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METHODS OF EVALUATION OF THE CONTRIBUTION OF  
HEALTH PROGRAMS TO ECONOMIC DEVELOPMENT

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Accelerating Economic Growth and Improving  
National Health in Underdeveloped Countries

by

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ACCELERATING ECONOMIC GROWTH AND IMPROVING  
NATIONAL HEALTH IN UNDERDEVELOPED COUNTRIES

By Wilfred Malenbaum, Ph. D.\*

I. The Problem and the Task

In the task of generating more rapid economic growth in the poorer lands of the world, what kind of relationship can we assume between improvements in a nation's health and progress in its wealth? Positive relationships have long been familiar; premature death and physical and mental disability place heavy financial burdens upon individuals and nations. There is "the obvious fact that the period of infancy and early childhood represents a drain upon family and community resources, an investment made toward a productive return in later life." <sup>1/</sup> Total outlays for rearing a child to an economically productive age average some four times the annual family income; outlays for this purpose are wasted by premature death. The nation's costs for dealing with disabilities total to an even higher amount in most countries. Nor do these latter calculations give full measure to the loss of output associated with lower productivity of workers in poor health. In sum, "investment in health promised large dividends..... and those nations which had prosperous economies and financial capital to spare quickly applied this principle..... In other areas there was no surplus capital to invest in the profitable enterprise of health;..... men and women were sick because they were poor; and they became poorer because they were sick, and sicker because they were poorer.....and the vicious cycle of poverty and disease pursued its disastrous course unchecked." <sup>2/</sup> Obviously the proposition is not an economic one alone. The right to life --and to a life of health-- is properly considered a fundamental prerogative of human beings.

So natural is the association of improved health with progress that too little attention is often given to the interrelationship which economic theory presents. Thus the Group of Experts for the Special

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<sup>1/</sup> C.E.A. Winslow, The Cost of Sickness and the Price of Health, WHO Monograph Series No. 7, p. 11. The first chapter contains valuable references, and summaries of relevant calculations for many countries.

<sup>2/</sup> Ibid., p. 9

Meeting of the Inter-American Economic and Social Council at the Ministerial Level was not content with this relationship: "an increase in the level and diversity of economic activity brings in its wake improvements in health conditions;" the Group preferred to express the conviction that this sequence could not be awaited. Rather, "such improvements are desirable in themselves..... [and] are an essential prerequisite for economic growth." <sup>3/</sup> This is an understandable position --obviously. But it is important to observe that the experts (like other writers) have not spelled out the theoretical propositions by which this prerequisite achieves the goal of economic progress. For indeed, many doubts can and have been raised, however, implicitly. Much of modern growth theory for underdeveloped areas contributes to these doubts.

Basically, they arise from the conviction that labor in many countries is today a relatively abundant factor of production. <sup>4/</sup> Modernization emphasizes the role of capital embodied in machinery. Underdeveloped countries are relatively short of such capital; labor is in excess supply relative to machines. Therefore, with labor already underutilized, with underemployment and even excess unemployment on the rise, what is gained from improved health which serves to expand the size of the labor force? Insofar as such improvement lowers the death rate, it will of itself expand an already overabundant resource. <sup>5/</sup> Insofar as it enhances the ability of persons employed to work more vigorously, it aggravates the ability of others to find jobs. For the total role of labor in the output process is basically governed by the number of machines with which labor can be associated. More people provide more mouths; that they also provide more hands is not too relevant in this context. Since an important index of a nation's economic well-being is the relationship between output and population, improved health expands the denominator without making any (or any comparable) contribution to the numerator. So long as improved health expands the size of the labor force and its ability to work, caution is needed in assessing

<sup>3/</sup> Report, June 29, 1961, p. 4.

<sup>4/</sup> Note: Where labor is not considered to be in surplus with present technical practices, the observations of this section do not apply. Thus, if it is true that fields whose output is in demand are not planted or harvested because the workers are malaria-ridden (see Winslow, op. cit., p. 15), that 4,5 million square miles of fertile land lie idle in Africa simply because of sleeping-sickness (ibid., p. 79), then appropriate health programs would obviously yield large returns in economic output.

