		
Group Ia	1.8	-0.1	3.2	1.4	100.7
Group II ^b	3.1	1.5	6.2	3.0	69.5
Group III ^c	3.0	2.3	5.5	2.4	39.4
Total	2.9	1.5	5.3	2.3	67.2

SOURCE: Cf. table 8.

^a Argentina, Chile, Cuba, Uruguay

^b Brazil, Colombia, Costa Rica, Mexico, Panama and Venezuela

^c Bolivia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Nicaragua, Paraguay and Peru

Cuba. Thus, for the group as a whole, the urban areas absorbed a greater number of persons than the total population increase during the period.

One of the salient characteristics of this group is the high degree of urban concentration which it had already attained by 1960. For the group as a whole, the proportion of the urban population residing in cities of half a million or more inhabitants was close to 57 per cent in that year, and although this proportion had diminished somewhat by 1970 as the total number of urban localities increased from 127 to an estimated 188, it was still much higher than that prevailing in the other two groups in the latter year.

Moreover, the proportion of the total population concentrated in cities of this size increased considerably in Uruguay and to a lesser extent in the other three countries.

Nevertheless, it is worthy of note that, except for Argentina, these countries did not have cities of between 500,000 and 1 million inhabitants in either 1960 or 1970: that is to say, they had no intermediate cities between the capital and the cities forming the bulk of the urban network. Hence, despite the relatively advanced stage of socio-economic development of these countries and despite the fact that the proportion of the urban population concentrated in the main city tended to diminish somewhat during the period, the phenomenon of primacy is still very strong in most of these countries in the sense that the network of large secondary nuclei considered by some as essential for balanced economic development remains embryonic.

The second group consists of the countries in an intermediate stage of urbanization, defined for practical purposes as those which had between one fifth and one third of their total population living in urban localities in 1950. It includes Brazil, Mexico, Colombia, Venezuela, Costa Rica and Panama, all of which have experienced a recent acceleration of their urbanization process. In 1960, some 31 per cent of this category's total population lived in centres of 20,000 or more inhabitants, but 10 years later the proportion had risen to more than two fifths of the total. The urban population grew at an average annual rate of more than 6 per cent during the 1960s, while the rural population grew at the rate of 1.5 per cent, thus giving an average annual urbanization rate of 3.0 per cent, which is the highest of any of the three groups examined here. These figures mean that the urban areas absorbed some 33 million people during the decade: an amount equal to almost 70 per cent of the group's total population increase in that period.

The number of cities in these six countries jumped from 318 to 548 during the decade. It is interesting to note, however, that despite the fact that in 1970 the great majority of the new localities continued to be found in the smaller city-size classes, the urban population of these countries is, on the whole, much more highly concentrated in the big cities than at the beginning of the decade. Thus we find that the proportion of the urban population living in cities of 1 million or more inhabitants grew from 41 to 46 during this period, while the proportion of the total population living in cities of such sizes rose from 13 per cent in

Table 12

NUMBER OF CITIES AND DISTRIBUTION OF THE URBAN POPULATION BY CITY SIZE IN THREE GROUPS OF
LATIN AMERICAN COUNTRIES, 1960-1970

Countries and city-size class	Number of cities		Total urban population (in 000's)		Total population in each size class (percentage)		Urban population of each size class (percentage)	
	1960	1970	1960	1970	1960	1970	1960	1970
Group Ia								
1 million +	4	4	11 516	14 684	31.1	32.4	56.7	53.3
500 000-1 million	2	4	1 261	2 723	3.4	6.0	6.2	9.9
100 000-500 000	15	18	3 472	4 043	9.4	8.9	17.1	14.6
50 000-100 000	22	36	1 475	2 480	4.0	5.5	7.3	9.0
20 000- 50 000	84	126	2 595	3 648	7.2	8.0	12.8	13.2
<i>Total urban</i>	127	188	20 319	27 570	55.0	61.3	100.0	100.0
Group II^b								
1 million +	6	11	16 675	34 325	12.8	19.2	40.9	46.4
500 000-1 million	6	9	4 124	6 250	3.1	3.5	10.1	8.4
100 000-500 000	46	83	8 908	15 516	6.9	8.7	21.8	21.0
50 000-100 000	67	113	4 815	7 857	3.6	4.4	11.8	10.6
20 000- 50 000	193	332	6 272	9 993	4.8	5.6	15.4	13.5
<i>Total urban</i>	318	548	40 794	73 941	31.2	41.4	100.0	100.0
Group III^c								
1 million +	1	1	1 691	2 784	4.8	5.7	24.0	22.6
500 000-1 million	—	5	—	3 306	—	6.7	—	26.9
100 000-500 000	11	13	3 220	2 762	9.1	5.6	45.7	22.4
50 000-100 000	16	20	1 064	1 384	3.1	2.8	15.1	11.2
20 000- 50 000	39	58	1 076	2 065	2.9	3.5	15.2	16.8
<i>Total urban</i>	67	97	7 052	12 302	20.0	24.3	100.0	100.0
Total Latin America								
1 million +	11	16	29 881	51 794	14.4	18.8	43.8	45.5
500 000-1 million	8	18	5 385	12 279	2.6	4.5	7.9	10.8
100 000-500 000	72	114	15 601	22 312	7.5	8.1	22.9	19.6
50 000-100 000	105	169	7 354	11 721	3.6	4.3	10.8	10.3
20 000- 50 000	316	516	9 943	15 707	4.8	5.7	14.6	13.8
<i>Total urban</i>	512	833	68 164	113 813	32.9	41.4	100.0	100.0

SOURCE: See table 8

^a Argentina, Chile, Cuba and Uruguay.

^b Brazil, Colombia, Costa Rica, Mexico, Panama and Venezuela.

^c Bolivia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Nicaragua, Paraguay and Peru.

1960 to 19 per cent in 1970 thus attesting to the pace at which the metropolitan centres are expanding. Nevertheless, it should be noted that in Brazil, Venezuela and Colombia the number of cities with more than 500,000 inhabitants increased during the decade, and it can hence be stated that, at least for these countries and particularly in Brazil, urban concentration stems more from the change in size class of important sub-nuclei than from unparalleled growth of the main city.

The third group, formed by Peru, Ecuador, Bolivia, Paraguay, Nicaragua, Honduras, Haiti, El Salvador, Guatemala and the Dominican Republic, includes countries which can be characterized as being in an incipient stage of the urbanization process, since in 1950 all of them had less than one fifth of their total population in urban areas, and some of them reached this figure only in 1970. Between 1960 and 1970, the aggregate average annual rate of urban growth reached 5.5 per cent, but since the rural population was also growing at over 2 per cent annually, the rate of urbanization was only 2.4 per cent per annum. Consequently, the level of urbanization as expressed by the proportion of the total population living in urban areas still had not reached 25 per cent by 1970, and only two countries, Peru and Ecuador, were much above that figure. Moreover, the level of urbanization of some countries, particularly Bolivia, Haiti and El Salvador, scarcely changed over the decade.

Slow urbanization is also reflected in the proportion of the decennial population increase absorbed by the cities. In this connexion, it is interesting to note that whereas in the first group of countries the cities absorbed a larger number of people than the total decennial population increase, and the second group absorbed a number representing some 70 per cent of the total growth, the third group absorbed a number equivalent only to some 39 per cent of the total increase.

Even so, the number of urban localities in the third group increased from 67 to 97 and the number of cities with more than 500,000 inhabitants increased from 2 to 6. Concentration of the urban population into the main city has always been extremely high in this group of countries, and in 1960 only Ecuador, which has a bi-polar concentration, had less than 50 per cent of its urban population centred in one city. As a result of the considerable increase in the number of cities, however, the acute primacy configuration of most of these

countries tended to diminish somewhat over the period, although it remains at an exceptionally high level.

In brief, then, although the rhythm of urbanization in Latin America is not exceptional, the pace of urban growth in the region is much more rapid than that which occurred in developed countries at the height of their urbanization process. Moreover, urbanization is proceeding at a different rhythm and with differing characteristics in the three broad groups of countries. Even a superficial analysis is enough to demonstrate that the three groups differ fundamentally in their level of socio-economic development, thus lending further credibility to the correlation between this factor and urbanization.

Generally speaking, the trends discussed in the foregoing paragraphs do not come as a great surprise to the investigator familiar with the past history of Latin American urbanization. Some particular patterns in a given group of countries may have been arrested or heightened, and the details generally confirm diagnoses and trends already outlined during the 1960s. At that time there was considerable public concern about the havoc which, it was felt, the annual increment of hundreds of thousands of new urban residents would wreak on the structures of cities and on Latin American society, to the point where the viability of national politico-economic systems would be threatened.

In actual fact, while the urban boom has generally proceeded at the rate predicted, it somehow has not had either the catastrophic or catalytic effects which were forecast. Marginal settlements have sprung up and multiplied in all large Latin American cities, while the ability of public authorities to cope with the multiple problems caused by the urban boom has deteriorated progressively, yet the system somehow keeps going, and even though the urban masses may not exactly have been integrated into urban society, they have not yet turned into an opposing force capable of overturning the prevailing organization of society.

Some of the reasons for this discrepancy between the expected and actual situation in the face of the urban explosion obviously go beyond the bounds of the present analysis, since they have to do with the discrepancies raised by confusing the existence of the masses with their ability to effect concerted action. From the demographic standpoint, however,

at least two points are worthy of mention. First, it is clear that urban population growth in all the countries under consideration exceeds the opportunities for productive employment in the cities. This condition favors the persistence of low-productivity industries, helps to keep urban wages down, aggravates housing shortages and transportation problems, and adds to the inability of authorities to provide basic health and educational facilities.

Nevertheless, it is equally clear that the employment problem may be even worse in rural areas and that, despite its vicissitudes, urban life makes it possible to obtain money incomes which far exceed those found in rural areas and provides access to other benefits such as free education, health services, piped water, sewerage, etc., which although they do not cover all the urban population, are available to an even smaller proportion of rural dwellers; moreover, urban residence permits at least partial participation in the consumer society and in the amenities of urban life. In brief, whether it be viewed from an objective or a subjective standpoint, the urban habitat can be a considerable improvement in many ways over the rural one and thus urban life is not necessarily conducive to rejection of the system.

Secondly, the disintegrative effects of rapid urban growth may still be very far off when it is considered that urban growth is cumulative and follows a geometric progression. For instance, despite prior rapid rates of urbanization, the volume of urban growth in the 1960s was 65 per cent greater than in the

1950s: that is to say, it involved the addition of 18 million more people to the urban population in that period. In the present decade, it can be expected that Latin America's urban population will increase by a total of some 75 million people—a figure greater than the total population of Brazil in 1960—while the 1980s will probably see an even more astronomical urban increase. On the basis of these figures, and if present trends persist, the existing metropolises will bear the brunt of urban growth: of the 75 million increase during the 1970s, some 40 million can be expected to be absorbed by cities that will have 1 million inhabitants or more by 1980.

Given the geometric progression of urban growth, its increasing concentration in the larger centres and the growing inability of the public sector to cope with the manifold problems of urban sprawl, it would seem reasonable to assume that there must be a limit beyond which cities cannot grow if they hope to remain viable. In any case, since practically all the countries in groups two and three already have a much larger rural population than they would need with even the minimum application of agricultural technology, and given the present conditions of rapid rates of natural increase, it is clear that progressively larger numbers will somehow have to be absorbed by the urban network. Urban growth will inevitably persist, but there appears to be an urgent need to channel it and to prevent excessive population concentration in the largest cities by applying structural and institutional curbs reinforced by market mechanisms.

5. INTERNAL MIGRATIONS

Since there is no empirical reason to doubt that the rates of natural increase in rural areas of Latin America are equal to or higher than those of the urban areas, it is clear that the urbanization trends described in the previous section must imply an enormous movement of migrants from rural to urban areas. Although significant variation from the mean can be found from country to country, it is fair to estimate that approximately half of the rural natural increase is being systematically transferred to the urban areas and thereby contributing directly from one half to one third of total urban growth. Moreover, since migration streams are predominantly made up of young

adults who spend most of their fecund life in the cities, the indirect contribution of migrants to urban growth—that is to say, the natural increase among migrants after arrival—also accounts for a considerable proportion of total urban growth.

In addition to the migration streams which originate in rural areas and end in the cities several other types of migration currents have been observed in the region, particularly between rural areas, between urban areas, and between different politico-administrative areas. Together, these various types of movements undoubtedly add up to a considerable volume of migration which holds significant implica-

tions for the demographic and socio-economic structures of both the receiving and sending areas as well as for the migrants themselves. It is practically impossible to obtain valid data on the magnitude and characteristics of migratory flows for Latin America as a whole. Moreover, attempts at the international comparison of migration statistics are seriously hampered by problems of definition and measurement. Nevertheless, figures taken from 1960 and 1970 census information for Brazil, Mexico and Chile can be used to illustrate the principal tendencies in the region (see table 13).

The most significant fact suggested by the analysis of available data is the increase in the absolute number of persons defined as migrants, although the proportion of the total population constituted by migrants has varied little between 1960 and 1970. In Mexico, for instance, the number of persons defined as migrants, i.e., those who changed their usual place of residence from one State to another at some point of their lives, amounted to 5.2 million people or 15 per cent of the total population in 1960. In 1970, the proportion of the total population classified as migrant was the

same, but the total number of migrants now amounted to 7.1 million.⁹

Another fact which attests to the increased magnitude of Mexican migration is that between 1960 and 1970 the number of interstate migration flows which contained more than 10,000 people increased from 55 to 122. Moreover, according to the "duration of residence" data from the 1970 Mexican census, 4.1 million people, or 8 per cent, of the total population and 56 per cent of all enumerated migrants, had changed their usual place of residence across a State border during the 1960-1970 period. In principle, this informa-

⁹ The actual number of moves in Mexico (and the same also applies to the subsequent discussions of migration in Brazil and Chile) is sure to be much greater than that revealed by these data, for the census information relates to interstate movements and therefore omits all intra-state movements, yet it is to be supposed that these latter migrants are even more numerous than the interstate movers. Moreover, the data cannot take seasonal movements, return migrations or multiple moves into account. However, since this caveat is applicable to figures for both the beginning and end of the decade, it does not affect our comparison of interstate movements at different dates within a given country.

Table 13
MEASUREMENTS OF INTERNAL MIGRATION IN SELECTED
LATIN AMERICAN COUNTRIES, 1960 AND 1970

Country	Type of migration information	Number of administrative units covered by definition	No. of migrants (thousands)			Pop. defined as migrant (percentage)		
			1960	1970	1960-1970	1960	1970	1960-1970
Mexico	1. Lifetime interstate movement	32	5 200	7 181	—	15.0	14.9	—
	2. Ten years or less of residence in present state	32	—	—	4 134	—	—	8.2
Chile	1. Lifetime inter-provincial movement	24	1 723	2 030	—	23.7	23.8	—
	2. Place of residence five years prior to census	24	—	—	588 ^a	—	—	7.9 ^a
Brazil	1. Lifetime inter-municipio movement	3 952	—	30 382	—	—	32.6	—
	2. Ten years or less of residence in present municipio	3 952	—	—	16 647	—	—	19.0
	3. Lifetime inter-macroregion movement	10	—	10 711	—	—	11.6	—

SOURCE: Computed from population censuses.
^a Refers only to 1965-1970 period.

tion on duration of residence indicates not only an acceleration of migratory movements during the 1960s but also a tendency by the same individuals to migrate more than once during their lifetime while the majority of the population reside in the same State throughout their lives. It should be noted, however, that this source should be used with caution, since "duration of residence" data from Latin American censuses constitute a relatively new source of information and one which may be affected by as yet undefined data-collection errors.

In Chile, 23 per cent of all males and 24 per cent of all females—a total of 1.7 million persons—were enumerated as interprovincial migrants in 1960. In 1970, the proportion of total migrants was approximately the same as in 1960 but the absolute number had increased from 1.7 to 2.0 million. Of these, 590,000 persons, equivalent to 28 per cent of all migrants and 8 per cent of the total population, had migrated during the five-year period preceding the 1970 census.

Despite the difficulties inherent in any comparison of internal migration in different countries, it would appear from table 13 that the process of internal migration has been equally intense in Brazil. According to computations based on the 1970 census, one third of the total population of Brazil had changed their usual place of residence from one *município* to another at some point during their lives. The "duration of residence" information from this same census suggests that some 16.6 million Brazilians, representing 19 per cent of the entire population and some 58 per cent of all migrants, made such a move during the 1960-1970 decade. This prompts the same type of observations as were made above in the case of Mexico. It is noteworthy that a considerable proportion of all migrations must have been of the long-distance type, since in 1970 some 12 per cent of the population had changed their place of residence from one of the 10 macro-regions of Brazil to another.

In sum, the most recent available data for some of the more populous countries of the

region permit us to suggest that population mobility, which, according to all indications, had already been high during the 1950-1960 decade, increased substantially in absolute terms during the 1960-1970 period, although the relative proportion of the population defined as migrant in each country remained basically the same.

As regards the most frequent directions of these migratory movements, it would appear that urban areas, and particularly the big cities, continue to be the principal pole of attraction. This is confirmed both by the characteristics of the urbanization process described earlier and by the available data. For instance, 40 per cent of all Chilean migrants and 32 per cent of those who migrated between 1965 and 1970 resided in the metropolitan area of Santiago, and much the same thing occurred in Mexico, where 32 per cent of all migrants enumerated in 1970 resided in the Federal district and 48 per cent of these had arrived in the 1960-1970 period. In Brazil, 6.7 million of the 13.3 million persons who were living in a macro-region other than that of their birth resided in the highly urbanized states of São Paulo, Rio de Janeiro and Guanabara.

As regards the demographic and socio-economic composition of migration streams, the available information indicates that the same selective processes in the area of origin and the differential characteristics in the area of destination noted in prior periods persisted during the 1960s as well. On the one hand, it has been observed that the migrant flows towards the urban centres include a disproportionate number of young adults, and especially young women. On the other, although migrants to larger urban centres constitute a fairly heterogeneous group as regards education, occupational level and other social characteristics, it is probable that the majority of them are from lower socio-economic strata and qualification levels than the average for the population of their respective destinations, but are higher in these respects than the non-migrant population in the areas of origin. This situation has important implications for development planning, as it generates imbalances in both areas.

6. POPULATION AND DEVELOPMENT

The relationship between population trends and the process of development is undoubtedly the most important question dealt with in this paper, but it is also unfortunately the one in which the formulation of valid, meaning-

ful statements is most hampered by inadequate information and by the lack of an acceptable theoretical framework embracing most of the relevant aspects. Most of the generalizations on the interrelationships between demo-

graphic change and other social and economic variables have been based on econometric models, investigations in the high-income industrialized countries, or ideological positions whose basic assumptions are of dubious relevance to the real situations of Latin America. These generalizations have been subjected to searching criticisms but significant improvements have not been registered in either the formulation of a balanced theoretical framework or the provision of adequate information which would permit satisfactory testing of existing hypotheses.

When, as in the present evaluation, the problem is formulated in terms of analysing the probable effects of population trends on development in the short term, the research problems are still further magnified and hence the present section can only claim to skim over some of the more important issues.

Analysis of the economic role of population has prompted a great range of opinions and arguments, but for heuristic purposes these can be grouped into two broad categories. On the one hand we have the argument that whatever economic progress is being attained in the region is being undermined and absorbed to a substantial extent by population growth. The contrasting viewpoint is that rates of population growth are largely irrelevant to the Latin American situation in view of low density of its population and the potentials for economic growth which are higher than the population growth rates.

The comparison of data on regional rates of population growth with those on income growth over the period is of little use in the elucidation of the problem. On the one hand, it can be maintained that since the gross domestic product grew at an average annual rate of 5.5 per cent over the decade while population had an average yearly growth rate of 2.9 per cent, then more than half of the average annual increment in the gross domestic product was absorbed by population growth. On the other hand, however, the ratio between gross domestic product and population has improved noticeably over the previous decade, when population growth was approximately the same as in 1960-1970 but the gross domestic product grew only by an average of 4.5 per cent annually.

Hence, from the same figures and depending on the observer's viewpoint, it can be argued that the rhythm of population growth

is neutralizing a significant proportion of economic growth, or alternatively that the latter is progressing despite a fairly constant rapid pace of population growth, or even that rapid population growth has actually contributed to the rising rates of increase of the gross domestic product. Nor does the comparison of population and economic growth rates or growth of *per capita* income for individual countries throw any further light on the subject. Indeed, the question becomes even more confused, since the countries which have had low rates of population growth includes those having both the highest and lowest levels of *per capita* income, together with some of the intermediate and lowest rates of increase in gross domestic product and *per capita* income, whereas other countries which have experienced rapid population expansion during the decade have had high, medium or low rates of economic expansion and growth of *per capita* income.

