

Population Health and Development

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I. General Theories on Population, Health and Development

Effort toward development has long been the drive of human beings throughout the history of mankind. In the sphere of social sciences, the attention to development has been particularly emphasized in the economic domain with the conclusion of the World War II. However, the main thrust of theories of economic development strayed toward those of measurable economic growth (Gross National Product, National Income, etc.), and the terms economic growth and economic development have been commonly used interchangeably, resulting in considerable confusion.

In recent years, reflection on "growthmanship", both in terms of its benefits and ill effects, has triggered an effort to redefine "development" from the point of view of a renewed emphasis on welfare and the quality of life. For example, currently, leading economists observe that what was previously regarded as social development makes important contributions to economic development.¹⁾ and that "expenditure on education, health, housing and like are not merely means to economic development, they are economic development."²⁾ A non-economist proponent of development when commenting on the above quoted statement observes that, he could have better said: 'they are development' without qualification or addition.³⁾ Therefore, it is safe to assert that development reflects many aspects and areas of improvement including those which are political, institutional, economic, social, and others, which are thoroughly intertwined. Moreover, it would appear that without a fuller assessment and broader perception of development, there is a possibility of both scholars and policy-makers committing the same error of as that of the blind men trying to describe an elephant, each generalizing from his own individual and narrow grasp and perception.

However, if such a broad perspective of development is adopted, one can easily see the

1) Hans W. Singer. "Social Development, a Key-Sector", *International Development Review*, (March, 1956)

2) Benjamin Higgins. "An Economist's View", UNESCO, *Social Aspects of Economic Development in Latin America*, Part II, (Paris, 1963) p.185

3) J.A. Ponsioen. *National Development: A Sociological Contribution*, (Hague, 1968), p.22

interrelationships existing among the seemingly remote factors: population, health and development. Development takes place as an evolutionary process and is accompanied by four distinctive interactions of these three variables, and many others as well. First, the development process, in general, has demonstrated sustained population growth in the Malthusian sense. Some proponents even attributed stabilizing population to be the cause of economic stagnation and thus as a limiting factor to economic growth.⁴⁾ However, this thesis has proved to be incorrect as development efforts oriented themselves toward the qualitative of population in certain advanced countries with low population growth rates. Yet, the global expansion of population still continues even at faster rates, especially in less developed countries, which often out-strip the pace of development in these countries.

Second, the historical experience of developed countries shows that a so-called "demographic transition" is completed during the development process, over a period of about hundred years.⁵⁾ This well-know phenomenon is characterized by four successive phases. From the initial stage of both high birth and death rates, death rates decline in the second stage, followed by a stage of declining birth rates occurring with a time lag, until both birth and death rates are finally stabilized at a low level. As a result of this transition, the diagram of population age structure changes its shape from that of a wide-based and sharply pointed pyramid to a bell shaped figure.

Third, it is common that the health status of a population improves as a nation develops. Health and nutrition factors, of course, interact with both population growth and demographic transition. But, the important aspect that should not be overlooked, is the fact that health and rather identified as qualitative aspects, while population growth and demographic transition are considered as quantitative factors.

Lastly, the development process is accompanied by human capital formation through human resource development.⁶⁾ This element is interpreted as the most important residual or exogenous factor which in addition to traditional factors of production explains modern economic growth. More diversified and sophisticated human needs promote skill and technology-intensive industries, and manpower development. And, as the embodied investment in human resource accumulates, the health factor becomes increasingly vital in conserving and developing a pool of such human resources.

II. Population and Demographic Aspects of Underdevelopment

Less developed countries(LDCs) seem to share certain population and demographic characteristics in common. The first common feature is that of over-population. That is, LDCs

4) See for an example, Alvin Hansen, *Fiscal Policy and Business Cycles*(New York, 1941)

5) Karl Sax, "The Demographic Transition", H.P. Gray and S.S. Tangri, eds., *Economic Development and Population Growth: A Conflict?*(Lexington, 1970), p.29

6) F. Harbison and C.A. Myers, *Education, Manpower and Economic Growth*,(NewYork, 1964).

tend to have populations that are beyond what might be regarded as optimum in terms of the availability of industrial capacity, foreign exchange, and developed natural resources. A second shared characteristic concerns the process of demographic transition, namely, that LDCs seem to have high birth rates and high rates of infant mortality, as compared to more developed nations.