<sup>5/</sup> Nor need the expansion in population in the working age groups mean that there will be a relative decline in the ratio of nonworkers to the total population. For the children who live to enter the productive age groups also enter the reproductive age groups: improved health and lower death rates need thus not lower -- over a decade, say -- the relative importance of "consumers" as against "producers" in the society. There is no evidence that improved health and reduced death rates contribute to any reduction in fertility and birth rates. See C. P. Kindleberger, Economic Development, pp. 218-19 and Ansley Coale and Edgar M. Hoover, Population Growth and Economic Development in Low Income Countries, Princeton, 1958, pp. 255-57.

the economic costs of premature death and illness. So long as birth rates do not decline, these costs must be smaller than the reductions in economic output per man due to a growing population which is not accompanied by an expanding product. Cold and inhuman though it sounds, this line of reasoning says that improving national health is incompatible with economic growth in any nation where there are no pressures for a decline in birth rates and where the improvements in labor's health or the expansion in population do not of themselves spur greater output.

My task in this paper is to reconsider this conclusion and these doubts as they pertain to many of today's so-called underdeveloped areas, especially those where there seems to be, with present technology, an excess of labor relative to capital. Given the fact that the "cold and inhuman" proposition above is actually commonly held, I feel it is important to re-affirm the more universal applicability of the positive relationship between economic growth and improved health. Modern students of population trends and theory emphasize the negative influences upon the nation's economic well-being of the health improvement which technology has made possible in recent years. We are all familiar with the experiences of Formosa, Ceylon, Jamaica, and Portugal in this respect: advances in public health have in no case been accompanied by enough improvements in output to expand (or in some cases even to maintain) per capita incomes. The dilemma is usually resolved in modern growth theory by emphasizing a critical transition period during which output is to be rapidly expanded. Once output increases at a greater rate than population, economic progress becomes possible, perhaps on a self-sustaining basis, that is, without extraordinary amounts of foreign assistance. If, during this critical transition period, a nation can escape from the "trap" which keeps output and population increases more or less in line, there can be more investment from domestic savings and a growing ability to use effectively an increasing and efficient labor force. For this escape, it is argued, there is needed a "big push" --a large and well-balanced bundle of new capital financed in an important degree from external sources, which by amount and repayment provision can be termed extraordinary (in contrast to the ordinary flow of such foreign funds under self-sustaining growth). This focus on a relatively brief period with a rapid expansion in output is characteristic of modern theories of growth and especially of that part which deals with the transition process from stagnation to steady self-sustaining expansion. Unless this investment push reaches a specific level --the minimum essential effort-- there will be no escape from the trap which restricts levels of per capita income, and which assures that improvements in health (with declines in death rates) will diminish economic well-being.

The writings of Professors Higgins, Leibenstein and Rosenstein-Rodan in particular --and to a lesser extent those of Ragnar Nurkse-- provide ready illustrations of this type of argument. In comprehensive treatments of the problem of economic development, the central position is given to a concentrated effort to overcome conflicting trends. The

nation's capabilities for economic growth are being influenced adversely by the upward push of population. To the old proposition that any progress from low levels of living means reduced death rates (and thus an expanded growth rate for the population) there is now added the new phenomenon of technical progress in health, almost independent of any upward movement in per capita income. On both counts, development policy needs to emphasize a major effort to jump ahead of the effects of improved health.

In passing, one might observe that the record of past experience does not seem to reveal any inverse pattern between improved health (rapid population growth) and growth in output. Rather, the evidence seems to suggest that economic progress (as measured by the change in income over the change in population) seems to have taken place precisely when the rate of population growth was at a high point. Simon Kuznets presents data for 13 countries (the United States, the Soviet Union, Canada, Australia, Japan and 7 from Western Europe) where periods of rapid economic growth overlap those during which the population growth rate was highest. <sup>6/</sup> Similarly Professor Hagen --who argues lucidly against the Malthusianism implicit in many modern theories of growth-- pinpoints an even more precise time-correspondence for rapid economic growth in a larger number of countries. <sup>7/</sup>

Nor do even contemporary data from some of the poor countries which are making progress appear to corroborate an inverse movement thesis. Here, too, the evidence suggests economic growth even as population growth is expanding. The cases of Communist China and of Mexico in the past decade may well be in point. After long periods of relatively slow growth --even of economic stagnation-- while population growth was at a relatively low level, these nations began to make progress while the rate of population growth was expanding. In India today, the prospects for economic improvement are more promising now that there is an awareness of the very rapid rate of population growth --because of this growth, one might almost say. The explanations for these developments are not obvious ones. In all three, vigorous governmental action is manifest; there are major efforts to do more, whatever the level of available resource inputs. It is not a minimum necessary level of investment so much as broad policies and programs directed at great achievement.