In short, it would seem that there is little to be gained by mechanically correlating rates of economic growth with those of population growth for Latin American countries during the 1960-1970 decade. Instead, it would appear more useful to re-examine some of the general considerations which have been expressed with reference to the rate of population growth and check their relevance to the Latin American situation in the present decade.

The influence of demographic factors on the process of socio-economic development manifests itself through the population in its dual capacity as consumer and producer. On the one hand, the population demands a series of goods and services to satisfy its necessities, while on the other, demographic factors affect the size and composition of the labour force which must produce these goods and services.

The fact that demographic factors influence both supply and demand does not tend to lead to equilibrium between the two, however. The segments of the population which produce and consume do not coincide and just as there are certain individuals capable of carrying out certain productive tasks, there are others who consume certain types of goods and services. Age and sex are demographic characteristics which play a large part in determining a person's position with regard to consumption and production. Hence, in addition to consideration of the size and growth rate of the population, it is also necessary to examine the implications of its age and sex composition for economic and social development.

Thus, for instance, it has been argued that the most immediate and demonstrable effect of a decrease in population growth rates is that of an increment in *per capita* income. Since decreases in population growth rates generally stem from a decline in fertility, it is argued, the result is a reduction of family size which is reflected at the societal level, in a reduction of the dependency ratio. Since, in the short run, the labour force and other resources are unaffected, the net effect of a fertility decline will be that less persons share the same national income thus permitting greater savings, technological improvements and raised productivity.

This type of argument has been the subject of severe criticism in Latin America and it is not for us to go deeper into this controversy here. Instead, we will briefly examine the influence which population change probably exerted on production and consumption during the last two decades.

First, with regard to the population as a production factor, a first approximation as to the potential and utilization of human resources is given by the percentage of the population of working age (in this instance, the population in the 15-64 age group), since only certain age groups are eligible to take part in economically productive occupations. In 1970, as shown in table 14, the proportion of the Latin American population in working age groups similar to that found in the less-developed regions of the world but considerably lower than that observed in the more-developed nations. This proportion has experienced a slight decline in all regions, but the point worth noting is that the relative differences between regions persisted throughout the period.

However, when we examine the actual utilization of these potential resources the picture is altered radically and shows the Latin American situation to be considerably less favourable, even by comparison with other less-developed regions, than the previous findings would suggest. Thus, of the total Latin American population in 1970, only 31 per cent was economically active; this proportion is obviously much lower than the 45 per cent observed in developed regions, but it is also markedly lower than the 40 per cent found in the less-developed regions.

The figures also show a decline in the percentage of economically active persons in the total population in all regions during the 1950-1970 period. At first sight, it might be inferred

Table 14

GLOBAL INDEXES OF PARTICIPATION IN ECONOMIC ACTIVITY FOR LATIN AMERICA AND OTHER REGIONS OF THE WORLD, 1950-1970

<i>Index and region</i>	<i>1950</i>	<i>1970</i>	
<i>Percentage of persons of working age in the total population</i>			
Latin America	55,7	53,8	
More developed regions	64,6	63,6	
Less developed regions	56,0	55,3	
<i>World total</i>	<i>59,0</i>	<i>57,8</i>	
<i>Percentage of economically active persons in the total population</i>			
Latin America	34,7	31,1 ^a	33,5 ^b
More developed regions	45,7	44,8 ^a	45,0 ^b
Less developed regions	41,4	39,8 ^a	40,9 ^b
<i>World total</i>	<i>42,9</i>	<i>41,3^a</i>	<i>42,0^b</i>
<i>Percentage of females in the economically active population</i>			
Latin America	18,2	19,5	
More developed regions	36,5	38,3	
Less developed regions	29,4	32,8	
<i>World total</i>	<i>32,0</i>	<i>34,6</i>	
<i>Economically active population as a percentage of the population of working age</i>			
Latin America	62,3	57,8	
More developed regions	70,7	70,4	
Less developed regions	73,9	72,0	
<i>World total</i>	<i>72,7</i>	<i>71,5</i>	

SOURCES: Population: United Nations estimates. Economically active population: ILO estimates.

^a Estimates for 1970.

^b Standardized estimates computed on the assumption that the relation between the economically active population and the population of working age estimated for 1950 did not change in the period 1950-1970.

that this decline is due largely to the aforementioned decreases in the proportion of persons of working age in the total population, and indeed this explanation might be valid if age and sex-specific participation rates had not substantially altered during the period, but it can be seen from table 14 for instance, that general participation rates for women significantly increased during the period in all regions. Even so, the changes in female participation were more than counter-balanced by decreases in male participation. Thus, for in-

stance, it can be calculated from the information presented in table 14 that had the general participation rates been maintained, the decrease would have been considerably slower than was actually the case, particularly in Latin America.

In short, changing participation rates have had at least as much effect as changes in age composition on the reduction of the proportion of economically active persons in the population during the 1950-1970 period. At all events, the main point brought out by these data is that although Latin America's proportion of potentially-active population is comparable to that of other developing regions, the level of utilization of human resources would appear to be much lower in Latin America than elsewhere.

It is difficult to draw conclusions as to the significance of these differences, however, since they may be attributable not so much to real differences in participation or in the ability of respective employment structures to absorb human resources as to cultural and operational differences in the meanings attached to the basic concepts of "active" and "inactive" population.

Latin America's disadvantage as regards its demographic structure is also reflected in its dependency ratio. This indicator is of particular interest in the present context because it summarizes the manner in which population composition influences both production and consumption in the region. For the purposes of our preliminary considerations, the dependency ratio can be operationally defined as the ratio of the population under 15 and over 65 to that in the 15-64 age group.

It is estimated, that, for the region as a whole, the dependency ratio increased significantly during the 1950s decade (from 795 to 844 per 1,000) rose at a slower rate during the last decade, reaching 859 per 1,000 in 1970. Thus, although the tendency towards increasing dependency ratios in Latin America as a result of the rejuvenation process being undergone by its population persisted during the last decade, the decreasing rate of growth of this ratio suggests that it is following a parallel course to that of population growth. The demographic prospects of the region suggest that this ratio will begin to decrease in the present decade in most individual countries and in the region as a whole.

As regards the levels and tendencies of the dependency ratio, Latin American countries

can be classified into several categories (see table 15). In the first, made up only of Argentina and Uruguay, the values of the ratio are the lowest in the region, fluctuating around 550 from 1950 to 1970 but showing a tendency to ageing process of the population. Cuba, which is in a somewhat less advanced stage of the demographic transition, had a rather low ratio of around 670 in 1950 which dropped to 650 in 1970 and can be expected to continue decreasing in the immediate future. Chile experienced a rapid increase from 700 to 790 between 1950 and 1960 but began to decline in the 1960s and can be expected to continue declining.

The case of Brazil is typical in the sense that its dependency ratio has shown great stability over the long term. Between 1950 and 1960 this ratio increased from 800 to 840, but since then it has begun to experience a decline which will probably continue into the future. Haiti and Bolivia have relatively low dependency ratios which only recently began to show signs of an upward trend. The remaining countries have the highest dependency ratios, ranging between 790 and 900 in 1950, and they have all experienced a sub-

Table 15
LATIN AMERICA: ESTIMATES AND
PROJECTIONS OF DEPENDENCY RATIOS^a
(per 1,000 population aged 15 to 64 years)

Countries	1950	1960	1970	1980
Argentina	543	572	577	604
Bolivia	783	815	839	866
Chile	704	793	782	698
Ecuador	857	937	993	980
Brazil	799	842	835	828
Colombia	841	968	985	954
Paraguay	902	1 028	988	997
Peru	891	931	928	875
Uruguay	590	550	581	591
Venezuela	805	916	928	901
Costa Rica	842	1 021	1 046	1 031
Cuba	667	680	652	638
El Salvador	790	947	1 005	1 054
Guatemala	811	957	950	864
Haiti	724	811	833	870
Honduras	802	990	964	978
Mexico	822	955	989	963
Nicaragua	854	993	1 007	962
Panama	813	891	934	932
Dominican Republic	902	1 006	1 002	1 007
Latin America	795	844	859	848

^a Defined as the population under 15 and over 65 divided by the population aged 15 to 64.

stantial increase in recent decades, attaining a level of at least 900 and in four cases of over 1,000 in 1970. The majority will probably begin to decrease in the 1970s although a few may well show slight increases.

The dependency ratio is intimately linked with the rate of population growth and hence also with the birth rate. In a country with a continuously high birth rate, the age structure of the population brings a large number of young people into the labour force each year and employment opportunities must be multiplied in order to absorb this annual increment. Where the employment opportunities do not expand at the same pace as the labour force, then there is considerable competition for the same job and consequently salary levels tend to fall or to remain frozen at low levels.

On the other hand, the rate of increase of the population of economically active age, which to the best of our knowledge hovers around 3 per cent annually for the region, can theoretically become a positive force for development, for if the rate of absorption into productive employment is equally high, a larger labor force results in increased production, higher national income and a larger market with consequent economies of scale.

In actual fact, however, it would appear that during the 1960s the rate of growth of the population of working age was considerably greater than that of the employed population for the majority of countries on which data are available. Moreover, the high rates of unemployment and under-employment which prevail in the region are well known to all.

Hence, the slow growth of new opportunities for productive employment, the widening gap between skill requirements in technologically advanced industries and the qualifications of the potential labor force, and the difficulties in absorbing low-productivity labor would all appear to indicate that most Latin American countries would currently be better off with a slower rate of increase in the labour force. In order to make this discussion more comprehensive, we should obviously analyse the evolution of variables such as changes in productivity and changing levels of technical skills, but this would unduly lengthen the discussion.

Turning now to the population as a consumption factor the conclusion reached after an examination of the effect of population growth on any of the several essential services which a society has to provide in order to maintain or improve the living standards of

its population does not appear to vary appreciably according to the sector studied: that is to say, regardless of whether we concentrate on health, education, social security, housing, food supply and nutrition, social welfare and so forth. The inevitable conclusion is that the costs of such services will increase in more or less direct proportion to the increase of population.

Among the different sectors affected by the rate of population growth, education warrants particular attention since not only can it be used as illustration of the pressure of population growth on consumption but it also has a significant influence on the quality of the labour force, which in turn is reflected in labour force productivity.

For the region as a whole, the proportion of the population aged 5-14 amounts to some 26 per cent of the total. This proportion, which corresponds roughly to the school-age population, varies somewhat from country to country, but only Argentina, Uruguay, Cuba and Chile have significantly smaller proportions than that mentioned above.

If it is assumed that all children aged 5-14 should be in school, then it can be estimated that by 1970, 18 million more children would have to be enrolled in schools than in 1960, over and above whatever other deficits already existed at the beginning of the period, and quite apart from required vacancies for persons in other age groups.

Under a more realistic assumption—that the minimum objective calls for six years of schooling for each child—primary school enrolment should be at least 15 per cent of the total Latin American population. Following this line of reasoning, the primary school systems of Latin America would have to absorb over 10 million more children in 1970 than in 1960, in addition to absorbing all prior deficits in the system. In these conditions, the magnitude of the burden of financing and staffing adequate educational services is too obvious to require extensive demonstration. In many countries, despite serious attempts to increase enrolment, the school systems have not been able to absorb the growing school-age population and the absolute number of persons without schooling has continued to increase.

It is unquestionable, however, that the magnitude of the task has not prevented steady improvements in the educational level of the population in most Latin American countries during the decade. Enrolment at all educational

levels has grown faster than population and it cannot be demonstrated that the large size and rapid growth of the school-age group have made the costs of attending to their formal educational needs prohibitive. Nevertheless, the question here is not whether education has become more comprehensive or of better quality. The point is simply that if we concentrate on population as consumers, whether of education or of any other services, then increased population and high growth rates inevitably spell higher costs for the public sector.

The basic economic model underlying the foregoing discussion is obviously oversimplified, however, since it can equally well be argued that consumption is best seen not as a direct rival of saving but rather as an indispensable stimulus to the growth of production. Viewed in this light, an expanding, youthful population should provide increasingly large domestic markets for industrial expansion. This assertion is refuted in turn, in its specific application to Latin America, however, by pointing out that with the present structures of income distribution and production most of the population is practically excluded from the domestic market.

The foregoing considerations give rise to a somewhat pessimistic attitude, not so much with respect to the influence of current demo-

graphic growth rates on development, but rather with respect to the possibility of formulating significant generalizations, on the basis of existing data and existing theoretical frameworks on the effects of the population factor during the past decade. If one were forced to give an opinion on the effect of Latin American population growth on development in this period, one would probably have to assert that somewhat lower rates of growth would have been beneficial in terms of alleviating certain pressures. This type of assertion, however, is neither original nor of great practical utility.

In order to improve noticeably upon this type of generalization, it would be necessary to analyse the role of the population as both producer and consumer simultaneously and in greater depth, formulating the analysis in the light of specific growth objectives, of given levels of technological progress, of differential economic structures and of distinct styles of development. It would also be necessary to differentiate between the effects of population trends in countries having varying levels of population density and endowment with resources and differential patterns of population composition and distribution. Such an undertaking, however, would involve a review and dynamization of both theory and data going far beyond the scope of the present paper.

7. POPULATION POLICIES

As a concept or practice, government intervention in population matters is no novelty in Latin America since in the course of the present century several Governments have made declarations or adopted concrete measures in an attempt to influence the quality, quantity or distribution of the population over the national territory. It is only in the latter part of the 1960s, however, in the context of changing and conflicting conceptions of the nature of the population problem, that the question of delimiting population policy and determining its place within the continually widening range of State intervention has come to the fore. This task has had to face an initial contradiction: while the "population"—the human race—is the subject and object of all public policy, the field in which direct intervention in demographic matters is possible is quite limited.

Depending on the definition of "population policy" adopted, it would be possible to claim

that all countries have a population policy or that none of them have. In view of the great variety of definitions which exist, it would be possible, though of little utility, to include all programmes of socio-economic development under the heading of "population policy". In the present context, however, we will limit our discussion to explicit or implicit policies which can have a concrete effect on the size or spatial distribution of the population, with emphasis on the former, since it has drawn the most concentrated attention from all quarters. Policies related to redistribution of the population will be dealt with briefly in the closing paragraphs of this section.

The fact is that in recent years, despite increasingly elaborate discussions of population policy and intricate theoretical definitions of policies, the central issue has really been control of population size and growth, generally in the light of debates on the desirability or otherwise of family planning. In this conne-

xion, in order to understand the apparently contradictory orientations and programmes of the public sector in a given country it is necessary to distinguish between demographic policies which relate to population size and growth and those which relate to family planning. These two areas are obviously closely related, so that activities in one will have an impact upon the other, but it would nevertheless be erroneous to presume that government attitudes with regard to family planning will necessarily be consonant with those relating to population growth, or to interpret public assistance to family planning activities as proof of the adoption of a restrictive demographic policy (as organizations favouring universal population control are wont to do), since some Governments simply prefer to ignore the connexion between the two spheres.

In view of the widespread public controversy which the topic of population policy has generated and of the various cross pressures to which Governments have been subjected from both internal and external sources, it is fair to state that no country can remain impervious to the question and hence the absence of public statements and activities with respect to population policy in itself constitutes a definite stance.

Since there are two basic areas of possible intervention by the public sector and the public attitude may be either implicit or overt, the gamut of possible positions thus ranges progressively from countries which have explicit restrictive demographic policies and are taking specific measures to implement them, through others which have separate population growth and family planning policies, down to countries which have explicit demographic policies favouring rapid population growth and are specifically opposed to government intervention in family planning programmes. Where do the Latin American countries fit into this range of positions?¹⁰

Four main blocks of countries can be distinguished with regard to attitudes and activities in the sphere of population policies. First, Argentina and Uruguay can be described as countries having an explicit populationist pol-

icy. The situation of Argentina is unique in the sense that it is the only country in Latin America which has, in recent years, adopted specific legislation designed to foster more rapid population growth, but, for all practical purposes the situation of Uruguay is very similar to that of Argentina. The populationist stances of these countries, motivated by the low rates of population growth which have prevailed over the past few decades, manifests itself concretely through the payment of marriage bonuses and a progressive scale of family allowances. To be sure, this type of government assistance is provided in some other countries as well, but seldom is it as consciously directed towards increasing population or on such a substantial scale as in Argentina and Uruguay. It is interesting to note, however, that private family planning clinics function freely in these countries and in 1971, for instance, the Argentine Association for Family Planning provided family planning assistance to some 87,000 new cases in the different provinces.

Secondly, a varied group of countries has adopted a semi-official position which favours rapid population growth and rejects government intervention in activities which might alter natural trends of growth. This group includes Brazil, Venezuela, Peru and Bolivia. In these countries, the general opinion of the authorities is that a large and increasing population constitutes in itself a great asset and that current rates of population growth are the most suitable for the continuation or improvement of present economic growth trends and/or for the exploitation of vast and potentially rich untapped regions.

Despite such attitudes, however, it is interesting to note that the activities of private groups fostering family planning clinics are expanding to a greater or lesser extent in each of these countries. The attitude of the powers-that-be towards such organizations seems to be one of discreet tolerance. Moreover, these private organizations make use of State-owned universities or hospitals for giving training or assistance in family planning.

The case of Brazil can be used to exemplify the kind of situation existing in this group. The Brazilian legislation governing contraception was enacted during the 1940s, and although it reflects prevailing pro-natalist attitudes, this legislation persists to the present day despite its anachronisms and despite several attempts at modification. Nevertheless, a private organization called BEMFAM offers

¹⁰ The following discussion is based on a review of the available literature as well as of newspaper and magazine clippings, existing legislation or government plans. Nevertheless, given the plethora of pronouncements, statements, affirmations, contradictions and denials with respect to this question, it could well be that our appreciation of the situation in a given country is no longer fully accurate.

family planning assistance through 68 clinics located in most of the national territories and states. During 1971, these gave assistance to some 110,000 new patients—the biggest total in Latin America, but an insignificant one in comparison with the 22.5 million Brazilian women of reproductive age. In the same manner, private clinics function freely in each of the other countries in this group, attending similarly small proportions of the total population.

A closer look at the composition of this group brings to light the differential implications which the same general orientation can have in different countries. One country, for instance, has a relatively low rate of population growth despite high fertility rates because its low level of socio-economic development is reflected in its high death rate. Consequently, it could be suggested that if this country aspires to high population growth rates, it could achieve this objective more humanely to trying to lower mortality levels. Most countries in this group have high population growth rates; government *laissez-faire* and the relatively small scale of the activities of private groups mean that a large proportion of the population, particularly in the lower strata, are unable to plan the size of their families and the spacing of their progeny. Hence, rapid growth aspirations in these countries and the willingness to await the natural transformation in childbearing patterns which modernization and more generalized education inevitably bring lead to the implementation of a demographic policy which throws the burden of childbearing and child-rearing on the low-income, low-education strata which are least equipped to cope with unlimited procreation.

In a third group of countries, formed by Chile, Mexico, Costa Rica, Cuba, Ecuador, El Salvador, Haiti, Panama and Paraguay, it is more difficult to find official or semi-official pronouncements dealing with the question of demographic policy. Nevertheless, each of these countries has established definite health objectives which involve State assistance to family planning activities. The objectives which serve as justification for the family planning programmes include:

- (a) Reduction and eventual elimination of damage to health caused by induced abortion;
- (b) Reduction of maternal mortality;
- (c) Reduction of infant mortality;
- (d) Promotion of family welfare.

The case of Mexico is of particular interest in this group, since until very recently Mexico would have been included as a matter of course in the first group, for Mexico had always defended populationist views and consistently manifested its opposition to State intervention in family planning activities. A few months ago, however, an official document issued by the Health Department announced that an extensive programme of family planning assistance would be launched as of January 1973. This programme will be conducted through a network of government hospitals, clinics and health centers, which will provide contraceptive information and devices to any couple seeking assistance in planning their family. No recent information is available on the direction which official pronouncements have taken with regard to population control but the timing of the decision on family planning would suggest that the realization that Mexico's population growth rate had risen to 3.5 per cent annually in 1970 might have had an influence on the reversal in family planning strategies.

