

LATIN AMERICAN REGIONAL SEMINAR ON PROBLEMS
OF THE HUMAN ENVIRONMENT AND DEVELOPMENT

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HEAD OF THE BRAZILIAN DELEGATION, ON ITEMS 5 AND 6 OF THE AGENDA.

5. Overall view of environmental and development problems
in Latin America
6. Situation of the environment in Latin America

Mr. President,

May I start by congratulating you for your election to the chair of this meeting. Under your guidance we all feel sure that the work at hand will be fully successful.

Mr. President, the ample and very complex problem of the human environment has been at the forefront of the international community for more than two years. From the Academies of Science to the general press, from schools to the highest levels of Government and mostly through the labours of the international agencies, an enormous effort is being done to raise issues, to clarify them, to accumulate and analyse new information, and to spread knowledge. Mr. Maurice Strong has presented us with a survey of his own activities for the preparation of the Stockholm Conference and one cannot but be impressed both by the scope of the Conference and by the gigantic effort that its preparation is entailing.

This very meeting of ECLA represents an effort to clarify a rather specific issue of the total problem - namely, the confrontation of the problems of environmental protection and rehabilitation with the problems of economic development - and this confrontation is to be seen from the specific perspective and problems of the Latin American countries. Whatever we do here will fit ultimately into the global problems and issues to be tackled by Stockholm. In the name of the Brazilian Delegation I must specially welcome this opportunity to discuss those important issues in this special forum before the World Conference.

The importance, the urgency and the universality of some of the environmental problems are fully obvious. For the first time in History, Mankind is confronted with a planet that does not seem anymore to be infinite and which cannot be considered as a source of

which are fundamental for the perpetuation of human and animal life as we know it today.

Among the problems of dramatic world significance one could cite the accumulation of carbon dioxide which, as indicated in ECLA's Report (Doc. I.2, paragraph 149) combined with excess water vapour and the heat produced by fuels, is already having an undoubted effect on the local climates, and it is feared that they may cause more widespread changes which would impair the living conditions on the entire planet or in vast regions, including Latin America; it is also important to mention the pollution of the high seas, mainly due to industrial and agricultural wastes and most specially by discharges from ships, as well as by under-sea mining activities, radio-active wastes and military operations. This high seas pollution seems to be interfering with the ecological balance of algae and plankton, provoking a reduction of the oxygen producing ability of the first and a serious imbalance of the vital animal life cycle based on the second. For a world where certain countries, like the U.S.A. and most of those in Western Europe, consume about 40% more oxygen than they produce within their frontiers, these perspectives are very gloomy indeed. And for a protein starved underdeveloped world the jeopardy of the basic animal life cycles based upon the plankton as a source of nutrition is nothing short of disastrous.

Another aspect of the environmental problems that has been emphasized relates to demographic growth in the relatively shrinking spaceship earth. In a few sectors, including governmental circles and multilateral agencies, this problem has been at the basis of quite a few proposals for action whose implications may be as far reaching as unrelated to solid facts and to good reasoning.

It is in the light of those and many more considerations that, through the initiative of the Government of Sweden, a World

Conference has been called, by the U.N., to take place at Stockholm in June 1972.

If one looks carefully at the development of the work for Stockholm one is bound to feel crushed both by its scope and by its universality. The problems to be discussed and, hopefully, settled in this 12 day world meeting go from the high seas to the land masses of the earth, from outer space, through the biosphere down to the bottom of the oceans; from ecological and geo-chemical equilibrie and disequilibrium in the earth, air and water to problems of emotional adjustment by rural communities transfered to urban slums in large cities; from the construction of the Aswan Dam, in the Nile river, to the starvation of sardines in the eastern Mediterranean; from the contour cultivation of agricultural lands thousands of miles inside the continent, to the siltage of the Plate river; from the protection of extinguishing species of tropical snakes and monkeys to archeology and the presevation of historical monuments considered to be mankind's common heritage; from the development of germs that attack germs, to the creation of idleness and leisure.

These are, Mr. President, a few of the examples that directly concern Stockholm. But the indirect concerns that should also be ventilated and, hopefully, settled to everybody's satisfaction are many times more numerous. They go from ethical problems in fiscal policy to repercussions in trade of environmental measures and from the problems of giving appropriate weights to fresh air in the economic equation to the possibility of shifting costs from consumers to producers in different market and demand conditions.

I should perhaps add, straight away, that the Brazilian Government considers the calling of the Stockholm conference a timely and necessary act of wisdom. We also consider that the interests of

sometimes ~~essential~~^{essential}, importance.