Public health activities play a basic role in such overall achievement, the influence they have upon population growth notwithstanding. To appraise this role, some observations are needed on the process of expansion of economic output.

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<sup>6/</sup> See Economic Development and Cultural Change (University of Chicago), various issues from 1957 to 1961; Kuznets' data appear in a series of articles.

<sup>7/</sup> American Economic Review, June 1959.

## II. Current Views on the Process of Economic Growth

What course of actions over a reasonably short period --5 to 10 years-- gives promise of assuring for one of today's so-called underdeveloped nations a rate of expansion in total national product which remains above that of total population, that is, what course of actions hold promise for the achievement of a state of national growth? What, in the language of the economist, is the appropriate growth model that applies to nations like those represented here? However urgent are today's preoccupations with problems of national growth, the question of how still remains a controversial one. This is attested by the rapidly expanding theoretical literature on the subject of growth; it is corroborated by the grim reality of the persistence into the 'sixties of essentially static economies in many, if not most, of the underdeveloped nations. For present purposes, therefore, it seems appropriate to consider several models. While these offer a wide spectrum, it is possible and convenient to think of two model types: one which emphasizes the amount and kind of material factors leading to growth, and the other the interests and capacities of groups of individuals in the process. These views are seldom, if ever, argued in pure form. Every theory of growth recognizes some interplay between the human and material forces; but presentation of a contrast will serve to further the understanding of our subject here.

Growth models attempt in a general way to describe the society or economy and to state patterns of relationships which govern actions. Thus there are basic descriptive and basic behavioral characterizations. Our two types of models reflect differences in both regards. Most growth theories start with the descriptive assumption of an economy in a state of low-level equilibrium. This means, among other things, that output cannot expand through any different pattern of use of the resources and knowledge available to the nation. For growth to occur, there must first be an addition of resources and know-how from outside. Any growth of population and increase in the size of the labor force will not provide such impetus since the additional labor can play no role in the economy without additional capital: The marginal productivity of labor is zero. This is especially true in agriculture where labor is already backed up unemployed or underemployed due to its inability itself to add output from land, or to move outside of agriculture to an industry which has not the large resources needed to provide additional employment.

The shortage of capital facilities extends to (and in many theories is supposed to be most critical in) overhead facilities --notably of transport and power. Since the expansion of these facilities involves large expenditures, usually over a long period and generally on the part of government, the model indicates large increments in capital resources, and in an important degree on public rather than private account. This is usually expressed so: the capital-output ratio is high. Finally, I indicate an important behavior characteristic of this model: consumption expands rapidly with income. Any increase in income per man (an unexpected increase due to favorable harvests, for example) would

result in a growth of consumption, rather than of savings. In economists' language, the marginal propensity to save is zero or very small; there is little prospect that the economy itself can initiate growth through capital arising from the investment of increases in its own savings.

Such a model is properly termed mechanistic. It concludes that in order to initiate economic growth it is necessary (and indeed sufficient?) to provide a large inflow of resources from outside essentially in the overhead sectors, and in non-agricultural activities. Such a pattern of descriptive and behavioral characteristics would, for example, mean that any improvement in health would not be consistent with economic growth. This would influence the supply and effectiveness of labor, but the economy is already unable to use its endowments of labor.

Fortunately, there is a growing appreciation of the significance of human factors in initiating growth. While this appreciation has yet to be formulated as a comprehensive theory --and indeed while broad international action programs for growth still tend to lean primarily upon more mechanistic approaches-- the trend seems clear. Thus, the Group of Experts for the Punta del Este meeting gave particular emphasis to the need for mobilizing "human resources;" <sup>8/</sup> they proposed a general strategy aimed principally at this human dimension. <sup>9/</sup>, <sup>10/</sup> The main lines of this trend are worth noting, particularly since they suggest new insights into the role of improved health in the process of economic growth.