The case of Chile, which has had a programme in operation for some years, also warrants description inasmuch as it exemplifies the type of programme being carried out to a greater or lesser extent by the countries in this group. No Chilean Government has ever espoused a policy aimed at curbing population growth, and the National Health Service, which is in charge of the family planning programme, has always laid stress exclusively on maternal and child care and responsible parenthood. In the pursuance of these goals, the Service has received extensive assistance from the Ministry of Education, universities, professionals and unions. It is interesting to note that shortly after the inception of its family planning activities the Service specified that no more than 15 per cent of the women of child-bearing age would be affected, but in June 1970 it was stated that 40 per cent of such women would be treated during the following four years.

The family planning programme currently in operation in Chile is probably more effective than those of the other countries of the group, partly because the National Health Service covers some 70 per cent of the total population, and partly because the above-average educational levels and low fertility rates already achieved give grounds for assuming that many women were predisposed to utilizing the Service's assistance. In any case, although statistical data are lacking, it is probable that in

both Chile and other countries of this group official assistance in family planning is having a considerable effect on fertility rates, despite the absence of a restrictive demographic policy.

The countries of the fourth and last group have all made some official pronouncement to the effect that they wish to reduce current rates of population growth and have announced or put into operation family planning programmes aimed at improving health levels and/or specifically curtailing rates of population growth. These countries include Colombia, Honduras, Guatemala and the Dominican Republic. This group is of course small, and moreover, apart from Colombia, it includes only Central American nations which currently have high rates of birth and natural increase.

The scope and degree of realization of the programmes described vary considerably from country to country. Colombia would appear to be the only Latin American country which has formulated a comprehensive policy that incorporates general demographic objectives and criteria and covers spatial distribution as well as fertility control. The immediate objectives proposed by these programmes include a more rational territorial distribution of the population and modification of the present rhythm of population growth through a reduction of current fertility levels. In addition, on the societal plane, a widespread campaign is to be launched in favour of responsible parenthood.

In the Dominican Republic, national objectives include reducing the birth rate from 48 to 28 per 1,000 over a five-year period, to which end family planning services are to be offered by the governmental organizations responsible for maternal and infant care. Much the same type of programme is to be applied in Honduras and Guatemala, the aim of the latter country being to reduce its rate of population growth to 2.2 per cent within five years. Little information is available on the relative success achieved in the pursuit of these stated objectives, but the impression is that attainment of the goals is being hampered by the lack of suitable facilities and personnel for carrying out objectives of this order. Moreover, high illiteracy rates and the divorce of fertility control objectives from broader socio-economic development projects would seem to militate against fulfillment of the programmes.

To recapitulate, it can be seen that government attitudes to population policies range all the way from the advocacy of pro-natalist

positions to the establishment of clear policies of growth restriction. In the practical implementation of these attitudes, however, the majority of countries are found to be in an intermediate position where fertility control receives little consideration in over-all development policies and family planning activities are either tolerated or sponsored outright by the governments. Family planning programmes can either result in the reduction of fertility rates or not affect them significantly, however, quite independently of explicit or implicit population policies. Furthermore, the mere toleration of family planning programmes in many countries signifies in practice that planning services are accessible to only a small minority of all the persons who might be interested in obtaining them.

It may thus be concluded that the pro-natalist countries (except for Argentina and Uruguay where educational and socio-economic development levels make the population less dependent on governmental initiative) are achieving their aim of maintaining high population growth rates, since their non-intervention in family planning matters makes it practically certain that the majority of the population will not have access to planning knowledge and techniques and thus fertility will basically continue at the present high levels for some time.

As regards the third and fourth groups of countries, it can be hazarded that, other things being equal, family planning programmes will have an effect on birth rates which will be directly proportional to the level of education and socio-economic development attained, since these factors influence both the psychological predisposition of potential clients and the concrete implementation of programmes. At the same time, however, the recentness of explicit programmes makes it difficult to use past experience to predict the potential repercussions of more dynamic policies. Moreover, no satisfactory methodology has yet been devised to evaluate the concrete effects of family planning policies in regions where they have been more explicit. Generally speaking, it can be suggested that programmes aimed at reducing the rate of population growth will largely depend upon the way in which family planning motivations evolve and upon future improvements in reproduction control techniques.

Studies carried out in various Latin American cities and rural areas indicate increasing motivation towards family planning in the region. The current high abortion rates are an-

other significant indication that family planning aspirations exist in the region. The combination of these motivational levels with the intensive utilization of mass communications could possibly contribute to the successful implementation of restrictive demographic policies.

On the other hand, it is unquestionable that currently available contraceptive techniques all have some disadvantage in terms of unreliability, cost, bother or negative side effects. Consequently, significant advances in birth control techniques would greatly increase the probability of success of restrictive policies even in low-income, low-education strata. Given these conditions, it might even be possible to speed up the demographic transition without making significant improvements in economic and social levels. It would seem highly undesirable, however, to formulate demographic policies divorced from over-all socio-economic development planning.

As regards policies concerned with the spatial distribution of the population, several countries have tried to implement partial projects, either by accelerating the colonization of specific underpopulated areas by fomenting migration towards these areas, or by hampering given types of migratory flows. In Colombia, the comprehensive population programme already referred to calls for an extensive redistribution of human resources. Interest in this type of programme has recently been manifested also in Venezuela and Ecuador, but only in Peru do we find a clear formulation of redistribu-

tion objectives at the national level. Official documents on long-term development strategies in Peru consider that a massive redistribution of the population is a *sine qua non* for development.

The absence of prior experience in the incorporation of redistribution policies within over-all development projects in Latin America renders prediction of their probable impact or success difficult. Existing migration studies generally indicate that migrations are predominantly motivated by economic considerations, particularly in terms of employment aspirations. These considerations might in themselves justify a certain degree of optimism with regard to the outcome of massive redistribution programmes, since their primary objective would be to send migrants to the centres offering the best job opportunities.

On the other hand, it can freely be asserted that the task of inverting established migratory flows may be rather difficult, since other types of motivations, particularly of a socio-cultural nature, may be more powerful than rational economic objectives and hence may tend to upset pre-established redistribution patterns. Therefore, if coercion is ruled out, redistribution projects will require a prior intensification of studies of migrant motivation and of the relative costs and effects of different policies as well as massive prior preparation in the form of education and development of positive attitudes to the moving process, plus extensive arrangements to absorb the migrants at the proposed destination.

POPULATION, TECHNOLOGY, NATURAL RESOURCES AND THE ENVIRONMENT

Eco-development: a contribution to the definition of development styles for Latin America

By IGNACY SACHS*

“Planning means variant thinking . . . ”

M. KALECKI

Introduction

At the Founex Seminar¹ and the Stockholm Conference, stress was laid on the need to consider the rational management of the environment and of natural resources as an additional dimension rather than a new form of socio-economic development. The quality of life, save in the exceptional conditions of a country which is not only rich but also has an equitable structure of income distribution, cannot be achieved without accelerated economic growth whose results are equitably distributed.

The first necessary step is to eliminate pollution resulting from poverty, and at the same time to adopt measures to prevent economic growth and industrial development from having unfavourable repercussions on society and the environment and thus cancelling out the beneficial effects of the growth of the product. In other words, awareness of environment problems means seeking different methods and uses

of growth rather than a zero growth rate. The question therefore is to devise new development styles aimed at harmonizing economic and social growth with rational management of the environment, so as to put into practice the above-mentioned objective of adding an environment dimension to the concept of development and development planning.

The aim of the present paper is to translate into concrete terms the concept of “eco-development”,² a type of strategy which is considered feasible for several parts of Latin America and which could therefore be useful in regional planning,³ especially as regards the peopling of uninhabited areas (“extending the economic frontier”). Before dealing with this subject, however, it is useful to define in broad terms the interrelationships between population, resources, technologies and the environment.

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¹ *Development and Environment*, report and working papers of a panel of experts convened by the Secretary-General of the United Nations Conference on the Human Environment (Founex, Switzerland, 4-12 June 1972), Paris and The Hague, 1972.

² The term “eco-development” was used by M. F. Strong, Executive Director of the United Nations Environment Programme (UNEP), in his statement at the first meeting of the Governing Council of the United Nations Environment Programme (Geneva, June 1973).

³ The following ideas are partly inspired by the results of a mission carried out in eastern Peru in 1972 with Henri Méot and Victor Wolski. (See report of the preliminary UNDP/ILPES mission in connexion with the Development Programme for Eastern Peru, ILPES, Santiago, 20 October 1972.)

A. A HEURISTIC MODEL FOR INTRODUCING THE ENVIRONMENT DIMENSION⁴

1. General framework: definitions and models

In the examination of environmental problems, the environment is seen to be closely bound up with natural resources. In actual fact, these problems cover two different aspects: the balance of resources, whose supply is limited in this space-ship called Earth, and the quality of the environment, which, on the one hand, is an important element in the quality of life and, on the other hand, influences the availability and quality of renewable resources.⁵ In the final analysis, pollution could limit the supply of renewable resources such as air and water to the point where, in order to meet its needs, mankind would have to sacrifice the capacity of renewal of these resources. In this case, which is fairly remote on the world plane but frequent in local contexts, the distinction between renewable and non-renewable resources ceases to be important. In general, however, this distinction is still extremely useful in the study of environmental problems. Thus, the use of plentiful renewable resources whenever possible instead of scarce non-renewable resources is an obvious guiding principle in any strategy for the harmonization of development with the rational management of the environment. The same distinction is applicable in connexion with energy resources.

The vagueness of the actual concept of the environment is clear for all to see. To specialists using the systems approach, the environment is whatever does not form part of the purposive system studied yet influences its behaviour.⁶ Since environment policies aim at integrating the environment into the purposive system, however, it might hence be asserted that the environment as such ceases to exist insofar as these policies are effective.

An important point emerges from the above definition: the distinction between the primary

objectives of the purposive system consisting of development policies, and the ecological and social effects of the action devised to attain the principal objectives. It is therefore necessary to determine these effects and, possibly, to redefine the objectives so as to be able to control the repercussions on the environment, to which little or no importance would be attached in a traditional approach.

At a different level of conceptualization, the United Nations Environment Programme refers to man's total habitat, applying a broad definition of human ecology. In reality, this definition is so broad that it covers the content of several social and natural disciplines. A more restrictive interpretation is therefore required. The human environment is considered to be made up of three sub-groups:

Natural environment = N

Environment created by man (technostructures) = H

Social environment = S⁷

What interests us in each case is the impact created on living and working conditions by different social agents⁸ (social classes, but also enterprises),⁹ including the conception these agents have of the quality of the environment. It is essential to study this conception because it does not depend exclusively on the material factors of N and H. Therefore, the evaluation of the human environment calls not only for consideration of the different social agents but also for the handling of a group of indicators which range from physical and chemical measurements of the quality of water and air to psycho-sociological surveys and include indicators of the availability and accessibility of urban infrastructure and equipment, housing, social services, etc.¹⁰

We consider that, far from being mutually exclusive, the two definitions complement each other. The first stresses the need to explain

⁴ The following symbols will be used in this paper:

P: Population
T: Technology
Y: Product
M: Environment
R: Natural resources

⁵ The well-known report of the Massachusetts Institute of Technology (*The Limits to Growth*, Boston, 1972), sponsored by the Club of Rome, offers a choice between two apocalyptic visions of the end: through the depletion of resources or through pollution, or possibly through a combination of the two.

⁶ West Churchman, *The Systems Approach*, New York, 1968.

⁷ As Tomás Maldonado points out, the human environment is also composed of men and thus raises the problems of individual, community and competitive life (*Environnement et Idéologie*, Paris, 1972, p. 15).

⁸ In this respect, Frederick Engels' book on the situation of the working class in England can be considered as a precursor in environmental studies.

⁹ The concept of positive and negative external economies is also partly germane to the problem dealt with here.

¹⁰ It seems likely that interesting information could be obtained by studying the time-budget of the different activities of various social agents.

the interrelationships between specific measures, on the one hand, and society and nature considered as a whole, on the other. This would seem to be an invitation to the planner to make a thorough study of the globalizing sciences, i.e., ecology, social anthropology and, of course, history, which adds the indispensable advantage of making it possible to take a view that embraces whole eras or processes. The second definition provides a framework for analysing the quality of the environment proper, which is a more restricted but nevertheless fundamental subject since it adds a new dimension to stylistic (or normative) planning.¹¹

Let us now discuss the interrelationships between P, T, R, Y and M.

Diagram 1 presents the traditional view of the economy of development. The population exploits its resources with the available techniques and obtains a product which forms the basis for its sustenance and its wider reproduction. The dotted line indicates the T—P relationship which recently began to be analysed at a specific level (social philosophy). This is not the place to discuss the different theoretical interpretations of the dialectic process deriving from demographic pressure and resources, whether it leads to technical progress, to changes in socio-political structures or to both things at once, when it does so, and in what sense (progress or "involution")¹².

We shall content ourselves with a single comment: it does not seem feasible to reduce the wealth of situations described by anthropologists and historians to a single model. The systematic organization of accumulated knowledge would therefore be most advisable, both in general and in the specific Latin American context.

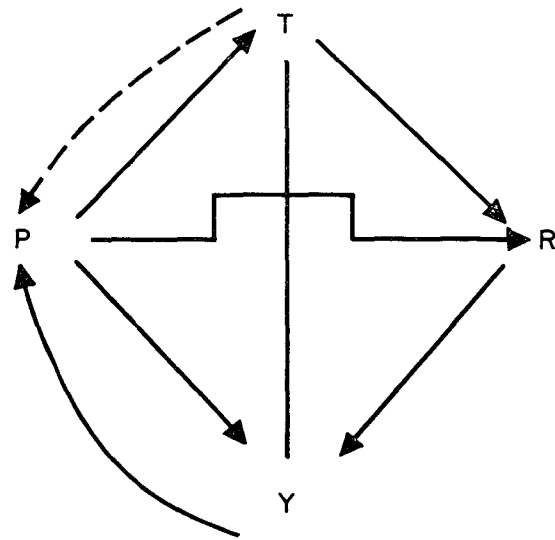
Let us now introduce variable M. In this new situation which is presented in diagram 2, the planner's view has been enriched by a series of relationships:

$Y \rightarrow M$, $T \rightarrow M$ and $R \rightarrow M$ are the environmental effects of production and its consumption, the technologies employed and the use of

¹¹ See the definition of stylistic (or normative) planning and its relationship with contextual, strategic, operational and institutional planning in the excellent paper by Francisco Segasti which is to be published in *Social Science Information*, 2/1973.

¹² Clifford Geertz talks about "agricultural involution" in his celebrated study on agricultural conditions in Java.

Diagram I



resources; $P \rightarrow M$ is the environmental effect of human settlements.

Let us now see the feed-back effects. $M \rightarrow R$ represents the degradation of natural resources caused by pollution; $M \rightarrow Y$ is the effect of environmental conditions on production processes; and lastly, $M \rightarrow P$ is the direct environmental component of the quality of life.

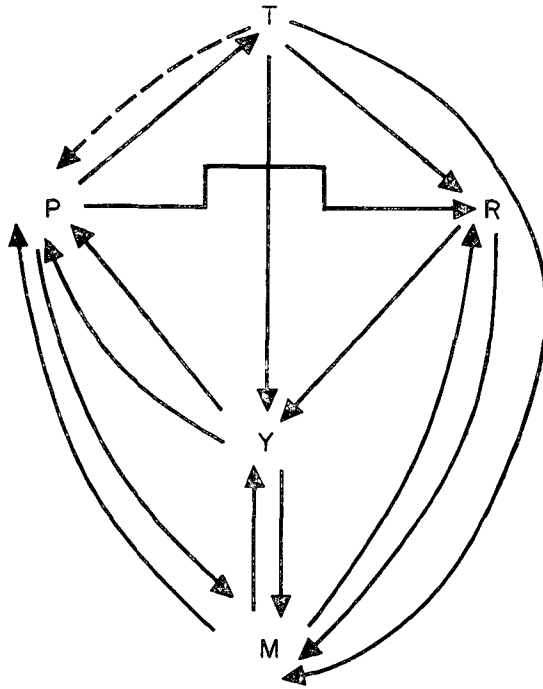
2. Operational variables

Diagram 2 is merely intended to indicate the relationships which should be considered, in addition to those traditionally handled by planners, in a strategy for harmonizing development with environmental management, and to suggest the type of analysis necessary in each specific situation. In view of the level of generality of our approach, it is not possible in this paper to indicate the controls that would have to be established in order to achieve the desired harmonization. All we can do is to indicate the critical spheres of possible action where the operational variables should be examined. Briefly these critical spheres are as follows:

(a) The pattern of consumption, which in its turn depends on income distribution and on the group of social values included in the style of development;

(b) The socio-political system and, in particular, the treatment given to social costs: in

Diagram II



a market economy enterprises endeavour to secure maximum profits for themselves while spreading the costs over others, whereas in socialist and mixed economies the State can, in theory, change this rule;

(c) The technologies used: in particular, a distinction should be made between the use of technologies that are not harmful to the environment¹³ and the introduction of pollution control technologies to supplement production technologies which cause pollution, thus leading to an undesirable cycle of increased production, pollution and pollution control;¹⁴

(d) The pattern of utilization of natural resources and energy, with emphasis on the

elimination of destructive practices, the recovery of scarce products and the use for productive purposes of waste which constitutes a potential pollutant; similarly, under more sophisticated environment policies, there should be emphasis on the saving of scarce resources incorporated in durable goods and equipment by controlling their rate of obsolescence so as to avoid excessive rotation dictated by styles of consumption and the incessant race towards higher labour productivity;

(e) The pattern of space use: the same production and activities will have different effects according to their location;

(f) The size, rate of growth and distribution of the population: the environmental effects of faulty spatial distribution, combined with the unequal distribution of employment and income, seem to have more influence on environmental problems in Latin America than the rates of growth, since, with few exceptions, the over-all size of the population presents no particular problem. Incidentally, demographic pressure on resources depends not on the number of inhabitants, but on their number weighted by *per capita* consumption. Thus, 200 million inhabitants of the United States are equivalent to at least 10,000 million Indians, even if one inhabitant of the United States is estimated to consume only 50 times as much as an Indian.¹⁵ Furthermore, Barry Commoner has reached the conclusion that the main factor in the environmental deterioration observed in the United States since the war has been technological change rather than the growth of population or income.¹⁶ Despite the attacks against him by P. Ehrlich and others, it seems to us that his conclusion is justified, although we do not fully agree with all his arguments, especially as regards the possibility of easily finding non-polluting substitutes of comparable quality for most of the products indicated by him.¹⁷

¹³ Technologies which do not harm the environment constitute a broader universe than that of the "soft technologies" defined in very restrictive terms by Peter Harper and other leaders of the ecological movement in the United Kingdom. Harper is only satisfied by technologies of low capital intensity which neither pollute nor use potentially scarce renewable resources and which, moreover, are simple enough to be used on a small scale by non-specialists (see the paper by Harper and my comments in the UNESCO periodical *Prospects* (in the press)).

¹⁴ Pollution control is an economic activity and as such is included in national income calculations, but like armaments it contributes nothing towards satisfy-

ing man's positive needs. Inflation of national income by including expenditure of this kind creates a false impression of wealth.

¹⁵ See an estimate of this kind in Richard Falk, *The Endangered Planet*, New York, 1972.

¹⁶ Barry Commoner, *The Closing Circle*, New York, 1971.

¹⁷ Commoner is quite right in insisting that the United States could produce the same quantity of wheat with fewer fertilizers and insecticides if it sowed a bigger area, but housewives would resist the substitution of ordinary soap for detergent. It would, of course, be quite reasonable to suggest as part of an environment policy that certain products be abandoned

The operational variables pertaining to these critical spheres of action can be combined in different ways in various development strategies which could even be classified according to the degree to which they exploit the environment.¹⁸ It is therefore clearly the wrong approach to start by trying to equate long-term environmental management with only two variables—the growth rate of the product and that of the population—on the basis of the trivial argument that exponential growth in a finite medium must at some time reach its limit. Without going to the extremes of an unfounded “epistemological optimism”,¹⁹ and while recognizing the dangers of an obscurantist growthmanship which ignores the social and environmental effects of the growth of the product we think there is still scope to devise development strategies which are viable even from the environmental point of view.²⁰ The developing countries, in particular, have a chance to avoid the mistakes made by the industrialized countries and to take preventive measures which involve a low social cost and can even perhaps be compensated for by net advantages. This is valid, *a posteriori*, for open spaces where it should be possible to adopt an ecological approach from the very outset of the population process, but unfortunately the real situation of Latin America's economic frontiers is very different.