However, we feel that it incumbs upon the underdeveloped world a very serious vigilance of the preparation for the Conference.

The legitimacy of the measures to be taken next year in Sweden could easily collide with other equally pressing measures which have always been considered fundamental for the developing countries in the broad field of the acceleration of economic development.

It is thus essential that we clarify, within the limits of the possible, the nature of the problems that afflict the world in the environmental area; that we identify the sources and causes of these problems; and that we become aware of the major polluting responsibilities. It seems also necessary that we obtain a clear notion of the ultimate working of the measures to be employed for the avoidance of pollution or for environmental rehabilitation. We must know at least the direct costs and the opportunity costs of these measures and whenever possible, we should have a notion of their positive repercussions in the socio-economic evolution of our countries, in the structure and contour of their institutions and in those characteristics and ultimate goals of our societies that constitute our national personalities. Stockholm, as convincingly indicated by the Argentine Delegate, must not transpass national sovereignties and must accept the national development framework as a fundamental parameter.

The first point to be emphasized should, perhaps, be, that most probably all pollution of world significance is being done by the highly developed and industrialized countries. This type of pollution, as so clearly indicated in ECLA'S Report (Doc.L.2, paragraph 147) include alterations in the balance and quality of the atmosphere, pollution of the high seas and disturbances caused by radioactivity. Although Latin America can do little to prevent or solve these problems, it

should not fail to keep a sharp look out for measures that may affect it both in the short and the long run. I have already mentioned the problem of the high seas pollution and will touch upon it again only to say it is fundamentally caused by activities engendered in highly developed countries. In relation to radioactive pollution and as indicated in paragraph 155 of Doc. L.2, most^{of} the potentially contaminating residues are produced in power generating plants none of which are to be found in underdeveloped countries today.

The pollution responsibility of highly developed countries is all the greater because they both originate the technologies that have brought about this dismal situation and contain within their borders all the polluting streams that have or are acquiring world significance. In some cases their ability to pollute transcend their economic or industrial activities. In fact, a few of the developed countries, thanks to their high industrial productivity - in part accumulated through countries of predation upon theirs and others natural environments - have been in a position to obtain very high demographic concentrations which, even though giving them certain economic advantages, have had polluting consequences of the type inherent to human presence in such high densities.

The second point that my Delegation would like to emphasize is exactly that the highly developed countries, because of their high levels of economic-industrial activities and most especially because of their huge energy consumption - one of the sources of polluting effluents - have concentrated in their hands a very high proportion of the world wealth and income. As the ECLA paper (Doc. L.2) says in paragraph 109: " considering the average density of commercial energy consumption per unit area, and arbitrarily adopting 1.00 as the value for all Western European countries, the indexes by regions would

be 0.30 for Europe and the U.S.S.R., 0.72 for the United States of America and 0.05 for the rest of the world, while Latin America would register only 0.03. Moreover, the areas of pastures and jungle in Latin America do a great deal towards restoring the atmosphere, by absorbing carbon dioxide and releasing oxygen through photosynthesis". The ECLA Report goes on to say in paragraph 111: "The motor-vehicle inventory in the region amounts to 8.8 million units or only 4.1% of the world total. Thus the whole of Latin America has less than one-tenth of the total number of motor vehicles in the United States and about 70% of those existing in France, the Federal Republic of Germany or the United Kingdom".

Through this massive burning of fuels and the consequent multiplication of human productivity, as already indicated, the highly developed countries have reached a situation in which they hold most of the economic ability to act on a world scale. Let us take, for instance, the twenty most developed countries in the world (in per capita income terms), in the year of 1969. They encompassed a total population of 610 million people and added up to a Gross Domestic Product (at factors cost) of US\$ 1,387,340 million (one trillion, three hundred eighty seven billion, three hundred forty million Dollars) and a consequent average per capita product amounting to US\$ 2,272.00. Simultaneously, the thirty most underdeveloped countries had a population estimated at the level of 874 million people, a Gross Domestic Product slightly exceeding 70 billion Dollars and a per capita product averaging US\$ 80.00.

In other words, with only 70% of the population of this most underdeveloped group of countries the twenty most developed nations had, in 1969, twenty times more resources at their disposal, i.e., 2,000% more resources than the "poor" group. Of course, that

situation is not that drastic in Latin America as a whole (even though we have representatives in the most underdeveloped group under consideration), but the disproportion in terms of the necessary economic ability to act is just as impressive.

