HEALTH—SOCIAL AND CULTURAL DEVELOPMENT INDICATORS

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Contents

Summary

Health is not just related to the absence of disease but is critically linked to the physical, social, and economic environment. This article examines various indicators related to health, and specifically describes the impact of poverty, the North–South inequity and population pressure on health. It also introduces recent trends in health thinking, and analyzes cost-effectiveness of health-related interventions. Indicators such as gross domestic product (GDP) and the Human Development Index (HDI) are used to simplify the "real world" in the research process or to measure development. As with all models they have many assumptions that are theory-laden. HDI measures each country's achievement in basic human capabilities such as life expectancy and educational attainment. The public health challenges include population growth, poverty, food shortages, lack of access to clean water, global spread of diseases, chemical loading in the environment, increased cancers and endocrinological disruptions, ocular problems, suppressed immune systems, respiratory illness, pollution, and new viruses such as Ebola, hanta, and Marburg. Ecological disruption and instability may be a major underlying cause behind the spread of diseases. Human migration is also a consequence of the state of the world today.

1. Introduction

Human health in this article is related to quality of life, implying a cultural and social definition rather than a strictly medical one. It is part of an interaction between human beings and the environment including other human beings as well as the built and natural environment. In this meaning, health is contextualized and put into a wider framework which will be defined and unfolded. The resolution from the World Health Organization that asserts that health is not just related to the absence of disease but is critically linked to the physical, social, and economic environment is one step in this direction.

The "human health–ecosystem relationship" will be structured and discussed with a point of departure from the content of Agenda 21. The chapters of this document are used as "indicators". These "indicators" have cultural, socioeconomic, and ecological dimensions. For the purpose of this article they are structured as suggested by R. A. Hodge (1997:73,-74, Table IX). As in all methods one has to weigh the pros and cons of such an interdisciplinary approach. One of the difficulties with a broad interdisciplinary perspective is that it easily becomes too fuzzy and difficult to operationalize. The selection of indicators is crucial and can always be questioned. In the case of Agenda 21 it is a political document elaborated after the Earth Summit conference in 1992 as one of the official documents. What are called "indicators" are in some way a check-list for a sustainable development for the Earth's essential life support systems.

There are various ways in the literature of using indicators. The field has its own journal called *Social Indicators Research. An international and interdisciplinary journal for quality-of-life measurement*. It deals with research relating to the measurement of all aspects of the quality of life including empirical, philosophical, and methodological.

The main quality-of-life criterion for classifying the countries of the world is the Human Development Index (HDI). These are introduced in the *Human Development Report*, published annually by the United Nations Development Program (UNDP). The HDI is an average for each country and measures the average achievement of a country in basic human capabilities. The following indicators are included:

- life expectancy
- educational attainment
- income indicators

These are what can be called policy studies applied on a national and international level by comparing different countries by using indicators such as the above mentioned including gross domestic product (GDP) per capita, calorie intake, and hereby describing the state of human resource development across the nations of the world. Using these indicators central concepts such as quality of life or livelihood or poverty are compared between countries. They are on a general and highly aggregated level and do not say too much about the health, wealth and poverty in a particular country or for the individual.

On a micro level the definition of indicators is elaborated as a part of the data collection during anthropological and social science fieldwork or development projects. They are tools for problem solving within a method such as the logical framework approach, measuring fulfillment and changes at the micro level. The purpose of these indicators is to measure progress relating to interventions for social and economic change.

The distinctions between the macro- and micro-level indicators are not quite consistent since fieldwork and local studies often provide an important input to the selection of macro-level indicators. Likewise the micro-level studies always have to be contextualized including a historical and societal framework.

Indicators, like scientific models in general, are used to simplify the "real world" in the research process or to measure development. As with all models they have many assumptions that are theory-laden and not objective tools. One example is the use of GDP which gives economic signals in assessing societal progress. But if GDP is not linked with ecological and cultural aspects and set into a framework for a core of indicators, the indicator can signify unsustainable development.

2. A Framework for Core Indicators

From the perspective of an ecological anthropological framework, this article examines social and cultural indicators, ranging from individual to policy level, that can be used as tools for measuring health. An integrated assessment uses a combination of biophysical, socioeconomic, cultural, and human health considerations. With the publication of the report of the World Commission on Environment and Development, *Our Common Future* (WCED, 1987), international attention was brought to bear on how to monitor and assess progress within the context of sustainable development. Sustainability involves improving the present quality of human life in terms of socioeconomic, cultural, political, and environmental conditions for all human beings today and in the future. The WCED has not mentioned health as a special aspect of sustainable development, which must be seen as a limitation. Any activity that has a positive or negative impact on the local, regional or global ecosystem will also have an effect on the health of the individual, the community, or world society. But Agenda 21 does include human conditions including health and concern for the protection of nature. Even if a conceptual framework cannot deal comprehensively with everything, the cultural dimensions in Agenda 21 are, in our view, insufficiently articulated. From an anthropological perspective a special emphasis on the cultural and social aspects of health has to be recognized. One of the central contributions of anthropology to studies of health issues is the delineation of the complex ways in which people's cultural belief systems interact with other factors concerning rates of disease, the meaning of and responses to illness. Cultural factors are crucial to understanding all aspects of health and people's reaction when confronted by health care. By using the elements of Agenda 21, an interdisciplinary approach is applied to bridging existing disciplines and their specific conceptual approaches.