Three types of studies on Latin America are necessary in order to determine exactly how much there is:

(a) Determination of the environmental effects and the destruction of natural resources resulting from growth and land use strategies in various countries of the region. This analysis should show the different patterns of interrelationship of the variables given in diagram 2, and thus determine the interaction of social and natural processes within the context of Latin America's historical development;

and replaced by others, but this would involve a change of values, rather than merely the substitution of equivalent products.

¹⁸ R. G. Wilkinson, *Economic Development*, London, 1973.

¹⁹ This is the title of a chapter in a book on scientific prospects by the well-known Soviet physicist Kousnetsov.

²⁰ In the words of Ronald G. Ridker, “while population growth and perhaps economic growth ultimately must come to a halt on this finite planet, there is still considerable room to choose when, where and how”. (*Resource and Environmental Consequences of Population Growth in the United States. A summary. Resources for the Future*, Washington, February 1973, p. 19.)

(b) Study of the possible degree of variation of the operational variables;

(c) Construction of models of different development styles, dealing with the environment dimension in its two aspects: balance of natural resources and energy resources on the one hand, and the quality of life on the other.

3. *Some theoretical consequences of the introduction of the environment dimension*

To what extent does the environmental revolution²¹ force us to reconsider the economic theories of and traditional approaches to planning? Since consideration of this subject is comparatively recent, we shall merely indicate some promising lines to follow.

First, an attempt is being made to reinterpret concepts such as those of production and consumption. We have already mentioned the concept of the “environmental exploitation rate” introduced by Wilkinson, while Georgescu Roegen invites us to reconsider the whole production process in the light of the physical theory of entropy. In order to do this, economic production processes must not be analysed completely irrespective of the physical processes which support them,²² particularly that of the circulation of energy. After two centuries, as a result of the present concern about the environment, the writings of the physiocrats seem to have taken on new interest. Lastly, in expanding input-output tables to include the disposal of waste, Allen Kneese came to the conclusion that the concept of final consumption has lost all meaning.²³

The expansion of input-output tables is part of the task of reviewing statistical instruments in order to record environmental effects. One school of thought suggests a monetary evaluation of these effects (based on the cost of preventing them, eliminating them or even compensating for the damage done), with a corresponding correction of national product indexes, which would thus reflect net well-being.

The simplistic idea that market values can be invented for everything is meeting with increasing opposition however.²⁴ Writers who

²¹ Here, we are interpreting conceptually the title of Max Nicholson's book, *The Environmental Revolution*, London, 1970.

²² Georgescu Roegen, *The Law of Entropy and Production*, Cambridge, Massachusetts, 1971.

²³ Kneese, Ayres and D'Arge, *Economics and the Environment: a Materials Balance Approach*, Washington, 1970.

²⁴ See, for example, A. M. Okun: “What you can and do measure as national income statisticians is the output resulting from market-oriented activity.

adopt a critical attitude towards neo-classical theories stress the need to go beyond pseudo-economic calculations and instead rehabilitate the normative dimension in economic thought.²⁵ In the sphere of social accounting, this would mean modifying national accounting of income, which would only have a limited role as an indicator of the level of economic activity, and adding a system of different social indicators of social welfare, together with a third system of accounts designed to show the net worth of nature with the purpose of assessing the consumption of stocks of non-renewable natural resources and the degree of reproduction of renewable resources.²⁶

Emphasis on the normative approach would mean rejecting the traditional cost-benefit methods²⁷ and trying to improve on them within

The key to market-oriented activity is the presence of price tags. These are the essential ingredients in any objective standard of measurement that you can apply. Price tags enable you to sum up in a meaningful way physicians' prescriptions and phonograph records and pounds of steak and packages of beans. You can add up all the things that money can buy. But if you were to be seduced by your critics into inventing price tags which neither exist nor can be reasonably approximated for things which money can't buy, you will have sacrificed any objective yardstick." (*Survey of Current Business*, July 1971, p. 130).

²⁵ See, for example, the articles by Kapp and Sachs in *The Political Economy of Environment*, Paris and The Hague, 1972.

²⁶ These three systems of accounts are being studied in France by the National Institute of Statistics and Economic Studies (INSEE). Among the institutions and writers that have concerned themselves with social indicators are Jacques Delors, Bertram Gross and the United Nations Research Institute for Social Development (UNRISD).

²⁷ See, for example, the article by Streetan in *The Political Economy of Environment*, op. cit., An extreme position is that reflected in the following words of Ian McHarg: "The economists, with some conspicuous exceptions, have become the spokesmen for the merchants' creed and in concert they ask with the most barefaced effrontery that we accommodate our values to theirs. Neither love nor compassion, health nor beauty, dignity nor freedom, grace nor delight are true unless they can be priced. If not, they are described as nonprice benefits and relegated to inconsequence, and the economic model proceeds towards its self-fulfilment—which is to say more despoliation. The major criticism of this model is not that it is partial

the naturally much broader context of the assessment of the environmental and social effects of technologies.²⁸

Lastly, mention should be made of a recent and very interesting attempt by Wilkinson²⁹ to redefine development in ecological terms. For this writer, development means passing from one ecological niche to another which holds out greater opportunities and a new basis of resources, but which presents different technological and social problems and requires a process of adaptation in order to achieve a new ecological balance. According to Wilkinson, technological progress is induced by the challenge of the new problems which are progressively raised by new ecological conditions. This is undoubtedly an interesting theoretical effort, but it is unilateral. As we have already stated, we consider that the planner's thinking should be enriched not only with ecological but also with anthropological knowledge. Only in this way is it possible to achieve a truly unified approach and at the same time to eliminate not only the mono-disciplinary and sectoral approaches but also the conflict between socio-economic and environmental and substantive and spatial considerations.

(which is conceded by its strongest advocates), but more that the features which are excluded are among the most important human values, and also the requirements for survival. If the ethics of society insist that it is man's bounden duty to subdue the earth, then it is likely that he will obtain the tools with which to accomplish this. If there is established a value system based upon exploitation of the earth, then the essential components for survival, health, and evolution are likely to be discounted, as they are. It can then come as no surprise to us that the most scabrous slum is more highly valued than the most beautiful landscape, that the most loathsome roadside stand is more highly valued than the richest farmland, and that this society should more highly prize tomato stakes than the primeval redwoods whence they come." ("Values, process and form", in Robert Disch (compiler), *The Ecological Conscience. Values for survival*, Englewood Cliffs, New Jersey, Prentice Hall, pp. 21-36).

²⁸ A special issue of *Revue Internationale des Sciences Sociales*, published by the United Nations Educational, Scientific and Cultural Organization (UNESCO), contains several articles on this subject (Vol. XXV (1973), No. 3, in the press).

²⁹ *Economic Development*, op. cit.

B. ECO-DEVELOPMENT: THE CONCEPT AND ITS APPLICATIONS

The concept of eco-development derives from the theoretical considerations examined briefly in previous sections, and the idea is to adopt a unified approach to regional and local planning. We shall now define the concept, illustrate

its possible applications and identify the institutional framework required.

1. Definition of the concept

We shall give the name of eco-development strategies to those which are designed for par-

ticular eco-zones with a view to: (a) making fuller use of the specific resources in each eco-zone in order to meet the basic needs of its inhabitants while safeguarding the long-term prospects by the rational management of those resources instead of their destructive exploitation; (b) reducing to a minimum the negative environmental effects and even, as far as possible, using waste products for productive purposes; (c) designing adequate technologies for achieving these goals.

Eco-development is above all an approach which invites the planner to change his traditional view of the development process. It stresses the diversity of situations and hence of paths to development, the possibilities of complementarity between proposed activities so as to prevent the wasting of resources and minimize the waste products generated, and the need to rely more heavily on internal efforts and on the originality of local projects. The greatest change occurs in the technological style, although eco-development should not be reduced only to this aspect. It is not a question of limiting the area of possibilities to the extremely small group of "soft technologies", although these should be used wherever possible, nor is it a question either of rejecting certain highly capital-intensive technologies when there are no feasible less costly alternatives and such technologies promote eco-development³⁰ in that they have been developed in accordance with ecological criteria. Instead of adapting the eco-system to imported technologies which have been tested under different cultural and ecological conditions and which tend to destroy the system and have disastrous social effects, the idea is to adopt a new attitude and to design technologies suited to the conditions of the natural and social environment in which they are to be used. We consider that, for both ecological and socio-economic reasons, a special role should be played by "combined technologies" which, with the

³⁰A recent Japanese research project illustrates the feasibility, in some cases, of technologies which are based on the ecological approach but involve high capital intensity; thus, for example, in order to eliminate sulphur from the oil which Japan imports from the Persian Gulf countries, it was suggested that the exporters should produce asphalt. So as to utilize the surplus asphalt a machine was invented which injects this product one metre deep in the desert, thus creating an impermeable layer and permitting the large-scale cultivation of hydroponic crops. As these need fresh water, however, instead of desalinating sea-water it was considered preferable to undertake genetic research with a view to adapting certain plants to brackish water.

catalytic contribution of spearhead technologies, would enable fairly traditional activities based on the use of renewable natural resources, to continue by opening up new markets for the products of such activities through their endowment with new qualities (the impregnation of timber and the chemical treatment of natural fibres are good examples).³¹

Clearly, eco-development also involves a change in the order of priorities and in the style of scientific research. Instead of following alienating fashions dictated by foreign scientific centres, research specialists should adopt a different scale of values which gives more importance, in particular, to the solution of local problems, the simplicity of the techniques proposed, and their evaluation from the ecological and cultural angle rather than exclusively by their efficiency in terms of achieving maximum performance. At the same time, great importance is attached to the participation of the local population in research activities and an effort is made to take advantage of the indigenous population's knowledge of eco-system through ethnoecology (which of course includes ethnobotany).

2. Area of application

Let us now examine briefly some possible applications of the concept of eco-development in the fields of nutrition, housing, energy, industrial exploitation of renewable resources and conservation of resources.

(a) Nutrition

A great deal has been written and much research has been carried out in connexion with the possibilities of finding novel local solutions, at least of a partial nature, to the problems of food supply. The green revolution,³² however, has brought to ever-greater prominence a philosophy involving the wide dissemination and uniformity of agricultural development. This does not mean, of course, denying the dissemination potential of certain species, but the

³¹ There are even grounds for thinking that the developed countries might be interested, as part of their own environment policies, in opening up their markets to such products as substitutes for others based on resources which are non-renewable, polluting, or both. See *Méthodologie d'évaluation de produits à matières substituables en fonction des impacts sur l'environnement*, a study prepared by CIREN (EPHE) for the Ministry of the Environment, Paris, 1973.

³² We shall not take into account here the negative social effects—greater polarization of wealth and scant creation of employment—which many writers attribute to the green revolution.

ecological dangers of such a course of action should not be underestimated,³³ nor should opportunities be wasted because of a hankering to adopt only reputedly "miraculous" imported solutions. While not trying to be original at all costs, eco-development endeavours to stave off the tendency towards uniformity, exploring little-known or little-practised possibilities but at the same time not forgetting the need also gradually to develop crop farming and livestock production on the basis of established but under-utilized methods (such as raising pigs on yucca or cattle on sugar cane, in areas where yucca and sugar cane can be produced cheaply in large quantities).

It is advisable, therefore, to reject certain assumptions inherited from past European experience whereby crop-farming is considered in terms of open areas and single-crop farming, while stock-raising is considered in terms of closed, and of course cleared, areas. We have already forgotten how the forests which covered nearly the whole of Europe in the Middle Ages were managed in order to extract from them both human food and animal feed. Generally speaking, we are stamped by a cultural tradition according to which the forest is an enemy, the habitat of all that is harmful, and an obstacle to agriculture.³⁴

What must be done is to utilize to the full the natural capacity for photosynthesis, completely irrespective of the form the natural

³³ The writer, who is of Polish origin, recalls that the introduction of the potato into Poland completely altered the nutritional habits and structure of the rural population. On the other hand, it should not be forgotten that Ireland suffered a great tragedy in the last century when disease attacked its potato crop and caused the death or emigration of millions.

³⁴ In a book on the economy of the latter part of the Middle Ages, George Duby describes the "barbarian" (as opposed to the Roman) agricultural system, in which crop-growing land and the space for pasture, forests and forage crops were closely linked. (Georges Duby, *Guerriers et Paysans. VII-XII siècle*, Paris, 1973). See also the following comment by Jacques Le Goff: "A great mantle of forest and moors broken by more or less fertile cultivated clearings—a sort of opposite extreme to the Moslem East, which is a world of oases in the middle of deserts. There wood is scarce, here it is plentiful; there trees mean civilization, here they mean barbarism. The religion born in the East under the shade of the palm-trees emerges in the West as detrimental to trees, which are considered as the refuge of pagan genii and are chopped down without mercy by monks, saints and missionaries. All progress in the mediaeval West consists of clearing, combating and vanquishing weeds, bushes and when necessary and when technical equipment and courage permit, forests of full-grown trees, the virgin forest, Perceval's *vaste forêt*, Dante's *silva oscura*.

productive process may take. This leads to the following possibilities:

The selection of local plants and local genetic varieties with satisfactory productive potentialities;

The use of agriculture, in salt or fresh water (the "blue revolution"), as a potential source of direct feed,³⁵ or for the extraction of protein, possibly for human nutrition and certainly for fish feeding. There are even excellent possibilities of converting into valuable resources the aquatic plants which infest artificial lakes and threaten them with eutrophication;³⁶

The three-dimensional exploitation of forests for the extraction not only of timber but also of food and animal feed. Recent experience has shown the potentialities of forests specially planted for the production of feed. In certain eco-systems these can provide the best solution;³⁷

The adoption of agriculture at different levels, particularly in the rainy tropical zones, respecting the architecture of the jungle and even combining plants which have roots of different depths, different nutrient requirements and dephased growing periods (the indigenous market-gardens in Polynesia may have a great deal to teach us in this respect³⁸);

³⁵ In view of the danger of complete annihilation of the livestock in Niger due to persistent drought, it was decided to sow aquatic plants in the Niger River in order to produce feed (personal letter to the author).

³⁶ At the eleventh Congress of the International Commission of Large Dams held in Madrid in June 1973, the Soviet delegation reported that the first installations for extracting feed protein on an industrial scale from aquatic plants grown in artificial lakes were being constructed in the Ukraine.

³⁷ See the excellent article by James Sholto Douglas "L'agri-sylviculture pour accroître la production alimentaire de la nature", *Impact: Science et Société*, UNESCO, vol. XXIII (1973), No. 2. In Chile good results are being obtained from plantations of a tree of leguminosae family (*Prosopis tamarugo*) in the Pampa del Tamarugal, which can maintain 12 sheep per hectare (36 times more than in Patagonia) in a wilderness area. Pierre Gourou, for his part, studied the extraordinary case of the inhabitants of the island of Ukara in Lake Victoria, Tanzania, where over 200 inhabitants per square kilometre live in an area of 74 square kilometres. The islanders have 10,000 cattle which they breed in stables, using the manure for intensive agriculture. The cattle feed consist of various forage crops, including graminaceous plants cultivated in flooded areas and the leaves of 32 species of specially planted trees. (Pierre Gourou, *Leçons de Géographie Tropicale*, Paris, 1971, pp. 160-161.)

³⁸ See R. A. Rappaport, "The flow of energy in an agricultural society", *Scientific American*, September 1971. For information on the smallholdings of the in-

The extraction of protein directly from leaves,³⁹ which is possible and economic even from weeds,⁴⁰ and the cultivation of yeasts on lignin;

The rational management of fauna, which could usefully supplement livestock production or even, as some biologists maintain in connexion with East Africa,⁴¹ provide a more productive alternative and the management of marine fauna such as turtles;⁴²

The domestication of some wild animals such as the guanaco in the austral zone, the tapir in the Amazon area and, of course, the sea cow, which unfortunately is almost extinct but which has been used successfully in Florida to clean canals overgrown with aquatic plants;⁴³

The selection of species found in similar eco-system in order to try to acclimatize them (for example, the Asian buffalo rather than European cattle for the rainy tropical regions of Latin America);

The intelligent management of nutritional chains, particularly in pisciculture (the writer has seen fish fed with termites in east Peru) and shellfish culture (use of fish meal as feed in nurseries);

Biological pest control.

This is not an exhaustive enumeration and is intended merely for illustrative purposes.

(b) Housing

This problem exists at three inter-related levels: bringing the design of population centres into line with the eco-system, building ecological dwellings, and using local materials

digenous population in the Amazon area, see Betty J. Meggers, *Amazonia: Man and Culture in a Counterfeit Paradise*, Chicago, 1971, and Stefano Varese, "Au sujet du colonialisme écologique", *Les Temps Modernes*, April 1973.

³⁹ See N. W. Pirie, *Leaf Protein: Its Agronomy, Preparation, Quality and Use*, Blackwell Scientific Publications for the International Biological Programme, Oxford and Edinburgh, 1971.

⁴⁰ S. B. Gore and R. N. Joshi, "The exploitation of weeds for leaf protein productions", *Tropical Ecology with an Emphasis on Organic Production*, proceedings of a symposium on tropical ecology, Athens, Georgia, 1972, pp. 137-146.

⁴¹ See Julian Huxley, "Riches of wild Africa", *Essays of a Humanist*, Harmondsworth, Penguin Books, 1966, pp. 177-201.

⁴² The case of the turtles of the Galapagos Islands has been studied by Pierre Gourou (periodical *L'Homme*, 1966).

⁴³ In principle, the International Biological Programme is to study the protection and utilization of sea cows. See N. W. Pirie, "Weeds are not all bad" *Ceres* (FAO), vol. 3, No. 4, July-August 1970.

—preferably based on renewable resources (provided, of course, that these resources are rationally managed) or on industrial waste—which can be used in a labour-intensive manner and are suitable for self-help construction programmes involving the assistance of only a few specialists. This offers perhaps the only prospect of successfully tackling the world-wide housing problem, the deficit in Latin America in 1970 being estimated by the IDB at 15 to 20 million units.⁴⁴

Of the three problems mentioned above, that which has been least studied is the problem of designing population centres which are in line with both the eco-system and with cultural traditions. Urbanistic thinking within the context of the Charter of Athens continues to be highly universalistic and therefore tends to reduce everything to a uniform pattern. Moreover, many population schemes are based on a geometrical view of the organization of space which completely loses sight of the peculiarities of each case and the manifold schemes that may be put into practice. This situation becomes dramatic in certain tropical zones where no effort at all has been made to give cities and population centres an original form adapted to their environment and able to withstand problems of climate (heat, torrential rain, tropical diseases) through the suitable organization of urban space, the utilization of plant cover as protection against sun and rain, the use of biological methods for the treatment of waste water, etc. The great majority of urbanistic rules prevailing today in Latin America are virtually unadapted copies of European models, despite the differences in ecological and cultural situations.

More is known about adapting housing to the climatic and natural environment. According to A. Rappaport, Europeans who settled in Amazonia and had their houses built by the indigenous population achieved better results than the rubber kings, who imported even bricks and marble to build thick-walled mansions which seemed as if they were specially designed to absorb moisture and gradually decayed.⁴⁵ During the colonial era a style of housing which was fairly well suited to the prevailing ecological conditions⁴⁶ was developed in several

⁴⁴ Economic Commission for Latin American (ECLA), "Latin America and the International Development Strategy: First regional appraisal" (E/CN.12/947), February 1973, Part One, p. 57.

⁴⁵ Amos Rappaport, *Pour une anthropologie de la maison*, Paris, 1972, p. 31.

⁴⁶ See Gilberto Freire, *A Casa Brasileira*, Rio de Janeiro, 1971.

parts of Latin America, but it does not seem to have had much influence on modern designs. Hassan Fathy's ill-fated but highly interesting experiences in Egypt⁴⁷ indicate the tremendous potentialities offered by the study and rationalization of traditional housing designs and building techniques in order to achieve solutions that are efficient, cheap and in keeping with the inhabitants' taste. Nevertheless, the cities of the third world are filled with cosmopolitan towers and, invoking a falsely modernistic scale of values, the rural population are invited to live in houses which are really less comfortable, since they are smaller and much less functional than the traditional dwellings.

However, the studies carried out by the Inter-American Housing Planning Centre (CINVA) of Bogotá and the experiences of Cuba⁴⁸ and several other countries represent some progress, albeit only on an incipient scale, in the utilization of local building materials.