It is perhaps important first to stress that the information becoming available on the growth experience in today's poor nations raises doubts about the assumptions underlying the first model. Thus --even in the very poor nations of Asia-- research and action programs in rural areas indicate slackness in resource use rather than full exploitation of the output potential with the techniques and facilities actually available. Improved organization of production and attention given to enhancing motivation in such programs as community development yield dramatic evidence of the resources of men, equipment, and supplies which lie dormant. <sup>11/</sup> For many reasons --mostly in the general psychological and institutional area-- resources have been less utilized than their availability on the one hand, and the need for their product on the other, would suggest. Not new material resources from outside, but new approaches are needed.

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<sup>8/</sup> Report, op.cit., pp. 16-17.

<sup>9/</sup> Ibid., p. 12.

<sup>10/</sup> One might perhaps also add that the report adopted by the conference placed principal stress upon mechanistic measures.

<sup>11/</sup> See, for example, the Report of the SEATO Conference on Community Development, Baguio, Phillipines, 1960; also various reports of the progress of India's Community Development Program.

The statistical documentation on income growth and investment in poor countries suggests relatively large output gains from new inputs, in contrast to the assumptions of the familiar theories. Because of the relative slackness indicated above, action programs geared to solving the actual production problems find that relatively limited investment can bring large returns. For a period of years, in any event, nations which have long had low levels of agricultural yields might be able to look forward to economic progress under conditions of favorable capital coefficients. In addition, some data suggest that the source of domestic savings in poor countries, and especially in rural sectors where production for direct consumption is important, is reasonably elastic.<sup>12/</sup> The right policies might well yield sizeable increases in domestic savings, in contrast again to the frequent assumption that levels of consumption are such that increases in income tend to move essentially to increased consumption.

The very itemization of such basic differences between general assumptions and observations prompts two comments. First, there is obviously need for more investigation and documentation of the actual relationships which have evolved over the years and decades in poor societies. To assume that these relationships are simply extrapolations of those we have measured (or think we have measured) in rich lands is a gross oversimplification. Secondly, the actual material stresses the significance of attitudinal and motivational considerations in economic behavior patterns. More clearly than was perhaps apparent earlier, study of poorer lands has stressed the essential multidisciplinary nature of economics, or, at any event, of economic evolution (or growth). It is not too much to say that for the habit of economic growth to take hold in static, traditional types of societies --or for this habit to become more general in societies already in some state of transition to modernity-- obstacles must be overcome in three major areas: the political, the economic, and the social.

It would be a major task to treat here the problems posed for economic development in the political and social fields, as indeed it is in the economic area itself. Suffice it to say that all disciplinary components have elements in common. Obviously, "modernization" is in order in all these areas. More fundamentally, however, the general task is to create a unity from the diversity which the poorer nations tend to demonstrate in each area. Government of the nation must become a single fabric in which a powerful and effective center is automatically responsive to the needs of the remote and outlying areas. The political power of land-based proprietors or the broad gap between a modern elite in charge at the center and a traditional peasantry are evidences of the political order which must yield if economic growth is to be achieved. In the social structure, the nation must substitute for the powerful family-oriented and particularistic groups and castes a single fabric

<sup>12/</sup> See Chapter XI of W. Malenbaum, Prospects for Indian Development, Allen & Unwin, 1961.



which permits great fluidity among groups, perhaps at the margins to start with. Increasingly, man must be able to anticipate his mobility upward, not as a consequence of his specific family status, but as a product of his own worth in society. General and objective qualifications must be substituted for the narrow and particularistic.

In economics, too, the dualistic state of modern, even expanding, urban centers coupled with backward and static rural and small-scale sectors must gradually be merged into an interrelated whole --where pressures in any one part are transmitted throughout the economy, where the growth of urban activities brings changes in the agricultural and where distress in the rural areas spurs changes in the modern.

