

DEVELOPMENT, MIGRATION AND EPIDEMIOLOGY:
THE AFRICAN CONTEXT

by

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For the Third World, the great leap into the modern world has been capsulized in the concept of development. In a general sense, the desire among Third World nations has been to search for a key to development over the shortest period of time. This has meant that development, rapid development, has been conditioned by the need for capital. Capital-intensive schemes have been dictated by the sources supplying the capital, sources whose basic interests are contingent upon the speed with which they can promote development--usually along the lines of the "growth without development"--in order to expedite the return on their investment.

Such capital-intensive development has usually placed the developing state and its people at the mercy of planners, development agencies and funding bodies which are bound, in a cultural as well as a political-economic sense, to systems that thrive on the dependency of their client. These foreign institutions have little regard for the institutions and systems of their clients beyond the point where those institutions or systems will aid or impede their making a profit.

Even within the developed sector of the world, the disregard for various ecological factors, and the consequences of disregarding them, are shrugged off. It can hardly be hoped that the people who devise these schemes for development will be more benevolent to an environment which they regard as foreign and even hostile at times.

At the same time, Third World countries attempting the labor-intensive model of development are subject to making the same errors, in their desire to build political and economic independence, as those states caught in the yoke of dependency/development schemes. The rush to develop is often negated by the environmental consequences of their imprudent behavior.

Whether the scheme is capital- or labor-intensive, the failure to adequately deal with the ecological consequences of development usually results in incidents that seriously impinge on the health of the indigenous population, reducing the gains already secured; but more importantly, in the case of labor-intensive development, it debilitates the source of development:

the labor force.

In Africa, as in most of the Third World, labor and development patterns have been founded and are dictated by relations rooted in a colonial past. One of the patterns widely employed has been that of migrant labor, for either internal or international works. While there have been few considerations of the outcome of development on the Third World environment, there have been even less on the relationships between development, migration and epidemiology.

In the increasing literature on African development, little has been written on migration and its relation to epidemiology. And while there are limited materials on the subject, this work is an attempt to look at some of these materials and draw an analysis from them, with the realization that health has a direct bearing on any nation's development.

This analysis is governed by the concept of ecology. Whether the term is used explicitly or tacitly, it is inherent to this discussion. The term itself is used to describe the interrelationship between all things in nature. It is epitomized by the concept of balance where additions to, or subtractions from, the environment can destroy the equilibrium. The consequence of ecologic disharmony, whether instigated by man or natural forces, can be catastrophic.

Phenomena such as migration, economic development, climatic changes, nutritional variations and disease can be seen as variables or consequences of the ecological system. As variables these elements, individually, combined, or in many cases the lack of them, can cause the destabilization of the ecological system which results in serious consequences. Those consequences can many times be viewed as the variable as an end product; they are, in effect, nature's and/or man's attempt to restore equilibrium to the ecological system. Within the greater ecological system are smaller systems that function along the same lines as the parent system. It is possible to see in micro-ecological studies some of the same general concepts that are characteristic of the ecology as a whole.

The view of migration and disease provided from the material at hand and the interaction of these with other ecologic factors, either as variables or consequences, is the theme of this essay. Of particular interest is the relation between development, migration and epidemiology. However, at times, it may be impossible to decipher if a particular phenomenon is a variable or a consequence because of the system's high state of flux in its effort to maintain equilibrium. The elements of the ecology are dynamic. That dynamism can be illustrated by a

few examples using select variables:

Economic Development In keeping with the ideal ecologic state, the process of technological development should attempt to keep pace with the concept of maintaining an equilibrium between man and environment. However, when that equilibrium is not achieved an alteration in the ecologic system occurs. For example, numerous water projects in Africa have not taken into account that the proliferation of dams and irrigation schemes may also mean the growth of water-borne vectors and the possible increase in diseases associated with those vectors.¹ In this case, a project that may have been promoted as a consequence, as a solution, becomes a variable and aids the promotion of disease.

Climatic change can be among the variables that make a development scheme, such as the one mentioned above, necessary. It may also be associated with an organism's ability to survive in a certain region or environment. If the organism is a vector, the change in climate can mean its eradication or an increase in its population. Man, on the other hand, has proven quite flexible in adapting to climate; part of his flexibility is his technology, another part is seen in the act of migration.

Nutritional variations may effect the performance of human beings in a given environment. Adequate nutritional levels can be an indication of ecologic harmony. Levels of malnutrition may be prompted by climatic alterations and development may be an attempted remedy.

Migration can be induced by the three variables mentioned above. The need for adequate nutrition, denied by climatic alteration, may result in development as a proposed solution; or the process may be a reversal of that just described. In any case, a reaction to the first two, in lieu of development, may be migration; or migration may be a consequence of development, or a variable leading to it.

Disease At first glance disease may appear to have no positive effects on the ecology yet, given ecologic disharmony through ill-defined development, climatic alteration, the inability to produce the proper nutrients, or migration into inhospitable zones, disease may address the problem as a variable or a consequence. As a variable, it is an inducement to alleviate the imbalance in a positive manner: it will force a population to either leave an area or it will reduce that population to a level where the nutritional intake, among other things, is adequate to maintain the survivors. In some cases it will destroy the population totally. As a consequence, it represents the inability of one or all of the variables to reach equilibrium.

Historically, migration has been epidemiologically as

well as politically and economically focused. Faced with the possibility of imbalance, people traditionally migrated. It has been speculated that early African migrants also had health in mind when the sites were chosen for the establishment of markets and kingdoms. There is the possibility that the pre-Bantu and Bantu migrations, from the southwestern Sudan to southern Africa,² were made to escape areas that were inhospitable epidemiologically as well as politically and economically. In conjunction with the Bantu migrations, Fulani-speaking peoples migrated in a southwesternly direction across the Sahara into Fouta Toro. From this point sometime during the twelfth century, they made their way east to find water, pasture and a tsetse-free ecology for their cattle.³

Among early African peoples political conflict played a great part in influencing movement. Inter-ethnic warfare and later, slave-raiding gave impetus to migration. A consequence of warfare and the slave trade was the destruction of crops resulting in devastation through famine and disease. Those who survived had cause to leave areas which had been affected. A great deal of evidence concerning these movements is found in the myths and legends of those people involved and in the first hand observations of some colonialists.⁴

With European contact in the seventeenth century, movement continued. Among the peoples of the Senegal Valley, for instance, 300 years of movement to escape colonial domination had profound effects on the ecology of the valley. By the late nineteenth century, one of the consequences was severe stagnation of the valley's resources due to outward migration. Disorder and insecurity, compounded by climatic change and famines not only gave rise to migration but were, also, the result of it.⁵ A.B. Diop stated that emigration explained the difficulty of subsistence in the Senegal Valley. In fact, 80.5 percent of the population were forced to leave because of the problem in securing nourishment. This is a profound illustration of the demographic-ecologic need for equilibrium between population and land.⁶ "It stands in all cases that emigration has attacked the valley's population in its very life forms and accentuated the stagnation of agricultural activity and production."⁷

The avoidance of some areas because of limited agricultural and grazing opportunities and the possibility of disease is a traditional African phenomenon. There is a historical aversion to settlement in disease-ridden areas; these are pre-European etiological factors in the establishment and maintenance of the traditional African community. "In pre-colonial Africa many traditional settlements were located in refuge areas, on mountain tops, on ridges, on high plateaus--inaccessible, easily defensible sites. These sites were elevated and, therefore,