The problem of ecological housing is also a source of concern to the developed countries. Mention may be made, for example, of a spectacular and apparently well executed project carried out by a team of research specialists from McGill University, who build a house very cheaply using sulphur waste from petroleum refining as the main construction material. The following 12 principles were applied in building this ecological house, which was specially designed to suit areas where there is a shortage of water:

- Use of renewable resources such as wood and vegetable fibres;
- Use of materials which would otherwise pollute the environment if discarded in the form of industrial wastes (sulphur waste from petroleum, copper, zinc refineries, etc.);
- Use of materials which can be recycled rather than being discarded at the end of the building's useful life;
- Use of non-polluting wind energy for electric power production;
- Use of as little water as possible for laundry and cleaning purposes, and saving of large quantities of water by means of fine-droplet spraying;
- Use of the wind-produced electric power to obtain water from the air through condensation;

⁴⁷ Hassan Fathy, *Construire avec le peuple*, Paris, 1971.

⁴⁸ See Maruja Acosta and Jorge Hardoy, *Reforma urbana en Cuba revolucionaria*, Caracas, 1971.

Use of solar energy to purify polluted water or sea-water;

Use of solar energy for cooking and water heating, thus eliminating the need for fuel;

Recycling of water and its separation by function according to the degree of purity required: i.e., for drinking and cooking, washing, and other purposes;

Use of all the rainwater available;

Avoidance of use of non-renewable resources which are rapidly being depleted; and

Avoidance of waste by harmonizing the dimensions of all the building components through modular coordination.⁴⁹

This model ecological house naturally suggests many interesting avenues in the search for novel and at the same time economic solutions, which can obviously be applied separately, in order to tackle Latin America's housing problem.

(c) Energy

Without approaching the "energy crisis" (or perhaps pseudo-crisis) now facing the industrialized countries in its whole complexity and political dimension, the following four comments may be made on the subject.

(i) Petroleum prices will continue to soar (though this will not necessarily result in a net transfer of income to the producer countries of the third world where the transnational oil companies are operating), thus bringing about a change in the relative prices of the various fuels which will create some possibilities of substitution which did not exist at the previous petroleum prices; nuclear energy will move into first place, but increasing popular feeling against the installation of atomic power plants could impel some countries to seek unconventional solutions earlier than might have been expected;

(ii) Owing to the energy crisis, steps are being taken to reassess the possibility of developing unconventional sources of energy such as geothermal energy,⁵⁰ solar energy, wind energy, tidal energy and, lastly, hydrogen obtainable through the electrolysis of sea-water, using nuclear energy, solar energy (in tropical seas), or wind energy. Even writers who doubt whether these novel techniques can be introduced on an industrial scale before the end

⁴⁹ A. Ortega, W. Rybczunski, S. Ayad, W. Ali and A. Aceso, *The Ecology Operation*, McGill University, Montreal, 1972.

⁵⁰ The Chilean Development Corporation (CORFO), with United Nations assistance, is carrying out a project for tapping geothermal energy at El Tatio in northern Chile.

of the century recognize that the programme of research in this field should be considerably expanded;⁵¹

(iii) At the same time, special attention is being given to the potential saving of energy by changes in consumption styles, in the organization of transport and in house construction methods;⁵²

(iv) Lastly, those members of ecological movements who advocate "soft techniques" say that it is frequently possible to find decentralized solutions on a non-industrial scale, even for a single farm, which concentrate on the use of renewable resources and cheap techniques. In the case of the model ecological house described above, both solar and wind energy are used. Other methods suggested are small dams and the production of biological gas from organic matter.⁵³

While these solutions have at best a philosophical demonstration value in highly industrialized countries covered by a dense electric energy transmission network, their value should not be underestimated in eco-development strategies for many isolated regions of the third world which, moreover, have favourable climatic conditions for utilizing the sun or organic matter for the production of energy. Furthermore, the saving of energy obtained from commercial sources undoubtedly constitutes an important element in the analysis of development styles, since the majority of the inhabitants of the third world will never be able to reach such levels of squandering energy as those associated with production and consumption in industrial societies. Lastly, the possibility should not be excluded that some countries of the third world will go further than the industrialized countries in the application of novel solutions involving the use of unconventional sources of energy and a more rational organization of their transport systems. This is a definite possibility because, in addition to possessing more favourable natural conditions for the utiliza-

tion of solar energy, their socio-political structures are perhaps less dominated by the play of powerful economic interests linked to the development of conventional sources of energy and to the civilization of the private motor car.

(d) *Industrial utilization of renewable resources*

This is a very broad subject, and must therefore be dealt with here on more general lines.

For obvious reasons, the industrial utilization of renewable resources must wherever possible form part of the eco-development strategy.

This means, above all, attaching great importance to artisan-type activities using local resources. The bamboo civilization in the Far East is an excellent example of what can be done with a renewable resource.⁵⁴ The next step is the industrial processing of residues from traditional agro-industrial production activities. Sucro-chemistry as developed in countries such as Cuba and Peru clearly indicates how much scope there is in this field. The main concern, however, must be to design complexes of forest industries, with emphasis on complementarity and the full utilization of all the resources in a specific forest area in order to obtain the maximum output per hectare of cut forest and at the same time to facilitate rational forest management with a view to the long-term conservation of resources. Therefore, consideration must be given simultaneously to the production of wood, wood products, pulp and paper, the industrial processing of oil seeds and fruit, and the extraction of essences and protein, the aim in the long run being to build up a

⁵¹ This is the opinion expressed by Carroll L. Wilson in "A plan for energy independence", *Foreign Affairs*, July 1973, p. 659.

⁵² An official study on energy conservation in the United States covers all these subjects. Its conclusions have been widely disseminated in summarized form in the periodical *Science*, April 1973.

⁵³ Experiments are being carried out in some 5,000 population centres in India on the extraction of biological gas from dung with the simultaneous production of manure. Traditionally, all dung was burnt as domestic fuel. The obstacles to the expansion of this programme seem to be of a social rather than a technical or financial character (personal letter to the author).

⁵⁴ Describing the "plant civilization" of the Far East, Pierre Gourou has written an excellent description of the bamboo technology: "Because of the availability of bamboo, or, more exactly, because the Chinese have had the ingenuity to discern its virtues, admirable use has been made of this material in Chinese technology. Bamboo is not unknown in Black Africa, but the traditional technologies of traditional Africa attach little importance to it. In contrast, in the Far East it serves as levers for moving weights, posts, poles, scaffolding, pipes, conduits, blinds, boats, chairs, tables, shelving, boxes, screens, fine and thick paint-brushes, combs, brooms, ladders, flexible measuring rods, arrows, bows, parasol spokes, fences, mats, hats, stakes, baskets, lanterns, torches, fans, chopsticks, cages, flutes, staves, ropes, sandals, cylinders for forge-blowers; an inter-nodular section of green bamboo filled with rice and placed on the fire provides, when removed, a tastily cooked dish; the new shoots are a delicious vegetable; the leaves form excellent foliage; and bamboo provides motifs for painting and the decorative arts, which have successfully interpreted the flexibility and mobility of the stems and the trembling leaves." (Pierre Gourou, *La terre et l'homme en Extrême-Orient*, Paris, 1972, pp. 27-28.)

whole chemical industry using vegetable matter. Such an industry might one day in some cases replace the petrochemical industry which is threatened by shortages of resources and is at a disadvantage owing to the rising cost of its raw material.⁵⁵ It goes without saying, of course, that forest industry complexes should be so designed as to avoid water pollution or other pernicious effects on the environment.

(e) *Conservation of natural resources*

As already emphasized above, the conservation of natural resources is an integral part of eco-development strategies. Considerable use can be made of labour-intensive methods in this field of activity, as shown, *inter alia*, by the example of China.⁵⁶ Insofar as reforestation, water and soil management and other programmes can be implemented through the mobilization of human resources which would otherwise not be engaged in directly productive activities, no resources need to be re-allocated, except for the minimal amount necessary for equipment and possibly for additional food supplies. The environmental objectives are thereby harmonized with the goal of creating employment: in other words, there is additional long-term investment, since the conservation of resources is a *sine qua non* for sustained development. It is common knowledge that many development projects such as dams, irrigation projects, etc., have had disastrous effects on natural resources, either because they have been poorly executed or for want of foresight regarding the project's over-all effects, or again because of sectoral approaches and the effect of selfish private interests. It is therefore a matter of urgency to evaluate these projects from the environment standpoint and then to carry out

a programme of public works, using highly labour-intensive techniques, in order to repair the damage already done.⁵⁷

3. *Institutional preconditions*

Eco-development is not just a technological style. Its application depends on institutional change, which is an integral part of the development process⁵⁸ and of the evolution of the human mentality. A recent study of the teaching of ecological policy in China underlines the latter point. The Chinese are not using very original environmental and conservation techniques, but they have awakened the broad masses to an awareness of these problems.⁵⁹

The four essential conditions for eco-development are:

(a) A horizontal development authority capable of rising above the sectoral approach and taking advantage of all the complementarity possibilities involved;

(b) The real participation of the population in the preparation of eco-strategies, the necessary research and the execution of the proposed action;

(c) An educational system which, instead of concentrating on the transfer of book knowledge, converts the rural school into a real development agency, where the students learn to participate daily in development activities, to shoulder their responsibilities vis-à-vis the community, and at the same time to think specifically in ecological and anthropological terms;

(d) A system for integrating rural areas into the national economy, so as to prevent producers of primary products from being exploited by a chain of middlemen.⁶⁰

⁵⁵ In a book written over a quarter of a century ago the American naturalist Marston Bates anticipated many of the current discussions about the utilization of forests, even at a complex industrial level. Note also his highly perceptive comment on the imitative transfer of technology: "If the West is unable to adapt its own economy to developments in nature within its own environment, it will find it difficult to help other nations to effect similar adjustments within their own environments." (*Les tropiques. L'homme et la nature entre la Cancer et le Capricorne*, Paris, 1953, pp. 227-228).

⁵⁶ See J. B. R. Whitney, "Ecology and environmental control", in *China's Developmental Experience*, compiled by Michel Oksenberg (Documents of the Academy of Political Sciences, New York, March 1973, vol. 31, No. 1, pp. 95-109); see also Chang Kuang-tou, Chen Chun-Ting, Li Kuei-fen and Liu Ling-Yao, "Construction of dams for water conservancy", Peking, 1973 (document distributed at the eleventh International Congress of Builders of large Dams, Madrid, June 1973).

⁵⁷ See the paper submitted by the present author at the Founex Seminar: "Environmental quality management and development planning: Some suggestions for actions", *Environment and Development*, op cit., pp. 123-139.

⁵⁸ See, for example, Solon Barraclough, *Rural Development Strategy and Agrarian Reform*, Latin American Seminar on Agrarian Reform and Land Settlement, Chiclayo, 29 November to 5 December 1971.

⁵⁹ J. B. R. Whitney, op cit.

⁶⁰ See Otávio Guilherme Velho, *Frentes de Expansão e Estrutura Agrária. Estudo Processo de Penetração numa Área de Transamazônica*, Rio de Janeiro, 1972, p. 156. This recent study on Marabá, in the Brazilian Amazon region, shows how the settlers are exploited by merchants and interesting conclusions are drawn concerning the inadequacy of directed land settlement schemes:

"A large-scale land settlement policy should have objectives that are less ambitious but on a much larger scale. It should not lay down beforehand the exact direction of the process, but should rather

These conditions are difficult to realize. We believe, however, that pending the organization of international co-operation between scientists of different disciplines regarding the concept of eco-development, it is worth while taking steps to organize, here and now, some demonstration projects aimed at devising eco-development scenarios for particular eco-areas which are representative of conditions found in various Latin American countries. This could give the following results:

(a) A preliminary synthesis of the existing information about eco-development possibilities in the regions studied and, concurrently, a clear idea of the gaps in this information;

(b) Suggestions for specific eco-development measures;

(c) Suggestions for future research programmes and their priorities;

(d) Identification of development projects which might obtain support from international financing agencies;

confine itself to guaranteeing the minimum conditions (such as assistance in building local roads, limited credit to keep the worker going until the harvest, guaranteed minimum prices, agricultural assistance, health and educational assistance, etc.) and guiding the workers, without making them feel any loss of independence, towards making the improvements that are feasible at any given moment. Above all, land ownership should be effectively guaranteed. "These apparently more modest objectives could have much more far-reaching results than would appear at first sight."

See also M. Nelson, "New land development policy in the humid tropics of Latin America", ILPES, Santiago, 1970 (manuscript).

(e) A considerable contribution towards the conceptualization of eco-development and the elaboration of development strategies on the basis of this concept which could be of interest to developing countries in general and of value in defining future UNEP programmes.

Consideration should also be given to the possibility of adding an eco-development component to some regional and rural development projects which are in process of execution or preparation by the United Nations and its specialized agencies. The crux of the problem is to acquire a deeper insight into and learn to handle more efficiently the interrelationships between social processes and natural processes. The fact that forms of land tenure and social organization affect the use of the soil and other natural resources opens up interesting prospects for carrying out eco-development studies and experiments in areas where agrarian reform is in progress and it is necessary rapidly to increase the value of the poorest land which was not being properly exploited under the latifundio system. Moreover, the new forms of rural organization should create favourable conditions for a policy of conservation of natural resources and construction of dwellings using highly labour-intensive techniques. It is in these areas that the best opportunities exist for applying the institutional assumptions necessary for eco-development.⁶¹

⁶¹ The writer gratefully acknowledges the valuable suggestions made by Mr. F. Barahona, of the FAO Regional Office.

THE IMPACT OF THE CARIBBEAN FREE TRADE ASSOCIATION (CARIFTA)

1. *Growth in intra-CARIFTA trade*

The instruments authorizing the establishment of CARIFTA explicitly indicated that this machinery for accelerating trade and stimulating production was the initial step towards a more comprehensive programme of integration. It was recognized that, in view of the traditional orientation of their economies and their generally low levels of external tariffs, trade liberalization by itself could not have the major impact on the Caribbean countries that was needed. It was in fact evident that the extent of trade generation in CARIFTA would be more attributable to the promotional aspects than to the mere price effects deriving from the removal of tariffs among its participants. For this reason, several other aspects of sub-regional integration were considered to be equally important and it was decided that they would be introduced as early as feasible. Nevertheless, up to mid-1973 the pattern of relationships was still essentially that of a free trade area, and consequently acceleration in intra-area trade serves as a useful indicator of the progress made. It has to be borne in mind however that the relative increases in trade accruing to individual countries are not by themselves indicative of gains from CARIFTA.

Official data presently available do not allow a comprehensive appraisal of the results that trade liberalization has so far achieved, for detailed annual trade reports have been issued only up to 1968 by some Governments. What follows is an attempt to provide a preliminary evaluation based on the provisional estimates that have been supplied by Governments to ECLA's Office for the Caribbean.

Initial levels of intra-area trade were low in comparison to the total trade of the participating countries. In 1967, before the establishment of CARIFTA, intra-CARIFTA imports were estimated to amount to less than 5 per cent of total imports. Recent trends indicate an improvement in this situation, with the ratio of intra-area imports to total imports increasing steadily. Between 1967 and 1972 total intra-area imports rose from EC\$95 million to an

estimated EC\$260 million, which represents a total increase of 174 per cent over the period, or an average annual growth rate of nearly 35 per cent. The annual estimates and percentage changes are shown in tables 1, 2 and 3. These figures contrast with the situation in 1964, when trade between CARIFTA member countries was only \$2.8 million, or scarcely 1 per cent of their total external trade, and with the average annual growth rate of less than 6 per cent that prevailed prior to CARIFTA. The relatively rapid expansion since 1968 has added an estimated EC\$300 million to intra-CARIFTA transactions.

A marked feature of the trade is the prominence of the larger countries. This had always existed, but it has now been brought more sharply into focus. It is also evident that imports into the ECCM group have been increasing at a faster rate than their exports to the other CARIFTA countries. In fact, while trade between the four larger countries increased rapidly, exports from the smaller countries to the four larger countries have not grown so fast. In contrast, the smaller countries have greatly increased their imports from the four larger countries since 1967, so that as a group they constitute a significant and growing market.

In saying this, however, the considerable disparities in the sizes of the countries and in their levels of economic development have to be borne in mind. A better appreciation of how the countries have reacted to the trade liberalization measures can be gained from tables 2 and 3, where the relative increases in trade over the period are presented. As is to be expected, the annual increases have been uneven, both between countries and from year to year. Also, it is clear that adjustment to the new market situation is still in its early stages, and it will be some time yet before all the countries are adapted to take full advantage of the opportunities offered by the CARIFTA market.

These tables reveal that Jamaica and Barbados recorded the largest *relative* increases,

Table 1
INTRA-CARIFTA TRADE
(Thousands of East Caribbean dollars)

	1967	1968	1969	1970	1971	1972
		<i>Imports</i>				
Barbados	13 251	17 031	21 516	27 030	31 445 ^a	40 031 ^b
Guyana	25 741	29 521	32 461	37 777	40 535	51 328
Jamaica	8 896	8 583	12 888	18 967	26 424	63 898
Trinidad and Tobago	15 982	15 965	22 020	26 879	31 338	40 350
<i>Subtotal</i>	63 870	71 100	88 885	110 653	129 752	195 607
ECCM group	27 356	32 714 ^b	37 961 ^b	47 024 ^b	(53 153) ^b	...
Belize	4 017	4 214	5 119	4 860	5 291	...
<i>Total</i>	95 243	108 028 ^b	131 965 ^b	162 537 ^b	188 196 ^b	(260 000)
		<i>Domestic exports</i>				
Barbados	5 541	6 604	8 917	11 199	14 531 ^a	20 595 ^b
Guyana	22 071	23 365	24 524	26 600	34 835	43 780 ^b
Jamaica	10 598	15 054	21 928	24 733	29 519	41 179
Trinidad and Tobago	44 631	54 991	73 032	83 891	99 487	113 815
<i>Subtotal</i>	82 841	100 014	128 401	146 423	178 372	219 369
ECCM group ^c	4 844	5 085 ^b	5 439 ^b	6 434 ^b	7 110 ^b	...
Belize	934	847	1 306	1 742 ^d	1 725	...
<i>Total</i>	88 619	105 946 ^b	135 146 ^b	154 599 ^b	187 207 ^b	(230 000)

SOURCE: External Trade Reports of the countries.

NOTE: Estimated figures include all ECCM countries. There is an apparent discrepancy in 1969, especially in trade among the larger countries, in that domestic exports exceed imports.

^a Excluding Belize, but trade usually negligible.

^b Estimates.

^c Total exports. For some countries of ECCM group, total exports in all years.

^d Preliminary figures.

both in imports and exports, over this period. They also show that, taking into account the different characteristics of the economies of the countries, the expansions in imports and exports are not too greatly imbalanced, except perhaps in the case of the ECCM group, where the relative increase in imports has been more than twice the relative increase in exports. In fact, as table 3 shows, exports from the ECCM group were slow to react to the free trade arrangements, and there was no really significant

impact until 1970. In this respect Guyana is very similar in that, although there were moderate increases in exports to CARIFTA from 1968 to 1970, it was not until 1971 that there was a large expansion. Nevertheless, taking the whole period 1968-1972 together, Guyana's relative increase in exports to CARIFTA matched its relative increase in imports from the area. Although it is still somewhat early in the life of CARIFTA to draw too many conclusions, it may be worth noting that up to the

Table 2
PERCENTAGE INCREASES IN INTRA-CARIFTA TRADE

	<i>Imports</i>				<i>Domestic exports</i>			
	<i>Percentage increase 1967-1971</i>	<i>Mean</i>	<i>Percentage increase 1967-1972</i>	<i>Mean</i>	<i>Percentage increase 1967-1971</i>	<i>Mean</i>	<i>Percentage increase 1967-1972</i>	<i>Mean</i>
Barbados	137.4	34.4	202.1	40.4	162.2	40.5	271.7	54.3
Guyana	57.5	14.4	99.4	19.9	57.8	14.5	98.4	19.7
Jamaica	197.0	49.3	618.3	123.7	178.5	44.6	288.6	57.7
Trinidad and Tobago	96.1	24.0	152.5	30.5	122.9	30.7	155.0	31.0
<i>Subtotal</i>	103.2	25.8	206.3	41.3	115.3	28.8	164.8	39.0
ECCM group	94.3	23.6	—	—	46.8	11.7	—	—
Belize	31.7	7.9	—	—	84.7	21.2	—	—
<i>Total</i>	97.5	24.3	(172.9)	(34.6)	111.4	27.8	(159.5)	(31.9)

Table 3

ANNUAL PERCENTAGE INCREASES IN INTRA-CARIFTA TRADE

	1968	1969	1970	1971	1972
<i>Imports</i>					
Barbados	28.5	26.3	25.6	16.4	27.3
Guyana	14.7	10.0	16.4	7.3	26.6
Jamaica	-3.6	50.2	47.2	39.3	141.8
Trinidad and Tobago	^a	37.9	22.1	16.6	28.9
<i>Subtotal</i>	11.3	25.0	24.5	17.3	50.8
ECCM group	19.6	16.0	23.9	13.0	...
Belize	—	—	—	8.9	...
<i>Total</i>	13.4	22.2	23.2	15.8	...
<i>Domestic exports</i>					
Barbados	19.2	35.0	25.6	29.8	41.7
Guyana	5.9	5.0	8.5	31.0	25.7
Jamaica	42.0	45.7	12.8	19.4	39.5
Trinidad and Tobago	23.2	32.8	14.9	18.6	14.4
<i>Subtotal</i>	20.7	28.4	14.0	21.8	23.0
ECCM group	5.0	7.0	18.3	(10.5) ^b	...
Belize	—	—	—	(-1.0) ^b	...
<i>Total</i>	19.6	27.6	14.3	21.1	...