The third important point, in the view of my Delegation, resides in the nature of the pollution created by underdeveloped countries and the virtual absence of world wide signification in whatever pollution is originated by them. We have accepted the fact that there is a pollution of affluence and a pollution of poverty. We have a lot of the latter in Brazil. In the cities it shows itself, inter alia, in the form of "favelas" and in the still low sanitary conditions and health standards of the people; in the rural areas it expresses itself in the form of endemies, in soil erosion and in decreasing agricultural yields.

Mr. President, my Delegation holds that all known forms of environmental deterioration predicated to poverty can be corrected, on a national basis, only after development takes place. We do not mean to assert that economic development is, in itself, sufficient condition for environmental preservation at relatively low levels of per capita income. We simply believe it demonstrable that economic development and the consequent increasing ability to dedicate growing resources to all economic and national problems is a necessary condition for the appropriate attack on environmental problems and, moreover, that the environmental problems that characterize relatively low levels of development are also developmental problems and must be tackled as an integral part of the developmental equation.

The "favela" is not a Brazilian vacation but, as Ambassador Santa Cruz said yesterday, the direct consequence of the scarcity of resources. The main cause for shanty towns may not be population

growth but two characteristic national failures: the failure to develop productive and competitive national technologies that would take into consideration the relative abundances and costs of the factors of production and the failure to grow fast enough so as to obtain higher marginal propensities to save and to invest. The shanty town is a problem that cannot be solved by spreading them through space or by retaining people in rural areas. As Doc.L.2 indicates in paragraph 71: "An improvement in sanitary conditions, including the provision of drinking water and sewerage, and the minimum care of population is feasible only when the rural population is grouped in localities that enable the fixed costs of such services to be absorbed". The only solution for it will thus be full productive employment for both the urban and rural populations and - Mr. President - I do not have to say how one does obtain full productive employment for all the active population, but it has a name: economic development.

It is true that in certain urban nuclei in Latin America - we have good examples of them in São Paulo, Rio de Janeiro, Belo Horizonte, Recife and other Brazilian cities - a certain degree of pollution of the developed country "type" may be proudly observed. In terms of solid, liquid and gaseous effluents as well as in terms of automobile and of human concentrations, some of the worst may be seen in our Countries. It is obviously of great urgency to tackle these local problems, but it is important not to forget that the polluted centers are also the most productive ones and, as such, the most able to segregate resources to solve their environmental problems.

But in relation to this problem permit me, Mr. President, to point out that highly localized polluting foci are very far from having world or international significance. In paragraph 160 of Doc. L.2., we find that "as regards pollution and disturbances in La-

Latin America, measurements made in industrialized countries reveal that if atmospheric pollution over a big city is 100, the index in rural areas some tens of kilometers away from the center would often be 40! On the other hand the generation and per capita consumption of electric power in Latin America are much lower than in the USA and Europe. The Latin American per capita average, according to Ecla, is 450 Kwh compared with 6,500 Kwh for the USA and 2,500 Kwh in Western Europe and, moreover, more than 50% of this power in Latin America

Latin America is generated by hydro-electric plants while less than 20% is equally generated in the U.S.A.

With your permission, Mr. President, I will now summarize the three points I have been trying to make, for they will be used as premises in my basic reasoning. They are:

- 1) all pollution of world significance is being caused by highly developed countries as a function of their own high level of industrial activity and is based upon technologies developed by those countries;
- 2) most of the world economic resources and ability to act in the environment field is concentrated in the highly developed and densely polluted and polluting world;
- 3) most of the environment problems to be found in under developed countries is either predicated to their lack of economic resources for improving hostile natural areas or for rehabilitating environmental conditions that have deteriorated through the application of primitive means of production.

Before utilizing those propositions as the premises for my basic thesis I will have to clarify somewhat the concepts of pollution and economic development.

In the case of pollution, it could be said that anything that disturbs nature pollutes, such as heat or shock. In that sense mankind pollutes by its simple existence or presence. But this "absolute" sense for the concept of pollution is inadequate because it entails the withdrawal from nature of the polluting agent. In our case, where the agent is mankind itself, this conceptual need to consider all polluting agents as "unnatural" elements should lead to sinister

ideas of wholesale euthanasia. Through the existing semantic confusion, Mr. President, we in this room must be considered "unnatural", perhaps not "super-natural", but certainly as outside the realm of nature, and, certainly, great polluters.

If, on the contrary, we were considered to be part of nature then, in "absolute" terms and within this "natural category" we could not pollute. Anything we would do directly or indirectly, would be natural or part of natural processes in the same way as the ant hill or the bird's nest are as natural as the ant and the bird themselves.