These goals --patterns of unity from patterns of diversity-- are part and parcel of the process of modernization, which encompasses economic growth. If there is some point to modern efforts at development --to the Alliance for Progress, if you will-- this lies in the proposition that our modern world can accelerate the accomplishment of these many-faceted goals, that there is the know-how, not only for better methods of production, for mobilizing larger amounts of capital, but for purposefully and wisely altering these traditional patterns of social and political as well as economic behavior. It is the theory of action, of communication between modern elites and traditional groups, which moves to the center of the economic development stage.

Clearly, this summary account of the descriptive setting for economic growth in a poor nation comes from a very different model from that presented above. Similarly, the nature of the dynamics of the system --the behavioral component of the model-- has little similarity with the earlier one. Thus, we recognize increasingly that the communication channels in a nation in transition rest first on the existence of a direct concern on the part of the elites of the society in the role of the other sectors and also on the establishment of programs of economic action in which the poorer groups feel they are intimately involved for their own interests. Some forms of community self-help programs are integral components of modern activities to foster development in societies where a broad gap exists between a relatively small modern and dynamic sector and a relatively large traditional and static sector. Such programs are all the more necessary if the "economic progress" of recent years has been widening this internal gap. Some aspects of this integral component will be discussed below, as particularly relevant to our interests here. But I would like first to make perfectly clear that in emphasizing these characteristics of change in the poorer, small-enterprise sector of the nation, I am not arguing against economic modernization, big cities, and industrialization.

The underlying thesis of the modern humanistic theory of growth is that certain sectors of traditional societies do not make the transition to modernity through the application of the incentives which operate in the

modern sector. The market mechanism, the melting pot of the urban areas, and the political organizations which guide change in the modern sectors penetrate slowly, at best, into the others. The earlier idea that scale changes in the modern operation --more and better laws on equality of opportunity in the cultural, political, and social life of the nation, more and bigger industries, more and better power and transport facilities-- has only partial validity. It must be accompanied by direct programs of action to accelerate acceptability of the modern by the traditional sector. Development programs need to be double-pronged; they need not only a modern and urban orientation, but also a rural and small-scale orientation. If my present emphasis seems to focus more on the latter, it is because it tends to be neglected --in programs of action, if not in the words of policy. Even more, if one side is to be neglected by public programs, one would argue that it be the modern part of the program --not because it can be neglected, but because it will in any event receive major attention in the society and polity. The mere fact of its modernity means it responds to market and other world pressures. One might even say that a disproportionate emphasis needs to be given the rural and small-scale sectors if governmental elites, so oriented toward the modern sectors, are to be turned sufficiently toward two-pronged action.

Nor should we forget that part of the difficulty in operating programs for the rural sector is the very lack of information on "the dynamics of static and transitional societies." If these parts of the economy are to be changed so that they constitute integral pieces of the modern sectors, action programs must somehow build upon the existing patterns of behavior. After all, the static self-sufficient sectors do make adjustments --in consumption, in production, and in investment-- as crop output fluctuates. It is to these traditional patterns of adjustment that the more general patterns of a modern economy must be adjoined. Action programs for accelerating growth need not only be concerned with the traditional parts of the economy; they need to inquire painstakingly into the detailed nature of these sectors. To say, as the Group of Experts have, that economic development will be furthered by "a massive attack on illiteracy and on the lack of education, malnutrition, and disease and on poor housing....." <sup>13/</sup> may be true as well as gratifying. Yet these truthful relationships will become useful only when the poor sectors generate a demand for these goals. We need to find out how to spark demands for these services and products in the traditional sectors. This done, the problems of supply become much easier to solve.

### III. Health and Economic Growth

I call your attention to the emphasis which the Group of Experts did give to the need for "fostering among the population a desire for improvement....," to the need for "activating the productive powers.... and resourcefulness of the people....." <sup>14/</sup> For the common denominator of traditionalism --whether we are considering its political, its social,

<sup>13/</sup> Report, op.cit., p. 16

<sup>14/</sup> Ibid, p. 12

or its economic dimensions-- is indeed the absence of a sense of self, of individual importance and capacity. We have observed --in many rural studies, programs, and experiments-- that know-how and even capital are not sufficient to bring about improved practices and greater production. The need rather is really an earlier one --at least in a society where individual actions are not strictly governed by the will and the force of government. This is the need of self-appreciation, the conviction that the individual and his fellow-man are powerful in themselves, that their will can serve to fulfil their needs, that they are not simply creatures of habit and predetermination, but operating and decision-making individuals who can in important measure influence their material well-being.