^a Negligible.

^b Incomplete data.

end of 1972 both Barbados and Trinidad and Tobago had experienced larger relative increases in exports than in imports in their CARIFTA trade.

2. Intra-East Caribbean Common Market trade

The comparatively slower reaction of the ECCM group to the various integration measures is apparent even in the trade among the ECCM members themselves. The inadequacy of the statistics prevents any substantial analysis of developments in intra-ECCM trade, as complete figures are available only for the years 1967 and 1968, but the best estimates suggest that the mean growth in ECCM trade over the period 1967 to 1970 was about 15 per cent per year, or just over twice what it had been in the 1964-1967 period.

The data summarized in table 4, while not adequate for firm evaluations, do indicate that of the States for which a reasonable amount of information is available, St. Kitts-Nevis-Anguilla and Grenada have shown the most marked trend towards expansion of imports from their partners. It would also seem that St. Kitts-Nevis-Anguilla, Dominica and Antigua have since 1967 been the main suppliers of the group. Of much more significance, however, is the evidence of greater trade diversification

within the group revealed by the percentage allocations of the same table. Whereas in 1964 Dominica took nearly half the total intra-ECCM imports and St. Kitts-Nevis-Anguilla accounted for just under two thirds of intra-ECCM supplies, their respective positions have since been modified considerably, with Dominica buying less and selling more, while St. Kitts-Nevis-Anguilla has been selling less and buying more.

In making these preliminary evaluations, however, it has to be recognized that there are some striking differences in sizes, resources and levels of development even among the ECCM members themselves, although these differences are less than those marked between this group and the larger CARIFTA countries.

3. Pattern and trends of intra-CARIFTA trade

The available statistics show that compared with 1967 all the CARIFTA countries have experienced increases in their intra-area trade. From the point of view of domestic exports, the greatest expansions in absolute terms have been achieved by Trinidad and Tobago, Jamaica, Barbados and Guyana, in that order. Taken together, these countries have doubled their CARIFTA trade since 1967. These four countries accounted for about 67 per cent of total

Table 4
INTRA-ECCM TRADE
(Thousands of East Caribbean dollars)

	1964	1967	1968	1969	1970 ^a	1971
(a) Imports from other ECCM countries						
Antigua	58	251.9	252.4	346.5	(346.0)	...
Dominica	412	427.2	301.0	235.6	(286.1)	...
Grenada	68	113.1	237.4	381.0	(189.3)	...
Montserrat .....	...	154.2	145.5	...	126.8	130.5
St. Kitts-Nevis-Anguilla ..	43	44.1	103.6	282.3	431.4	528.7
St. Lucia	186	161.4	324.7	147.0	179.8	159.5
St. Vincent	98	130.1	162.6	184.1	289.4	195.2
<i>Total</i>	(865)	1 282.0	(1 527.2)	(1 576.5)	(1 849.2)	(2 000.0)
(b) Percentage shares in intra-ECCM trade						
	Country imports as percentage of total intra-ECCM imports			Percentage of supplies in intra-ECCM total		
	1964	1967	1970	1964	1967	1970
Antigua	6.7	19.6	(18.7)	2.0	10.1	(32.6)
Dominica	47.6	33.3	(15.5)	7.7	18.5	(21.5)
Grenada	7.9	8.8	(10.2)	10.1	7.8	(8.7)
Montserrat .....	...	12.0	(6.9)	3.2	2.3	(5.6)
St. Kitts-Nevis-Anguilla ..	5.0	3.4	(23.3)	65.7	42.9	(18.0)
St. Lucia	21.5	12.6	(9.7)	7.1	6.7	(5.9)
St. Vincent	11.3	10.1	(15.7)	4.2	11.7	(7.7)
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0

^a Preliminary figures.

intra-area imports on average over the period 1968 to 1972, while in intra-area exports they are still more prominent, accounting for approximately 95 per cent of the total.

As regards the pattern of trade movements in the area, it is important to bear in mind that, prior to the inauguration of the formal CARIFTA arrangements, petroleum and rice constituted more than three quarters of the trade among the group of countries, and Guyana and Trinidad were together responsible for nearly half of the total trade among the countries that now constitute CARIFTA. Jamaica's trade was principally with Belize (British Honduras), the Bahamas, Bermuda and the Cayman Islands, while Trinidad and Tobago traded mainly with Guyana and the Windward Islands. As the tables show, that pattern had changed substantially by the end of 1972 and had become more diversified. It must be noted, however, that some 65 per cent of intra-CARIFTA trade is conducted exclusively between the four larger countries, and less than 2 per cent between the countries of the ECCM group, so that approximately one third of intra-area trade is accounted for by

transactions between the smaller countries and the four larger countries of CARIFTA. What is more, most of the expansion in CARIFTA trade is attributable to transactions between the four larger countries.¹ Some shifts in the distribution of trade among CARIFTA's participants, are indicated in table 5. Despite the absolute increases recorded by the Associated States and Belize (see tables 1-3), on the whole their share of total intra-CARIFTA trade has declined.

Parallel with the growth in intra-area trade, there has been an increase in the importance of the CARIFTA market compared with markets outside the area. Thus, the CARIFTA market has become the second most important source of imports for most of the Associated States, ranking after the United Kingdom but ahead of the United States and Canada; for

¹ Trade among the four larger countries:	1967-60.2%
	1970-64.8%
Trade within the ECCM group:	1967-1.9%
	1970-1.5%
Trade between the above two groups	1967-37.8%
	1970-33.3%

Table 5

PERCENTAGE SHARES IN INTRA-CARIFTA TRADE: 1967, 1971 AND 1972

	<i>Imports</i>			<i>Exports</i>		
	1967	1971 ^a	1972 ^a	1967	1971 ^a	1972 ^a
Barbados	13.9	16.7	15.4	10.1	7.8	9.0
Guyana	27.0	21.5	19.7	22.8	18.6	19.0
Jamaica	9.3	14.0	24.6	10.9	15.8	17.9
Trinidad and Tobago ...	16.8	16.7	15.5	48.1	53.1	49.5
<i>Subtotal</i>	<i>67.0</i>	<i>68.9</i>	<i>75.2</i>	<i>91.9</i>	<i>95.3</i>	<i>95.4</i>
ECCM group	28.7	28.2	24.8	7.2	3.8	4.6
Belize	4.2	2.8		0.9	0.9	
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

SOURCE: Official external trade statistics reports, and preliminary data supplied to ECLA by Statistical Offices.

^a Estimate.

Barbados and Guyana, CARIFTA sources rank third; and for Belize, Jamaica and Trinidad and Tobago, CARIFTA sources rank fifth. On the export side, CARIFTA has become the most important market for Montserrat and the second most important market for Antigua, Barbados, Dominica, St. Lucia and Trinidad and Tobago. CARIFTA's lowest ranking as an export outlet is fourth—for Belize, Grenada, Guyana and Jamaica.

Progress in trade in the area has been affected by the relative lack of diversity in production, for a few commodities have accounted for a large proportion of total trade. For this reason, in assessing the importance of CARIFTA in promoting trade, it is helpful to consider separately the new products entering intra-area trade. The intra-area trade prior to CARIFTA depended on petroleum products from Trinidad and Tobago, fertilizers, some chemicals, cement from Trinidad and Tobago and Jamaica, rice from Guyana, and root crops from the Associated States. The "new" products cover a range of light manufactures included under Sections 6 and 8 of the Standard International Trade Classification (SITC), such as clothing, plastic articles, paper bags and other paper or cardboard containers, and a variety of household appliances; agricultural items traded under the Agricultural Marketing Protocol; and coffee, cocoa and chocolate preparations and other processed food products and animal feeds. Growth of the CARIFTA market has stimulated a widening of the commodity base for both the old range and the new range of products. Petroleum products from Jamaica and Antigua have entered intra-CARIFTA

trade, and cement, fertilizers and chemicals are being traded more widely.

Food is the largest category of merchandise traded between these countries, accounting for about 30 per cent of domestic exports. It is followed by petroleum and petroleum products, with a share of 25 per cent, chemicals with 18 per cent and other manufactured goods with 17 per cent.

Guyana continued to be the main food supplier in intra-area trade. Its food exports, consisting almost exclusively of rice and molasses, accounted for about 70 per cent of its exports of domestic produce to the area. Trinidad and Tobago supplies mainly petroleum and petroleum products, and these items amount to around 45 per cent of its exports to other CARIFTA countries. Jamaica and Trinidad and Tobago account for over 80 per cent of domestic exports of chemicals traded in the area, and this category accounts for more than half of Jamaica's supplies to the region. Trinidad and Tobago is the main supplier of manufactured goods, but Jamaica and Barbados are making rapid progress in this sector.

A more general indication of the broad commodity structure of CARIFTA trade is provided by table 6 in which the intra-CARIFTA domestic exports are presented by SITC sections, along with the relative increases in domestic exports achieved over the period 1967 to 1971. These data, in addition to showing the increase in the food category, also bring out the fact that the bulk of the trade increases have been in manufactures: that is in goods coming under SITC sections 5 through 8. In

Table 6
PERCENTAGE INCREASES AND COMPOSITION OF
INTRA-CARIFTA DOMESTIC EXPORTS

<i>SITC sections</i>	<i>Percentage increase 1967-1971</i>	<i>Composition 1967</i>	<i>% 1971^a</i>
0—Food	78.1	28.9	30.0
1—Beverages and Tobacco	94.2	2.6	3.0
2—Crude Materials (except fuels)	62.2	4.8	4.6
3—Fuels and Lubricants	-6.8	26.1	14.2
4—Vegetable oils and fats	67.1	1.5	1.4
5—Chemicals	56.7	15.5	14.2
6—Manufactured goods by materials	65.8	14.2	13.8
7—Machinery and transport equipment	759.6	0.3	1.4
8—Misc. manufactured articles	398.3	5.9	17.2
9—Miscellaneous transactions	66.0	0.2	0.2

^a Excludes Antigua, Grenada, St. Vincent; 1970 figures used for Barbados and 1969 figures for Belize and Dominica.

this regard it is important to note that by 1972 Trinidad and Tobago was consigning 34 per cent of its exports of manufactured goods to other CARIFTA countries, Jamaica 49 per cent, Barbados 40 per cent and Guyana 66 per cent.

The contrast can be drawn with 1963, when these percentages were 52 per cent for Trinidad and Tobago but only 15 per cent for Jamaica,² and when the evidence suggested that the CARIFTA group of countries was, relatively speaking, a declining market for exports of manufactures. In comparison, whereas in 1957 31 per cent of Jamaica's exports of manufactures went to this group of countries, by 1963 it had fallen to only 15 per cent, while for Trinidad and Tobago the corresponding

percentages were 60 per cent in 1957 and 52 per cent in 1963.³

The corresponding breakdown of the trade structure of imports bears out this broad pattern of commodity composition, and, more important, suggests some emerging trends. Comparison of the structure of imports in 1969 and 1971, given in figure on page 145, clearly shows the increased significance of food and beverages (sections 0 and 1) and light manufactures (section 8) in intra-CARIFTA trade. Parallel with this, however, there are changes in the composition of imports from non-CARIFTA sources. Taken together with the percentages in table 7, there can be no doubt that a measure of import substitution had already been achieved within CARIFTA by 1971. Whereas in 1969 about 7 per cent of imports of food, beverage, and miscellaneous manufactures originated in the region, by 1971 the proportion had risen to about 10 per cent. Also, whereas in 1967-1969 the trend was towards greater reliance on non-CARIFTA sources for food

² Exports of commodities coming under SITC sections 5 to 8:

	<i>All destinations</i>	<i>To CARIFTA</i>
Barbados .....(millions of East Caribbean dollars—1970)	15.58	6.24
Guyana .....(millions of Guyana dollars—1971)	9.38	6.17
Jamaica .....(millions of Jamaica dollars—1972)	22.76	11.07
Trinidad and Tobago .....(millions of Trinidad and Tobago dollars—1971)	109.96	37.00

³ The data are not adequate to permit conclusions about the structure of manufacturing production in the larger countries and the structure of demand in the rest of the area, in terms of production for area requirements as against non-area requirements. National programmes of import substitution need to be taken into account. However, the declining Trinidad and Tobago percentage from 1957 through 1972 is notable, as also is the large decline and even larger recovery for Jamaica. 1957 percentages are not available for Barbados and Guyana, where the industrialization process commenced later. No conclusion can be drawn regarding the compatibility of, say, Trinidad's production for third markets with production for CARIFTA.

Table 7

CARIFTA: STRUCTURE OF IMPORTS

(Percentages)

SITC section	1967			1969			1971		
	Total	R.O.W.	CARIFTA	Total	R.O.W.	CARIFTA	Total	R.O.W.	CARIFTA
0	100.0	91.3	8.7	100.0	92.9	7.1	100.0	90.3	9.7
1	100.0	90.3	9.7	100.0	92.8	7.2	100.0	89.8	10.2
2	100.0	83.7	16.3	100.0	90.4	9.6	100.0	95.2	4.8
3	100.0	94.1	5.9	100.0	95.5	4.5	100.0	96.1	3.9
4	100.0	88.5	11.5	100.0	81.2	18.8	100.0	84.2	15.8
5	100.0	88.6	11.4	100.0	89.7	10.3	100.0	90.2	9.8
6	100.0	97.1	2.9	100.0	96.7	3.3	100.0	97.3	2.7
7	100.0	99.8	0.2	100.0	99.6	0.4	100.0	99.6	0.4
8	100.0	95.9	4.1	100.0	93.0	7.0	100.0	89.2	10.8
9	100.0	93.8	6.2	100.0	97.1	2.9	100.0	97.4	2.6

NOTE: R.O.W. = Rest of World or Non-CARIFTA.

imports there has been a trend towards greater reliance on CARIFTA sources in 1969-1971.

It is notable too that this measure of substitution was achieved against a background of changes in the composition of total imports, in which these categories are declining in relative significance. The implication is that national import substitution programmes are having some effect and proceeding at the same time as area import substitution. This point is borne out by the relative decline in petroleum and petroleum products in intra-CARIFTA trade due to the establishment of refining activities in Jamaica, Antigua and Barbados and the increased demand for crude oil from non-CARIFTA sources.

Despite the small share of intra-CARIFTA transactions in the total trade conducted by the member countries, it is reasonable to expect that the figures for the growth of intra-area trade and the identifiable trends in its composition might provide discernible indicator of CARIFTA's initial impact on the production and consumption patterns of these countries. This is in fact borne out by the ratios to GDP of intra-CARIFTA imports and exports, which are pointers to the degree of intra-CARIFTA trading dependence. Broadly speaking, these ratios are indicative of the proportions of national income expended on or received from intra-CARIFTA trade by the various countries. As table 8 illustrates, this dependence varies considerably from country to country. It shows also that although the size of intra-CARIFTA trade is rather small compared with the total domestic product, the values involved constitute an important proportion of income for most countries, and these proportions have risen appreciably since 1967.

In all cases except Montserrat there have been increases in the intra-CARIFTA import/GDP ratios, which by 1972 ranged from 10 per cent for Guyana to as much as 32 per cent for Antigua, although they only came to about 2 per cent for Jamaica and Trinidad and Tobago. From the other aspect of the impact of the income earned from intra-CARIFTA trade, it is seen that the proportion of intra-CARIFTA exports to GDP is lower than the corresponding intra-CARIFTA import ratios for Barbados, Guyana and Jamaica, substantially lower for the ECCM group, but greater for Trinidad and

CARIFTA—COMPOSITION OF IMPORTS

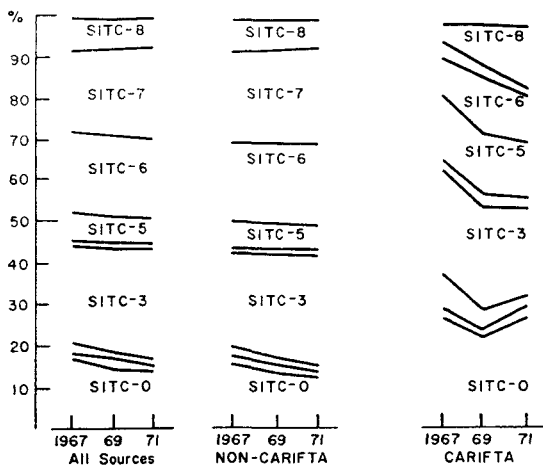


Table 8
INTRA-AREA TRADE AND GROSS PRODUCT

	<i>Imports from CARIFTA as % of GDP</i>			<i>Exports to CARIFTA as % of GDP</i>		
	1967	1970	1972	1967	1970	1972
Antigua	17.6	32.0	—	0.3	1.3	—
Dominica	10.7	14.8	—	2.5	2.2	—
Grenada	11.6	20.9	—	0.4	1.5	—
St. Kitts-Nevis-Anguilla ...	10.9	13.4	—	2.2	1.3	—
St. Lucia	13.6	15.3	—	4.6	3.1	—
St. Vincent	13.7	19.9	—	5.0	4.7	—
Montserrat	17.4	16.1	—	0.2	0.5	—
ECCM group	13.3	19.2	(19.4)	2.3	2.3	(3.1)
Barbados	7.0	9.9	12.5	2.9	4.1	6.4
Guyana	6.9	8.1	9.9	5.9	5.7	8.4
Jamaica	0.5	0.8	2.3	0.6	1.1	1.5
Trinidad and Tobago	1.2	1.6	2.0	3.3	5.0	5.7
"Largest 4"	1.7	2.3	3.5	2.3	3.1	3.9
All CARIFTA ^a	2.5	3.4	(4.4)	2.3	3.1	(3.9)

^aExcludes Belize, for which suitable estimates are not yet available.

Tobago. It is interesting to note from the intra-CARIFTA export/GDP ratios that, except for Montserrat, the smaller countries recorded levels comparable with the largest country of the group (Jamaica), although they were less well placed than Barbados, Guyana and Trinidad and Tobago.

It emerges from these analyses that all the CARIFTA countries excepting Montserrat have increasingly been taking more of their inputs from the CARIFTA area; and the figures confirm that so far the larger countries have been better able to produce for the area. Despite the absence of adequate data for 1972, in view of the slow reaction of the ECCM group to the free trade area arrangements (see table 9), the conclusion can be drawn that production in the smaller countries has not yet effectively adapted to area demand.

4. *Some structural considerations*

It has been the expectation of participants in CARIFTA that any significant increases in trade will in turn generate increased production and stimulate some restructuring of the CARIFTA economy. The ratios of intra-area imports and exports to GDP suggest, however, that CARIFTA may not yet have made a substantial structural impact on production. In part this is because the economic co-operation process has only recently commenced and it is still too early to consider the CARIFTA area critically in terms of an integrated economy. However, over-all data do suggest that the es-

tablishment of CARIFTA coincided with the implementation of some national programmes intended to stimulate structural changes.

Examination of the relative contribution of the main sectors of activity to the total Gross Domestic Product since 1967 reveals that the primary production sectors (agriculture, forestry, fishing, mining and quarrying) together account for approximately 27 per cent of GDP, manufacturing and construction together 23 per cent, and the "services sectors" roughly 50 per cent. While the material does not permit proper delineation of the secondary sector, it does indicate that value-added in the main production sectors has been less buoyant than in the services sectors. This is not too surprising considering the growing significance of tourism and the weak linkages between tourism and the main production sectors. Within the broad economic sector groups, however, the recent trend seems to be towards a decline in the relative importance of primary activity, with expansion in secondary and tertiary activity.