Through semantic confusions of this type in which the analysts place themselves implicitly outside of the universe, certain disquieting hints and even suggestions are periodically made in the demographic field. They concern the problem of mankind's growth on earth and besides placing the analysts upon scientifically unacceptable vantage points they are the result of primitive statistical simplifications. It is, very often, by taking the central part of the logistic curve that represents Latin American demographic growth functions - a segment of a curve with exponential characteristics - that neo-malthusian extrapolations are made the least of which leading to less than elbow room on the "spaceship earth" within two or three generations. These primitive manipulations abstract from the total characteristics that preside the growth of any population and which are quite clear for all to see in Latin America. The rates of demographic growth in the area are the result today of a very desirable and fast growing increase in life expectancy which more than compensates for accelerating decreases in birth rates. This equation brings out a clear automatic limit to Latin American population, a limit that may be reached much before European levels of human density are obtained.

It is also forgotten that Latin America, in general, may

still benefit - like Brazil - from a higher marginal productivity of labour in relation to capital. Because of this and accepting a relative stability in the proportion of the active population to total population, any forced, artificial decrease in the rate of demographic growth, designed to increase per capita incomes, would be self defeating because it would elicit a greater reduction in the rate of growth of income itself.

But let us go back to an adequate definition of pollution that will take us out of a serious and dangerous semantic confusion. The only adequate way to look at this problem is to accept a "relative" definition of pollution. As indicated by the distinguished Delegate of Venezuela, we must know what we are talking about.

Without aiming at a complete and tight definition I hope that we could agree upon some of the necessary elements for this important definition, even though these may not, in themselves, constitute sufficient conditions. These elements, following the ideas expressed by the Delegate of Panama, would be the notions of "extraneous", of "disequilibrium" and of "concentration". In order to pollute, something must either be extraneous to a given environment or able to disequilibrate some original balance of the environment through its appearance in excessive concentrations. The concentration of extraneous or disequilibrating agents must be such that its cumulative action forces changes of the environment which will evolve or degrade in terms of some original characteristics or standards of desirability.

If this concept of pollution is acceptable, and I believe it is in actual fact the only one that would make sense in the context of our discussion, the first conclusion to be derived from it would be that underdeveloped countries, in general, and Latin America, in particular, are not polluters.

We do have small urban enclaves which have reached fairly high levels of pollution but these are entirely local problems without national, regional or international significance. Taken as a whole Latin America is an area in which the environment still has ample regions for the absorption, degradation or neutralization of the "effluents of affluency", an affluency which, through lack of development, has been eluding us much more than crushing us under the weight of some of its undesirable by-products.

My Delegation agrees entirely with what is said in paragraphs 217 to 221 of Doc. L.2 and most specially with the assertion that Latin America is in favourable position as regards lack of environmental pollution and that this advantage could be used in order to accelerate economic development. But we would not formulate the solution to this problem, in the words of the document, as the importation of "a number of polluting activities without reaching the level of environmental degradation attained in Japan, the United Kingdom, Germany or France". This formulation is inadequate because it is based upon an absolute concept of pollution and we have demonstrated the inadequacy of this absolute approach. In relative terms the industries that are polluting in Japan or France, because of the low carrying capacity of their densely saturated environment, are not polluting in Central Brazil or Southern Argentina, or in any area where environment still presents ample restorative capabilities.

May I now make my last point, Mr. President. It concerns economic development itself. Its essence, as in everything that is economic, consists in the fact of scarcity of means in relation to goals. As you know, Sir, value - as independent from the concept of utility - is predicated to the fact of scarcity; and no country will develop without compressing consumption so as to liberate, from the available

scarce resources, the magnitudes necessary to compensate for fixed capital depreciation and for an evergrowing net addition to its capital stock. In a generally poor area like ours the necessary sacrifices for the liberation of resources are very heavy and, so far, have not been sufficient to bring about an adequate "economic environment" and its consequent reasonable average level of productive full employment and the decencies of a good roof, adequate nutrition, clothing, education, health.

The whole problem of development is thus predicated to the ability of underdeveloped countries to economize their scarce resources both in terms of reducing consumption and of adequately distributing the available investment capital in such a way as to obtain maximum growth leverage.

Whatever little we know about formulas for overall economic development in underdeveloped countries today, there is a strong body of evidence that leads one to believe that development cannot any longer be a slow process. Either under the name of "take-off" or of "escape-speed" theories, accumulating experience seems to confirm this minimum speed assumption.