There is a growing conviction on the part of social scientists that the sinews of a program of growth lie in problems of motivation, of aspiration, of instilling the desire for self-betterment among the very people who suffer want and privation. But this broadening consensus of view is accompanied by uncertainty as to how to create these forces. What kinds of actions will arouse a new sense of person? It is here where special attention is warranted for programs of public health. For the demonstration effects of these programs can be very marked. In an area close to the individual --sickness, birth, and death-- public health brings rapid results. It demonstrates the power of man in altering what has always been the main index of the power of the supernatural. It demonstrates how transferable are key tools and knowledge of the health scientist to other citizens.

These statements seem self-evident, but to my knowledge such a role for public health is not a familiar one. Nor do I have clear documentary evidence for this special function. Yet it is true that individual community studies in India, for example, do indicate a correlation between expenditures on nursing care and on child health programs and increases in agricultural yields. This is a more marked relationship than that between expenditures on fertilizer demonstrations and on crop improvement techniques and increases in crop yields. It seems to be true that persons trained in medicine acquire an influence status with rural populations more readily than do other scientifically trained experts from outside. But documentation is meager at best. The past record needs re-examination, and future experience needs careful analysis. Would it be appropriate for me to suggest that the relationship between public health and other modernizing services needs to be looked at afresh?

Pursuit of health objectives has too often been viewed as a counter-course to the expansion and improvement of other output for consumer use, despite the familiarity of the common goals of health and prosperity. The idea that public health programs play an important role in stimulating output, that they can serve as a force for generating an expansion in national product, deserves careful consideration. For if we do have a means of helping arouse people from traditional patterns of living,

we are a long way toward making operative our new insight into the process of economic growth. When the inhabitants of the poorer sectors are more certain of their wants and their potential for satisfying them, the tasks of economic progress will become much simpler. Output will grow sufficiently to exceed population growth. In this model, the stage is also set for changes in the rate of population growth itself, so that national economic growth can be more rapid in the future.

#### IV. Some Concluding Observations

Modern programs of public health have contributed healthier and more abundant populations, especially in the poorer, underdeveloped countries of the world. Improved health has undoubtedly resulted in significant increases in national output in some of these countries. For nations where labor is considered to be in relatively (over) abundant supply, however, the improvements in health and the declines in death rates have not themselves set in motion forces for increasing national product at rates greater than the increase in the rate of population growth. Indeed, in some of these areas these health changes have not been accompanied by significant growth in output (to say naught of stimulating such growth). The appeal of both better health and larger incomes notwithstanding, for most poor countries progress in the first direction seemed to diminish, or certainly not enhance, the prospects of progress in the second.

The more familiar models of economic growth recognize this conflict. The solution proposed is an escape from a low-level equilibrium trap through a very heavy increase in investment --to improve the balance between capital and labor. A more careful examination of the nature of the transition to a modern economy indicates that we cannot accept the idea that such a large inflow of new resources into a nation which is making very slow, if any, economic progress will suffice to initiate a state of continuous growth. Nor can we count upon such an injection to offset the gains in population growth rates accompanying the improvement in health which modern medical services can help achieve. The answer lies rather in focussing upon changes in attitude and in outlook of the large populations in the poorer sectors of these nations. Health programs may be able to make very important contributions here, in accelerating such shifts in outlook. Given the resource use level in most of today's underdeveloped nations, the awakening of the population to its role in the modernization process can increase output by more than the growth in population. Obviously, such efforts would be helped by the availability of additional material resources from abroad.

This view of the process and prospect of economic growth demands some reorientation of present attitudes of policy makers in the public service of the poorer as well as the wealthier lands. It merits more discussion and certainly a stepping up of the study of the process of change which is taking place around us, particularly in countries where economic growth continues to proceed at slow rates.