As table 10 shows, the proportional contribution made by agriculture to CARIFTA's over-all GDP has been falling steadily, although it continues to be the mainstay of the CARIFTA economies, especially in terms of employment, contribution to export earnings, and provision of inputs for the processing sub-sectors. This decline of course reflects mainly the fate of the traditional export crops which are oriented towards the metropolitan markets. Similarly, as far as CARIFTA trade is concerned, mining

Table 9
CARIFTA: PERCENTAGE INCREASES IN
SECTORAL CONTRIBUTION TO GDP

	1968	1969	1970	1971	1972
A. Manufacturing					
Barbados	2.9	13.8	15.5	8.0	...
Guyana	5.1	6.9	8.4	7.6	4.9
Jamaica	11.6	5.2	9.2	12.1	7.9
Trinidad and Tobago	18.9	12.7	7.1	6.1	10.8
<i>Subtotal</i>	14.1	8.8	8.4	9.0	...
ECCM group	16.3	8.6	2.0	7.8	...
<i>Total</i>	14.1	8.8	8.4	9.0	...
B. Total agriculture					
Barbados	-12.8	-10.6	8.0	-5.7	...
Guyana	-0.8	12.0	1.6	12.7	1.8
Jamaica	-0.5	-0.6	2.3	25.1	-5.9
Trinidad and Tobago	13.8	-0.1	1.3	1.2	3.5
<i>Subtotal</i>	1.8	0.9	2.4	13.0	...
ECCM group	6.4	5.0	-5.3	-0.5	...
<i>Total</i>	2.3	1.4	1.4	11.4	...
C. Domestic agriculture					
Barbados	0.0	4.7	-0.8	6.1	...
Guyana	8.1	5.0	1.2	5.8	5.0
Jamaica	-0.7	9.1	12.4	30.7	6.0
Trinidad and Tobago	15.0	-1.7	...	...	...
<i>Subtotal</i>	5.6	4.4	...	...	...
ECCM group	4.3	2.9	6.0	1.5	...
<i>Total</i>	5.5	4.3	...	...	...

and refining have been declining relatively in their share of GDP.⁴ The rising contribution of construction activities to total GDP is an important feature of all the CARIFTA economies, and derives from the infrastructure programmes designed to promote economic and social development, and the provision of physical facilities in the tourist sector.

From past intra-CARIFTA trade statistics it is seen that the items traded consisted principally of petroleum products, chemicals, miscellaneous manufactures, and products of the domestic agriculture sub-sector. Since intra-CARIFTA transactions account for only a small proportion of the total production of

⁴ The main activities of the mining sector, which include the extraction and refining of crude petroleum, the mining of bauxite and the production of alumina, are directed towards foreign markets. For the present the bauxite and alumina industry is not of importance in CARIFTA trade. The large importation by CARIFTA countries of aluminium products fabricated outside the area has stimulated studies at the national level into the possibilities for using mineral ores in the area, but the absence of cheap energy has so far been a major deterrent.

petroleum products, changes in area trade have little impact on the level of activity in the petroleum sub-sector, but trade in the other items could influence the relevant production

Table 10
CARIFTA: SECTORAL CONTRIBUTION TO GDP
AT CURRENT FACTOR COST

<i>(Percentages)</i>			
<i>Sectors</i>	1967	1969	1971 ^a
Agriculture, forestry and fishing	12.4	10.9	10.4
Mining and quarrying ...	17.1	16.5	14.6
<i>Subtotal</i>	29.5	27.4	25.0
Manufacturing	13.9	14.6	14.6
Construction	7.6	8.8	9.1
<i>Subtotal</i>	21.5	23.4	23.7
Transportation and Distribution	19.4	19.5	20.6
Government	10.5	10.9	11.2
All other sectors	19.1	18.7	19.5
<i>Subtotal</i>	49.0	40.1	51.3
<i>Total</i>	100.0	100.0	100.0

^a Preliminary figures.

sectors significantly. Recent developments in the petroleum industry at national levels are, however, directly relevant to CARIFTA trade in this product inasmuch as refining of crude petroleum and manufacture of petroleum products is done in varying degrees by four of the member countries (Antigua, Barbados, Jamaica and Trinidad and Tobago). As the chart indicates, petroleum is losing significance within the structure of area trade while at the same time gaining within the structure of the area's imports from abroad. This reflects the increased intake of crude material for refining activities and the reduced trade within the area in refined products. It is to be expected, however, that manufacturing demands and the growth in other sectors should stimulate further expansion through the "spin-off" of ancillary industries linked to the petroleum sub-sector.

As regards manufacturing activities, from the information presented it is evident that CARIFTA has had a significant impact. While it is not at present possible to isolate in the statistics the amount of growth in manufacturing directly attributable to the free trade arrangements, the data in table 9, along with the other evidence, certainly suggest that CARIFTA has assisted in maintaining the expansion of the sector. In looking at these increases, however, one must bear in mind the fact that the less developed countries of CARIFTA account for less than 2 per cent of the area's manufacturing GDP. Inevitably, the initial response of manufactures to the consolidated CARIFTA market was to expand output by the utilization of excess capacity. However, it is also evident that in the planning of new plants the scope of operation has been increasingly geared to the CARIFTA area rather than only to the national markets, as formerly. Although few of the major investment plans directly stimulated by the enlargement of the market are yet in operation, data such as those given in table 9 show that manufacturing activity has been expanding throughout the area. The available figures indicate that a wider range and a larger volume of light manufactured goods are being produced, and suggest that the present expansion is mainly in the nature of imports substitution, which is still gaining momentum.

Up to mid-1973, no integration industries had yet been established. The main trend up to that time was to expand national production to serve the area market. In some cases branch activities have been established, but these have mainly been in the distribution as-

pects. There has also been some attempt, although so far only in isolated cases, to establish similar plants in other countries rather than increase the plant capacity in the home country. The efforts at industrial expansion in the CARIFTA area therefore give some appearance of duplication of activities, although there is a substantial measure of product differentiation.

Understandably, in view of the common feature of inadequacy of investment capital, all the countries are forced to opt for low cost industries and to set up the range of manufactures most easily introduced in developing countries, such as garments, beer, matches, soap, and some assembly operations. However, taking into account the total demand of the area and the growth in demand, it will be some time yet before the total plant capacity in the area for any of these commodities can satisfy the area demand. In the circumstances, therefore, the expansion of manufactures that has taken place has been entirely encouraging, particularly as it is unlikely that closely co-ordinated area-wide industrialization can emerge in advance of the implementation of common policies on tariffs, protection and incentives to industry.

The greatest concern of CARIFTA, in terms of impact on production, has been with the performance of agriculture. Expansion of agricultural output, and particularly the stimulation of activity in the smaller countries is of direct relevance to the CARIFTA effort. The inability of these countries to expand their intra-area exports is the consequence of having very little to sell outside the range of the traditional products for metropolitan markets. Given their infrastructure deficiencies and lack of manufacturing capacity, the agricultural range of products are most easily within their reach. It is therefore significant that the four largest countries account on average for about 88 per cent of the agricultural GDP of the area. A large part of the agricultural output of all the countries is exported outside the area, however, and is hardly affected by the CARIFTA marketing arrangements.

Of more importance to CARIFTA is the domestic sub-sector, or that section of agriculture producing root crops, vegetables and livestock products mainly for area consumption.⁵

⁵ The list of products covered by the Agricultural Marketing Protocol, and the establishment and operation of the protocol arrangements, demonstrate the emphasis placed on the domestic agriculture sub-sector.

While the existing data do not permit precise differentiation between the "export agriculture" and "domestic agriculture" sub-sectors, the information in table 9 does suggest that, relatively, domestic agriculture had begun to show faster growth rates than export agriculture. It has to be borne in mind, however, that "domestic agriculture" is small compared to "export agriculture". Also, it would appear that the rate of expansion of domestic agricultural output is lower in the smaller countries than in the larger countries. This is not surprising when account is taken of the programmes for expansion of domestic agriculture (with various subsidies and support schemes) that had been introduced in the four larger countries even prior to CARIFTA. The main stimulus in the larger countries was the need to reduce the large food import bill from third countries, which was estimated at \$270 million in 1967, \$330 million in 1969 and \$390 million in 1972. These imported food commodities include the majority of the items embraced in the AMP arrangements. On the whole, domestic food production has failed to keep pace with total demands and the shortfall has had to be imported from non-CARIFTA sources.

In fact very little of the increase in "domestic agriculture" output can be directly attributed to increased trade within CARIFTA.

There are a few commodities⁶ for which CARIFTA did stimulate increases in production, but these are the exceptions rather than the rule. From the other aspect—that of the countries that have been affected—the regular suppliers of AMP products have been Barbados, Belize, Guyana, Jamaica, St. Vincent and Trinidad and Tobago. Generally speaking, all the CARIFTA countries participate as purchasers. Of the ECCM group, only St. Vincent has consistently declared supplies available for intra-area trade. A factor that should not be overlooked is that the demands for consumption at the national level are growing, and these compete with exports to CARIFTA and other external markets.

Similarly, as with manufactures, up to mid-1973 a co-ordinated approach to production at the area level was still to be realized, since agricultural policies were still primarily aimed at satisfying national goals.⁷ Notwithstanding this the countries have not managed to achieve sufficiently high rates of production increases, has shown little response to the expanded CARIFTA market.

⁶ For example onions in Barbados.

⁷ It is worth noting that two commodity agreements among these countries—the Oils and Fats Agreement and the Rice Agreement—date from before the establishment of CARIFTA, in which they have since been incorporated.

CO-ORDINATION OF ROAD TRANSPORT WITH OTHER INTERNATIONAL TRANSPORT MEDIA IN SOUTH AMERICA

1. Introduction

Both the population and the economic activity of South America are concentrated near the sea and on the Andean Altiplano, which is itself not very far from the Pacific Ocean. This concentration is not intrinsically very different from that found in other parts of the world, such as the United States, where the greatest population density is in the coastal regions. What is uncommon, however, is to find so marked a contrast between the levels of development of the coastal strip and the interior, for in South America the interior is not only virtually undeveloped but some parts of it are practically unexplored.

Moreover, the national transport systems served in the past to channel the production of raw materials to the ports for export to the industrialized countries, and only recently has there been superimposed a system designed to link the main population centres with one another within each country. It is therefore easy to understand why nearly all the intra-South American trade is carried by sea or land along corridors parallel to the coast through the most densely populated areas.

The rest of the international traffic in South America moves along transversal routes, generally of low traffic density. These routes often originated as access roads for land settlement purposes, and so far their potential as international routes has not been fully exploited.

In spite of the present small scale of international traffic in the region, other than that carried on by sea, there are more alternatives and even more installed capacity for transport within the region than is generally supposed. If Surinam, Guyana and French Guiana are excluded, there are 19 frontiers between the remaining 10 South American countries.¹ Excluding the railway between Chile and Peru, 8 of these 19 frontiers have rail connexions, 5 without and 3 with a change of gauge, including the railway between La Paz and Ma-

tarani (Peru) with transshipment to inland-waterway transport across Lake Titicaca (see table 1). Altogether, these 19 international frontiers have 13 rail connexions, 9 without and 4 with change of gauge.

Moreover, at 12 of the 19 frontiers there are navigable rivers which either cross them or actually form the frontier and thus offer excellent opportunities for linking different parts of the adjacent countries by means of inland-waterway transport. This number would rise to 14 were it considered to include Argentina-Bolivia and Argentina-Brazil, where the River Paraguay does not cross the common frontiers but links the two pairs of countries through Paraguay. Although opinions may vary as to the usefulness of some of the inland-waterway routes, such as those between Ecuador and Peru or between Brazil and Venezuela, this type of transport could undoubtedly make a much bigger contribution to South American integration than it is making at present.

All-weather roads already exist across 12 of the 19 frontiers, although in some cases their standard is not very satisfactory, as for instance those between Argentina and Bolivia and between Peru and Bolivia. In other cases there is a permanent road connexion through a transit country instead of across the common frontier, but in two of these cases—Bolivia-Paraguay and Bolivia-Chile—there are also direct road connexions which are passable only during part of the year or with great difficulty. According to the incomplete information used, only 2 of the 19 frontiers (between Brazil and Colombia and between Brazil and Peru) are not crossed by any roads at all.

Air transport has often been claimed to be the best way of meeting transport requirements where the volume of traffic is too small to warrant the building of a highway or a railway. This seems to be the position with regard to several of the 19 frontiers, and it is somewhat surprising that there are practically no scheduled short-distance services over the frontiers, despite the existence of airports in the

¹ Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

Table 1
SOUTH AMERICA: FRONTIERS CROSSED BY TRANSPORT ROUTES, 1972

<i>Frontier</i>	<i>Rail connexions</i>		<i>Navigable rivers</i>	<i>Highways</i>	
	<i>Without change of gauge</i>	<i>With change of gauge</i>		<i>All-weather roads</i>	<i>Seasonal traffic only</i>
Argentina-Bolivia	2	—	Yes ^a	Yes	
Argentina-Brazil	—	1	Yes ^a	Yes	
Argentina-Chile	2	—	No	Yes	
Argentina-Paraguay	1	—	Yes	Yes	
Argentina-Uruguay	—	—	Yes	Yes	
Bolivia-Brazil	1	—	Yes	No	Yes
Bolivia-Chile	2	—	No	Yes	Yes
Bolivia-Paraguay	—	—	Yes	Yes	Yes
Bolivia-Peru	—	1	Yes	Yes	
Brazil-Colombia	—	—	Yes	No	No
Brazil-Paraguay	—	—	Yes	Yes	
Brazil-Peru	—	—	Yes	No	No
Brazil-Uruguay	—	2	No	Yes	
Brazil-Venezuela	—	—	Yes	No	Yes
Colombia-Ecuador	—	—	No	Yes	
Colombia-Peru	—	—	Yes	Yes	No
Colombia-Venezuela	—	—	Yes	Yes	
Chile-Peru	1	—	No	Yes	
Ecuador-Peru	—	—	Yes	Yes	
<i>Number of frontiers crossed by transport routes</i>	<i>6</i>	<i>3</i>	<i>14</i>	<i>15</i>	<i>4</i>

^a Through a transit country.

vicinity. In many South American countries a variety of flights leave the capital cities every morning for border towns and return in the evening without crossing the frontier. It is also surprising that there are so few international flights linking cities other than the capitals in two adjacent countries. While most probably air taxis frequently cross the frontiers, all too often a traveller must make the journey to the capital of his own country and fly from there to the capital of the neighbouring country, thence proceeding to his destination.

After some comments on the nature of inter-South American trade, this study will examine two types of co-ordination between road transport and other means of international transport. The first type relates to cases where a highway forms part of a route in the course of which several means of transport are used successively to carry the same consignment of goods or the same passenger. The second type of co-ordination relates to a situation where road transport offers services which compete with those offered by other means of transport, so that the user may choose the services that

suit him best. It is considered that there is ample scope for greater co-ordination of both kinds in South America and that this would improve the international services and reduce the real resources that have to be assigned to them.

2. Intra-South American trade

Intra-South American trade represents about 11 per cent of the region's total international trade. In 1971, exports by the 10 countries mentioned earlier totalled 11,100 million dollars, and imports 10,200 million dollars, while trade between them stood at 1,200 million dollars (see table 2).

Three types of intra-regional trade may be distinguished. The most important type is the traditional trade in certain products between different pairs of South American countries, such as wood exported by Brazil to Argentina; iron by Brazil, Chile and Peru to Argentina; meat by Argentina to Chile; wheat and fruit by Argentina to Brazil; bananas by Ecuador to Chile; petroleum by Venezuela to Brazil, etc. In the past, nearly all these flows took place by sea, but in recent years land transport

Table 2
INTRA-SOUTH AMERICAN TRADE, 1971^a
(CIF import values in millions of dollars)

<i>Origin</i> \ <i>Destination</i>	<i>Brazil</i>	<i>Para- guay</i>	<i>Uruguay</i>	<i>Argen- tina</i>	<i>Chile</i>	<i>Peru</i>	<i>Ecuador</i>	<i>Colom- bia</i>	<i>Vene- zuela</i>	<i>Bolivia</i>	<i>Subtotal regional exports</i>	<i>Total world exports^b</i>
<i>Brazil</i>		5.6	33.9	202.3	29.7	8.0	1.5	6.6	9.5	4.1	301.2	2 900.0
<i>Paraguay</i>	1.1		2.0	20.9	2.7	0.2	1.0	0.3	0.1	—	28.3	66.5
<i>Uruguay</i>	32.1	1.3		5.6	12.2	2.7	0.1	5.0	0.4	0.2	59.6	195.7
<i>Argentina</i>	130.8	11.1	26.1		108.3	22.7	0.8	14.1	18.2	13.2	345.3	1 710.0
<i>Chile</i>	28.2	0.3	2.9	72.0		10.6	5.4	11.6	5.6	2.0	138.6	1 046.5
<i>Peru</i>	14.7	0.2	0.6	22.0	6.3		3.5	10.3	5.4	3.2	66.2	883.9
<i>Ecuador</i>	1.7	0.1	—	5.2	12.0	6.7		14.4	0.1	—	40.2	232.1
<i>Colombia</i>	5.8	—	0.3	7.9	19.8	23.4	22.3		6.6	0.7	86.8	716.0
<i>Venezuela</i>	77.8	—	0.4	31.0	16.3	9.2	5.0	10.9		—	150.6	3 147.0
<i>Bolivia</i>	1.0	1.7	0.3	14.4	1.8	4.5	—	—	0.1		23.8	178.5
<i>Subtotal regional imports</i>	293.2	20.3	66.5	381.3	209.1	88.0	39.6	73.2	46.0	23.4	1 240.6	11 076.2
<i>Total world imports^b</i>	3 225.0	81.5	189.2	1 644.0	1 021.4	743.8	350.3	760.0	1 994.0	174.5	10 183.7	

SOURCE: *Economic Survey of Latin America, 1971* (United Nations publication, Sales No. 73.II.G.1).

^a Estimated figures based on incomplete data.

^b FOB values; include non-monetary gold.

through the trans-Andean corridor between Argentina and Chile has acquired increasing importance. This international overland flow is only small, however, compared with the volume of traffic on the corridors within each individual country.

The second type of intra-regional trade comprises sporadic or occasional flows in response to a temporary breakdown in a country's supply capacity, a national disaster or a sudden but transitory demand for a specific product. Examples of this type of trade are the transport of piping from Argentina to Bolivia for the construction of the Santa Cruz-Yacuiba oil pipeline, the exports of cement by Chile and Argentina in 1969-1970 and the trade in agricultural commodities between Argentina and Chile, where one year a product may move in one direction and the following year in the other.

Although each of these movements constitutes a transitory flow, taken together in almost any year they represent a sizable proportion of the international land traffic and even of air freight. When this type of traffic takes place along one of the main international corridors it can generally be absorbed without too much difficulty, although the trans-Andean corridor between Chile and Argentina has sometimes been overcrowded. When it occurs on one of the international routes of low traffic density, however, it may cause serious problems and the transport itself may be quite expensive. Moreover, when importers have once had an unfortunate experience with land transport, they will not only be reluctant to use it again but may even prefer to import from a country outside the region.

The third type of intra-regional trade is in new industrial products. Although it represents the least important flow in terms of tonnage, its promotion is one of the main objectives of the various regional and sub-regional economic integration systems. To a certain extent the attainment of this objective will depend on the success of the South American countries in developing land transport, since it is imperative to have cheap and efficient services so that a South American country can place its products on the markets of neighbouring countries on a competitive footing with producers from outside the region.

3. *International transport corridors*

The three international transport corridors identified for the purposes of this study

are the Atlantic corridor serving Brazil, Paraguay, Uruguay and Argentina; the Pacific corridor passing through Venezuela, Colombia, Ecuador, Peru and Chile; and the trans-Andean corridor linking Chile and Argentina.

(a) *Atlantic corridor*

This is the most important of the three international corridors in terms of the population living there, the value of production, and the national and international traffic passing through it. Of the total volume of intra-South American trade amounting to 1,200 million dollars in 1971, 473 million dollars' worth (39 per cent), was carried on this route.

Shipping is the principal means of transport in this corridor, and although the available statistics are very imperfect, it is estimated that in 1971 some 2.8 million tons were carried by sea along the Atlantic corridor out of a total of perhaps 4.8 million tons carried by this means among the 10 South American countries. Iron exports from Brazil to Argentina accounted for a large proportion of the total tonnage shipped in this corridor.