3. Historical Perspective

Early in history, the interface between human beings and the ecosystem relationships was governed by natural phenomena that dominated human activity. Man in his original state lived as a hunter-gatherer but with an almost unique capacity to adapt to large variations in environment and diet. When agriculture and animal husbandry were introduced profound changes appeared over a short period of time. Energy-rich foods were suddenly available on a large scale which permitted rapid increases in population. This occurred about 300 generations ago in western Asia and about 80 generations ago in the forests of Africa. With the advent of agriculture a change of lifestyle and use of the resource base occurred including a more sedentary way of life and an increase in the size of the family. With the advent of larger populations the risk of famine, especially following natural disasters such as drought or war, increased. Dense populations and a sedentary life in villages also mean an inadequate disposal of waste and an intensification of the transmission of infectious and parasitic diseases. The concept of stress at the interface between human beings and the ecosystem has been described as an indicator to show the influence of human activities on the well-being of the planet. The responses of groups to environmental stressful factors such as natural disasters, wars and epidemics have varied widely. One common response is by migration and another is that women's reproduction has decreased.

Up until the seventeenth century life was short and often unexpectedly ended by an accident or infectious disease. Median life expectancies ranged from 20 to 40 years. Although the poorest felt the greatest impact of infectious diseases all classes of society were affected. Endemic infections led to high infant mortality and populations remained relatively stable only by high birth rates offsetting the high death rates. Epidemic diseases such as plague and cholera would occasionally devastate whole communities but some constantly recurring epidemics such as smallpox and tuberculosis had an even greater overall impact.

Beginning in the seventeenth century improved agriculture, especially in Europe, led to better nutrition enabling people to resist infection or survive illness better. In the nineteenth century improved hygiene and sanitation, safer food and water, and less overcrowding with improved housing reduced the transmission of many infectious diseases. The opening of the twentieth century was a watershed in the impact of medical practice on health. Knowledge of the specific etiology of infectious diseases beginning in the nineteenth century provided a scientific basis for prevention strategies and treatment. In the twentieth century continued environmental improvements and scientific advances, specifically the advent of immunization and antibiotics, provided additional ways to prevent transmission as well as treat the individual patient. The role of the health sector in improving global health must not be overstated since the main advances in health were related more to improvements in food, education, water and sanitation, housing, roads and the wider acceptance of democracy and gender awareness.

Globally the state of physical health in the world—using well-accepted "traditional" indicators such as life expectancy and child mortality—has improved more over the last 40 years than in all of previous human history. Average global life expectancy has

increased from 40 years in 1950 to 62 years in 1990. Child death rates have fallen by two-thirds from around 300 to 100 per 1000 births. Smallpox, which killed 5 million people each year in 1950, has been eradicated. Polio, measles, malnutrition, micronutrient deficiencies, and diarrheal diseases are still killers in many poor countries and new infectious diseases are emerging.

Human population and technological capacity have grown dramatically, especially during the last hundred years. Which human activities that have dominated the human–ecosystem relationship are dependent on all the different socioeconomic, cultural, and ecological dimensions mentioned in Agenda 21 (see Table IX in Hodge 1997:73-74). Human activities that provide for human well-being while generating stresses that degrade and devastate the environment will be discussed.

By using a historic context of humankind and the ecosystem, development on a local, regional, and global level may be viewed from some kind of time horizon. Human beings have a short-term and ecosystems short- and long-term timescales. This is central for looking into the future of a sustainable development.

4. Impact of Poverty on Health

Poverty can be understood in different ways. The most common is an income- or consumption-centered perspective where poverty is identified as an income below a minimal standard. The other way is to see poverty as failure of capabilities. This definition highlights basic human capabilities (to take part in society, to obtain health care, to achieve an adequate standard of living) and the failure to achieve them. Poverty eradication has become an overarching goal of international action within the UN, World Bank and among nongovernmental organizations (NGOs). In the *Human Development Report* 1997 the message is that poverty is no longer inevitable. The United Nations Human Development Index (HDI) is a composite index of life expectancy, literacy, and per capita gross domestic product that measures the socioeconomic development of a country.

However despite this optimistic view of the global situation, there are worrying trends that are rapidly becoming obvious. The gap between the rich and poor has increased dramatically since 1980. This is true within many countries, but also between the countries in Africa, Asia, Latin America on one hand and North America and Europe on the other hand. The poorest 100 countries of the world have seen their health deteriorate over this period. Poverty looms as a specter over this section of humankind.