The first characteristic manifests as widespread unemployment, disguised unemployment of individuals in low productivity tasks, and reflects a need for family planning, the development and acquisition of other factors of production complementary with labor, and the further development of human resources through improved education, health, and other quality of life factors. The second characteristic concerning low levels of demographic transition reflects the inadequacy of levels of health inputs in LDCs.

All in all, LDCs clearly lack human resource development which can be accomplished only through additional outlays on education, health, and other human resource improvement factors. These elements constitute the limiting factors for development as well as for economic growth in LDCs via encroaching on the national savings potential of an economy, and in other ways as well. Korea is comparatively well-off in many respects having already high rates of literacy, substantial capital, and welldeveloped programs of family planning and savings mobilization. However, Korea has critical shortages of strategic categories of skilled manpower, craftsman, and such technical areas as health planning, health economics, and others.

To alleviate and counteract the problems cited above, most LDCs currently are pursuing broad development policies in areas of population control, improvement in health care and in other areas of human resource development. These also are areas of high priority in Korea's Fourth Five Year Plan.

III. Some Empirical Evidence

The connection between health and economic growth and the impact of health measures on conserving and preventing the loss of human resources, and consequent contributions to growth, can be quantified. Accordingly in the case of Korea, efforts have been made to quantitatively estimate these relationships.

The estimation results are reported in Tables 1 and 2 presented immediately following the text.

Table 1 present three alternative regression equations specifying the impact of private health expenditures on Korea's economic growth over the period 1953-1974.⁷⁾ The results show that health outlays have made a significant impact on Korea's economic growth over

7) The regression results presented in Table 1 were calculated in connection with Dr. Choo and Dr. Jeffer's collaborative efforts in writing the health section of the KDI/Harvard University "Korea Modernization Study" and discussed more fully in *Macro and Micro Economic Issues: Korea Health Planning and Policy Formulation*. KDI Press (Forthcoming).

a long period. The results in Table 2 are only tentative, but indicate that health improvements can make a substantial impact on economic output. The evidence presented in Tables 1 and 2 provide strong support for the view that human resource development is not only important in and of itself, but is extremely important to promoting economic growth as well, thus supporting the wisdom of adopting a broad view of the development process.

IV. Summary and Conclusions

Population growth, improved health status, and demographic transition are a vital part of the development process viewed broadly as encompassing economic growth, social development and "human-centered" development. Family planning, including MCH and preventive measures are instrumental and vital to promoting optimal population growth, development, and the consequent improvement in the quality of life. In view of the enormous interaction between family planning, population, health, and development, programs dealing with these vital areas of society should be developed jointly and integrated, whenever possible.

Table 1: Historical Relationship Between Outlays on Health and National Output, 1953-1974

Depent. Vars.	R	D.W	Intercept.	Independent Variables							
				X ₁	X ₂	X ₃	X ₁ /P	X ₂ /P	X ₃ /P	X ₁ /Y	X ₃ /X ₂
Y	.99	1.16	.72 (.82)	.16 (3.9)	1.15 (8.1)	.12 (2.1)					
X/Y	.98	1.09	4.67 (25.4)				.22 (5.5)	.89 (7.1)	.19 (2.7)		
Y/X ₂	.99	1.15	5.45 (20.9)							.28 (3.9)	.29 (3.3)

* () T-Statistics,

** All variables are in logarithms

*** Y=GNP, X₁=Gross Domestic Fixed Capital Formation,
X₂=No. of Employed,
X₃=Private Health Expenditures.

Table 2: Potential Output Gains Through Reduction of Premature Mortality: Korea 1981

	1976	1981	Change over period
Crude Death Rate (per 1,000)	6.5	5.9	0.6
Economically Active Man-Years Saved	—	—	14,000
PerCapita Income	\$ 534	\$ 1,284	\$ 750
Relative Share of Labor Income	0.6	0.65	0.05
Labor Income	\$ 320	\$ 834	\$ 514
Output Gain	(14,000 × \$ 514)		\$ 2,204,400

Source: Calculations of the authors.