In recent years road transport has assumed more and more importance in the corridor as the infrastructure has been improved and transport undertakings have gained more experience in international transport. Although there is an extensive railway network in the corridor, international rail transport has traditionally played only a small part and road transport would seem to have a comparative advantage for several reasons: the railway network has different gauges, which prevents direct transport; road transport provides direct links between a larger number of urban centres and a faster door-to-door service; and the traffic density is low, which makes it more difficult to organize a good rail service.

Inland-waterway transport is also important in this corridor for trade between Paraguay, Argentina and Uruguay. Because of narrows in the River Paraguay and seasonal drops in the water level, however, special vessels are required which have only just begun to be used.

(b) *Pacific corridor*

In this corridor, the Andes plays a fundamental part in determining the spatial distribution of the population and orienting the transport network. The population in this corridor is less dense than in the Atlantic corridor and also less continuous, being concentrated in coastal oases, fertile valleys and

inhabitable parts of the Altiplano. Trade within the corridor in 1971 amounted to 205 million dollars, or less than half that carried on in the Atlantic corridor.

In this corridor, too, shipping is the principal means of transport and in 1971 about half a million tons were carried by sea. The backbone of land transport is the Pan-American Highway, which extends from Venezuela to Chile and is almost completely paved. The railway network of the Pacific corridor is not continuous and is therefore useless for international traffic.

Bolivia's transport system is linked with the Pacific corridor by means of three railways extending to the Peruvian port of Matarani and to the Chilean ports of Arica and Antofagasta. This last connexion links the Bolivian railway network with the Chilean system. The existing roads between Bolivia and the Pacific corridor are poor and very little of Bolivia's international trade is carried by this means, but the situation is likely to change with the construction of one or more highways such as those proposed between Arica and La Paz, Iquique and Oruro, or Ilo and La Paz.

(c) *Trans-Andean corridor*

The trans-Andean corridor linking Argentina and Chile is the main connexion between the Atlantic and Pacific corridors. Here there are competitive rail and road services which in their turn compete with sea and air services. Although the bulk of the overland traffic along this corridor represents trade between Chile and Argentina, there is also some traffic between Brazil and Chile.

Despite the existence of an extensive rail and road network on both sides of the Chile-Argentina frontier, shipping is the main means of transport used between the two countries, and even more so between Brazil and Chile. International rail traffic, however, has increased in recent years, partly as a result of the improvement in facilities and services. This increase has taken place in spite of the improvement of the international highway and the growth of road traffic, which, however, suffers from limitations because of the railway tunnel that has to be used at the frontier.

4. *Co-ordination in the international corridors*

The concept of transport co-ordination is somewhat difficult to define and has frequently been invoked to justify measures whose real

purpose is to protect a specific means of transport from competition. The only aim here is to stress the importance of co-ordination in order to avoid duplication of investment and to develop a system of international transport which will contribute towards economic integration.

In the three international corridors under review, competition exists between road and other forms of transport. The development of an efficient system calls for the rationalization of competition, a concept which is closely linked with that of the advantages inherent in each means of transport. These advantages are not constant, however, but vary according to technological innovations and the users' requirements. What may be an inherent advantage at one moment, such as the advantage possessed by the railways for the transport of petroleum or coal, may be lost when pipelines are introduced. Furthermore, a means of transport may be so badly organized or managed that it fails to turn its inherent advantage to account.

At a given moment, however, each means of transport has different technical characteristics, which means that one type can offer a specific service more efficiently or more cheaply than another. Since the requirements of passengers and of the various kinds of shippers are not all the same, and an efficient transport system must therefore have different kinds of services to offer, the inherent advantage principle is valid and should be fully borne in mind in determining how best to co-ordinate such services and the media providing them.

Although any assertion regarding the proper role of the different transport facilities in the three corridors should only be considered as a working hypothesis, some general observations may be advanced. In the first place, as trade in industrial products between the South American countries expands, the efficiency of transport services in terms of safety, frequency and transit time will become an increasingly important factor. This alone is a sufficient guarantee that road transport will have a vital part to play in the three corridors.

This same fact also points to the importance of a road connexion between Bolivia and the Pacific corridor. The question to be discussed here is not the need for a highway but the choice of route. Leaving aside political factors (while recognizing their importance), there are powerful reasons why this highway should reach one of the ports currently served by rail,

thereby creating a transport corridor. The economies of scale of the transport enterprise are often discussed in transport economies, but this concept is also equally or even more valid for the transport corridor or axis. The existence of a highway and a railway which would serve Bolivia through the same port would have significant advantages, such as enabling Bolivian importers and exporters to travel easily to the port to speed up the dispatch of their goods. In addition, it would help to concentrate more of Bolivia's international trade on the port and the corridor, thus permitting the establishment of better marketing and distribution facilities and better and more frequent transport services which would not be feasible with a smaller volume of traffic. Rail traffic by the corridor would increase, partly at the expense of the other two railways running to different ports.

The mere construction of an international highway between two or more South American countries does not, however, guarantee a significant increase in traffic. In this respect it is interesting to note the difference between road traffic by the Pacific corridor and that by the other two corridors, which may be partly due to the International Land Transport Agreement in force between Argentina, Brazil, Chile, Paraguay and Uruguay.

By way of a second generalization regarding competition in the three international corridors, it may be affirmed that part of the cargo now carried by sea should be sent by road. An example of the possibilities in this connexion is provided by the Argentina and Chilean railways' use of dual-gauge wagons for the transport of products which were formerly sent by sea. If land transport is to turn its inherent advantages to account and obtain a larger share of the traffic at present sent by sea, it is essential to assure the client of reliable service at a pre-arranged price.

A third generalization relates to the importance of developing intermodal passenger and freight transport services in the three corridors. Although direct services by road, rail and sea are undoubtedly necessary, a combination of two or more of these forms of transport could make fuller use of the inherent advantages of each and this way provide a better and more efficient service to the community.

Intermodal transport is especially suitable when accompanied by the unitization of cargo, that is, the use of packing units which enable

a substantial amount of cargo to be transhipped in a single movement. Some examples of unitization include palletization or the use of trays on which separate sacks or packages are piled and tied, containerization or the use of boxes in which separate packages or bulk cargo are placed, and the piggy-back and roll-on/roll-off systems. Unitization in any one of its forms reduces the cost of transshipment between transport media, which is the main obstacle to the use of intermodal transport.

This reduction in the cost of transshipment has its own price, however, since special facilities are required which, in the case of cranes for transshipping containers, are very costly. Furthermore, both containers and road trailers represent a substantial investment and need to be in continuous use in order to justify their cost. In addition, the transport of empty containers and trailers for want of return loads is fairly costly and triangular transport is sometimes necessary if an intermodal system is to be feasible.

Apart from the cost of the facilities and equipment required for unitization, the establishment of intermodal services calls for effort and organization. The intermodal service will not be attractive to users unless the latter have some assurance regarding schedules, delays at the frontiers and the total cost of the service. In order to give clients such assurances, the maritime, rail and road transport enterprises taking part in the services must coordinate their schedules and make certain that their equipment and infrastructure are compatible, including the loading gauge of railway tunnels and the strength of road bridges.

Some intermodal services already exist in the international transport corridors. Thus, for example, goods are carried by road from Brazil to Mendoza, Argentina, where they are transhipped to a dual-gauge railway wagon for transport to Chile. Although part of the international cargo is placed in railway wagons at Santa Fe, Argentina, much greater advantage could be taken of the railway link between Santa Fe and Mendoza since, from the topographical standpoint, it is ideal for rail transport. Cargo is also carried by rail from Santa Fe to Salta and Antofagasta, but the cargo is not yet unitized in this intermodal traffic and it is transhipped in separate packages from one form of transport to the other.

The low traffic density at present prevents an intermodal service using maritime and road transport. It is easy to see the advantages which

a roll-on/roll-off service would offer for the dispatch of 20-ton lots of industrial products from Bogotá to Santiago. With such a service a lorry would be loaded in Bogotá and the trailer would be transferred on its own wheels to a special ship in Buenaventura. When the ship reached Valparaíso another tractor would haul the trailer directly to a customs warehouse in Santiago. This system does not require costly port facilities, but it does need suitable vessels to take the trailers without the necessity of lifting them.

For an intermodal transport system to operate effectively, it is not enough simply to establish the transport services involved. It is equally important to set up an efficient system covering documentation, responsibility for losses and shortages, and clearance through customs. Despite the efforts of LAFTA and other institutions, Latin America is very backward in all these respects. This is partly because of the small volume of intermodal transport, but it is also one of the reasons why services of this kind are not established. Just as in the case where the small volume of traffic does not justify investment in special equipment and related installations, this vicious circle should be broken as soon as possible. Most probably, if the efforts to improve the arrangements for documentation, customs, organization and supervision of traffic, and responsibility for losses and shortages in connexion with intermodal transport are more efficiently co-ordinated and transport enterprises themselves endeavour to co-ordinate their services and equipment, a potential demand will be discovered which will fully justify additional investment so that intermodal systems can take their proper place in intra-South American transport.

It should be remembered that the intermodal systems for intra-South American trade will inevitably be integrated with the extra-continental systems. This integration will provide opportunities for cutting down on the cost of regional transport by making better use of specialized installations and equipment, but it will also give rise to the danger of loss of national control over these systems, including the choice of overland routes and transporters. This danger was one of the reasons which caused the Latin American countries to oppose the adoption of a draft TCM convention and recommend changes in the customs convention on containers. Both drafts had been prepared for presentation to the UN/IMCO Congress on International Container Traffic.

In some cases the institutional basis for setting up Latin American machinery to develop intermodal transport already exists. The national customs directors of the member countries of LAFTA have proposed formalities which will allow the passage of sealed containers through frontiers and ports, but few countries, except for Argentina, have introduced the necessary legal changes in their regulations.

In some South American countries, containers are being constructed on standard patterns which will allow them to circulate internationally. To date, however, no in-depth investigation has been made of the possibility of organizing multinational enterprises which would rent containers or other equipment for the intermodal transport of unitized cargo and would organize and supervise intermodal services. Furthermore, as long as responsibility for this remains in the hands of the railway, shipping and road transport companies, there will be an inevitable tendency to develop the use of one means of transport to the detriment of the rest, instead of seeking the best means of making use of the advantages inherent in each. This is why it is suggested that it would be a good idea to set up new enterprises—which do not themselves possess locomotives, ships or lorries—to organize and sell intermodal services.

A fourth generalization which may be put forward regarding transport in the international corridors concerns the need for co-ordination between road and maritime transport. Both in the Atlantic and the Pacific corridors, and even more so in the case of traffic between the two, transport will continue to be dominated by shipping. With the exception of trade between Brazil and Argentina, however, shipping services between the South American countries generally form part of services which extend outside the region, so that the technology which is applied to sea transport between Latin America and the rest of the world also affects the intra-South American system.

At the world level, the trend of maritime technology is towards ever larger and faster vessels involving bigger construction and operating costs. As a result, shipowners want to reduce their stay in port to a minimum. Furthermore, the efficient utilization of many of these vessels, such as container ships and bulk carriers, requires expensive harbour installations and equipment. The result of these two factors is to concentrate world trade on a few ports equipped to mobilize large quantities of raw

materials in bulk and on others equipped to receive and dispatch rapidly the modern ships which carry containers or other types of unitized cargo.

The extension of this technology to Latin America will tend to increase the already dangerous concentration of economic activities in a few coastal centres. Furthermore, it will require the transport of export and imports goods over much longer distances within each country to and from the few ports dealing with external trade, with obvious implications for the national transport systems.

While these trends in maritime technology are favourable to the development of land transport for intra-South American trade, it would be preferable to do everything possible to make the technology of the shipping systems which serve South America's external trade more compatible with the region's aims. In this context, it is very probable that the LASH (lighter aboard ship) system is the most suitable, since with this system the parent ship can leave lighters at nearly any point on the coast without the need for harbour installations. The loading and unloading of the lighters is carried out using only a tug and a crane with a capacity of three tons. These same lighters can also travel up navigable waterways such as the rivers Magdalena, Paraná, Paraguay and Guayas. In 1973, a LASH service will be introduced between the Gulf of Mexico and the Atlantic coast of South America, and it is also probable that another similar service will be set up between the Atlantic coast of the United States and the Pacific coast of South America.

Another advantage of the LASH system is that it alters the requirements for co-ordination at the ports between maritime and land transport. The problem of co-ordination with traditional shipping systems arises from the fact that ships and land transport vehicles have very different capacities. If a ship loads or unloads 5,000 tons, for example, at least 100 lorries or railway wagons are required to carry the cargo to or from the port. In addition, several vessels are generally loading and unloading simultaneously in the port. While the port itself can accumulate cargo and act as a buffer between maritime and land transport, the lack of co-ordination may be seen in the long queues of lorries awaiting entry to some South American ports and the large number of ships waiting their turn in others. Furthermore, when the cargo is perishable, as in the case of meat or fruit, lack of adequate co-ordination may endanger the cargo

itself. With the LASH system, which uses lighters with a cargo capacity of about 350 tons, the difference between the capacity of the different units of transport is reduced, since the lighters can come closer to the destination or place of origin of the goods transported.

Co-ordination in the ports between maritime and land transport will always be important. For this co-ordination to work in practice with the active participation of the representatives of the carriers and users, better information systems are required. Only with adequate information can the simultaneous arrival of a large number of vessels or lighters, the lack of wagons or lorries to remove cargo, and the lack of space in the warehouses or storage areas be avoided. Another measure of special importance to assist the co-ordination and efficient movement of goods through the ports is the adoption of co-ordinated systems of documentation such as manifests, policies, permits, bills of lading, etc. between shipping and land transport.

5. *The transcontinental transport routes*

Although the three corridors discussed above, together with maritime transport, will continue to handle the majority of intra-regional trade flows, there are a number of transcontinental land routes linking the two coastal corridors which, with a little additional investment, could play a secondary but increasing role in the total flow. Their importance will tend to increase as over-all trade grows and the interior of the continent is developed with a consequent increase in the demand for transport services. In the majority of cases, these routes use more than one means of transport to complete the movement from place of origin to destination, but some routes use a single means of transport. Some of these routes will have an opportunity to become important transport corridors in the future. Among them are:

The Amazon and its tributaries, which, together with the Peruvian highways from Pucallpa and Yurimaguas, will form a route to the Pacific coast;

The Trans-Amazonia and Brasilia-River Madeira highways, which will continue together from Porto Velho to Pucallpa and from there to the Pacific;

The Santos-Santa Cruz railway, with the route continuing by road to La Paz, and from there to Matarani or Arica by railway;

The Paranaguá-Asunción-trans-Chaco-Sucre or Salta highway, with rail links to Antofagasta, Arica and Matarani;

The Buenos Aires-Salta railway, with the route continuing to Antofagasta, Arica or Matarani to link up with the Pan-American Highway; and

The Bahía Blanca (Argentina)—Concepción (Chile) railway, using road transport to cross the frontier.

On all these routes transcontinental traffic either does not exist or is very slight, although there is national or international traffic of some volume over several individual stretches.

Except in cases where road links are still unfinished, the main reason for this lack of use is the need to use more than one means of transport and the present lack of co-ordination between them. When freight is carried using a single means of transport, customers have appeared, as in the case of the railway between Buenos Aires and Arica, which transports some 1,000 containers annually. When co-ordination between two means of transport is lacking, however, the service is still not attractive to customers.

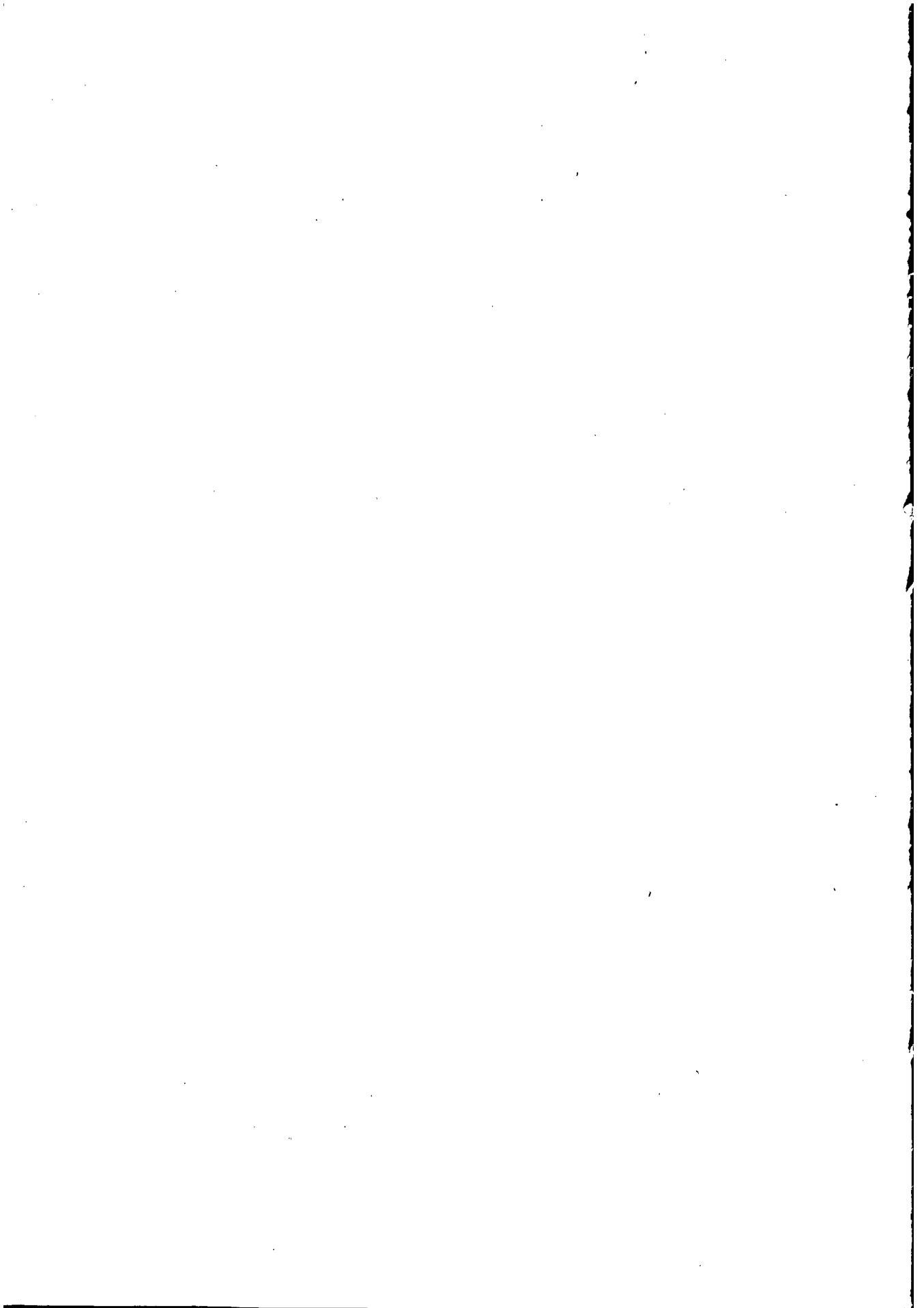
This is a deplorable situation, since installed capacity already exists, in both the rail and road infrastructure, which could be used to provide regular, relatively low-cost intermodal services for passenger and freight between the Atlantic and Pacific corridors. The main obstacle is the lack of co-ordination between road and rail or river transport as regards equipment, itineraries, responsibility for losses

and shortages and documentation. It is very probable that a common effort on the part of the transport enterprises to overcome this obstacle and to be able to inform customers as to tariffs, required documentation and journey time would show that there exists a large potential demand which would fully justify the effort.

It is also probable that if the carriers on one of these routes take the initiative and set up efficient and reliable services, they will gain an important advantage over the other transcontinental routes. As already mentioned earlier, the efficiency and quality of intermodal services increase rapidly as the density of traffic increases, since the economies of scale that can be secured on each route are very substantial. It may be added that an internal regional system could be developed by linking up several national systems in which local flows are relatively larger and international flows smaller. On the basis of this superimposition of flows, it would be possible to plan a rational land transport system which would take advantage of the above-mentioned economies of scale.

The observations made in the foregoing paragraphs have important implications for the allocation of priorities for new international highways. Any identification and selection of highway projects which fail to take account of the possibilities of co-ordination with other means of transport for intra-South American trade will inevitably lead to a wastage of the resources of the South American community, and it is precisely the responsibility of the planners to ensure that this does not occur.









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