In actual fact economic development also must be seen from absolute and relative standpoints. In the first case, development would take place when certain basic parameters such as per capita incomes, industrial employment and production, cultural, health and sanitary conditions, etc., would maintain long run growth rates (as independent from short run spurts to be followed by stagnation or returns to original levels). But this type of growth could be compatible with relatively increasing underdevelopment.

The very concept of underdevelopment is a relative one, since it is dependent upon the comparison of a given national economic

unit with others that are developed. If we consider that the developed units are not static and that modern economic thinking attributes to them the cumulative tendency for the acceleration of their growth, we come of necessity to a definition of development in terms of "catching up" with the developed countries. This definition is sometimes simplistically stated in terms of "closing the income gap" but it certainly goes much beyond the income aspect of growth.

If we accept the fact that most underdeveloped countries, as a matter of legitimate choice, will settle for nothing short of accelerated development and that this development - by the people and for the people - aims at creating a highly productive economy which could be classified as an "appropriate or legitimate economic environment" we shall make a great step towards clarifying our problems.

Man needs nature and, if possible, unpolluted nature, but he also needs levers that multiply his ability to act, increase his productivity, adapt nature to his needs and permit leisure to enjoy life.

Our problem is the dialectic confrontation of the "economic environment" necessary for modern civilization and its enjoyment and the "natural environment" necessary or hoped for by civilized man. There will be antithetical moments in this confrontation of the two environments. Marginal analysis or indifference substitution analysis will permit us to look adequately to this problem.

The adequate economic environment, of which the underdeveloped countries have too little, is built upon a certain degree of violence to nature. It is all a matter of proportion. Those who have too little of it need and want more. Those who have enough or, perhaps, too much, seem to be at a loss in knowing what to do with the power it gives them and begin to long for "good old nature". If,

perched at the peaks of their own economic development they want to trade parts of it for natural unspoiled settings, they may be making very legitimate choices. But let us not hear from them that we are much better at the bottom of our coal pits of poverty, where we are not even given the choice along an indifference distribution of development and nature.

As we begin to see, in the long run the very goals of development become environmental in nature. But this is an ultimate goal, after the economic means and the power to act have been obtained. In the short run, when we are still alive, we shall find that many activities that favour environment at low income levels will be justified. But they will be justified because of economic reasons. Whenever an environmental goal has a high leverage in terms of development impulses, it will also be an economic goal, and justified as such.

On the other hand, those environmental goals that, at any given stage of development, will be unable to compete in the allocation of economic resources - because of low economic leverage within the economic process - those environmental goals should not be tackled by underdeveloped countries unless very special side conditions would give immediacy of another nature to the problem.

In the first stages of development there will be automatic corrections of environmental problems originated in the naturally aggressive conditions of virgin nature and consequent to the mismanagement characteristic of long term stagnation at primitive levels of economic activity. As development takes place, more and more environmental goals will acquire economic significance, if not for other reasons, because of the falling marginal efficiency of capital in other uses. But we must not forget that when there is no conflict, it is because the environmental problem is also an economic problem.

The conclusion must be that the main world wide environmental responsibility belongs to the developed countries and that the main responsibility of underdeveloped countries is accelerated economic development.

Accelerated development will entail the tackling of environmental problems at all levels of development, but this will be done mostly because of economic considerations. In certain areas good natural environment may be a necessary part of good economic environment, and this is true mostly in the health and sanitary areas.

As economic development takes place the underlying economic conditions will change and bring about a growing set of environmental initiatives within the very range of measures with a high marginal productivity and thus deserve investment priority.

Once those different aspects of the problem are taken into consideration the national policy implications for underdeveloped and developed countries become obvious. If the process of environmental deterioration implies the use or loss of unrecoverable resources or jeopardizes permanently desirable environment conditions; if the deterioration in question is only incidental and not necessary for the production process and if, moreover, the resulting deterioration has international amplitude, a very strong case will be obtained for immediate corrective or compensating measures, even if those measures may represent a loss in economic efficiency and have a consequent negative impact.

At the opposite extreme, where the expected deterioration of the environment is of a local or national nature, where it is absolutely essential to the productive structure of the country and where it is possible to compensate in the future - out of larger resources and at a relatively lower cost - for the harm done, it should be possible to justify the environment deterioration as one of the unavoidable costs of improving man's life on earth. I could not finish

without mentioning the group of experts called by Mr. Strong in Founex - Switzerland - which produced a very objective document - L.3 in our list - it emphasizes that development is essentially a cure for the major environmental problems of underdeveloped countries. It may be opportune to indicate here that my Delegation in general endorses the contents of this document.

At committee level, Mr. President, my Delegation may have specific suggestions to make on different aspects of our work.

Thank you, Mr. President.

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