Poverty and especially absolute poverty has a devastating effect on health. The Director General of WHO in the 1995 World Health Report *Bridging the Gaps* says: "Poverty…is the world's deadliest disease. It wields its destructive influence at every stage of human life and for most of its victims the only escape is an early grave. Poverty provides that too; while life expectancy is increasing in the most developed countries, it is actually shrinking in some of the poorest. For many millions of people for whom survival is a daily battle, the prospect of a longer life may seem more like a punishment than a prize." Later on in the report it states: "For most of the people in the world today every step in life, from infancy to old age, is taken under the twin shadow of poverty

and inequity, and under the double burden of suffering and disease." The statistics in Table 1 indicate the increase in income inequity between 1960 and 1994.

Of the total world population at the end of the 20th century, 78% live in lower-income countries. In 1960 the richest 20% in the world had 70% of its income By 1991 this proportion had risen to 85% and, By 1994 to 86% In 1960 the poorest 20% in the world had 2.3% of its income By 1991 this had sunk to 1.4% and, By 1994 to 1.1% Thus the proportion between the incomes of these groups was: In 1960; 30:1; In 1991; 60:1 and, In 1994; 78:1

Table 1. Income inequity in the world.

Countries are often, in official UN statistics, classified into three categories depending on their gross national product (GNP) per capita: low-income US$725 or less (1994), middle-income US$726–8955 and high-income US$8956 or more.

It is estimated that 1.3 billion people are below the poverty line of US$370 annually per capita income (i.e., 1 US$ per day). One billion people do not have enough to eat in order to work normally, and half of this group have so little food that they are not able to engage even in normal activities around the home. One child in 6 is born underweight and one-third become underweight by the age of 5 years. In Africa the mean intake of calories is only 87% of what is estimated to be needed in order to work normally. Poverty is hitting increasing numbers of women and is hitting them harder. Between 1956 and 1988 the number of rural women living below the poverty line increased by 51% compared to an increase of 41% for men.

The situation for the poorest of the poor was vividly described by Robert McNamara: "A condition of life so limited by malnutrition, illiteracy, disease, squalid surroundings, high infant mortality and low life expectancy as to be beneath any reasonable definition of human decency."

There is also an unjust distribution of health resources within many countries. Thus in the state of Maharashtra in India US$1.6 is spent on health care for each person each year. But of this sum 75% is spent in three cities. In the surrounding rural areas the amount spent on health care is 2 cents per person per year.

Development aid from the richer countries to the poorer has sunk from 0.52% of GNP in 1960 to 0.27% by 1995. This is despite the promise by the richest countries to increase their support to 0.7% of GNP. At present only four of the rich countries have achieved this level (Norway, Sweden, Denmark, and the Netherlands).

HDI, as mentioned earlier, is one way of measuring socioeconomic development. It tells us about infant and maternal mortality rates, indicators that for long have been seen as predictors for development. For the purposes of sustainability these have limitations as measurements that connect poverty with human health for sustainable development. The question remains of how to create supportive environments including social, cultural, and ecological dimensions for a healthy future for all.

During the 1980s there were a great many changes in how development issues were perceived and how world poverty was tackled. New issues came to the forefront: a sustainable environment, the debt crisis, and the question of gender relations. The concept of sustainability has at its core a value set that can be articulated: to maintain or improve human well-being and that of the ecosystem. Sustainable development can be seen as an ongoing process in which people take actions leading to development that meet the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). The term development is very contested and so is the debate around what should be defined as "development." It is mostly referred to as something positive almost synonymous with "progress." Although it may entail disruption of established patterns of living, it will be used here in the sense of something that implies increased living standards, improved health situation and well-being for everybody in a certain society. It is not primarily an economic definition—which up till now often has been the case—but includes social, cultural, and ecological aspects which are having equal or even greater importance.

5. North–South Perspective and the Debt Crisis

Up till the end of the 1970s the trend in development was positive in most low-income countries of the world (even after the first years of the oil crisis). One effect of the oil crisis was that the OPEC countries after investing in property and industries in the West put much of their money into Western banks. These were now so overloaded with money that all the channels for them in turn to invest this money in the West were clogged.

Thus the banks approached many low-income countries with offers of low-interest rate loans with almost no strings attached. Many countries in the South acceded and ran up major debts to these banks. At the beginning of the 1980s many of the countries in the North ran into economic problems with rampant inflation. It was decided to fight inflation with high interest rates (in fact the highest ever recorded). This hit hard on low-income countries whose raw materials were now fetching declining prices on the world markets. Their loans suddenly became major millstones around their necks. Many have maintained that it was the countries of the South who in fact paid for the fight against inflation in the North and even more specifically it was the poorest and marginalized in these countries who were asked to pay the highest price.

From 1985 the countries in the South have paid more back to the countries in the North than the total amount of development aid from the North. Thus from 1985 to 1987 the South paid US$160 billion in interest and repayment on loans from the North. This is four times as much as the total development aid. In one year, 1987, the balance was

US$43 billion in favor of the countries in the North. This has often been described as a blood transfusion from the sick anemic patient to the healthy donor. The total transfer of funds from South to North is staggering in its size: it is the equivalent of six Marshall plans over the 1980s decade (the Marshall plan was the biggest rescue plan ever mounted in economic history when the US invested 2.2% of its GNP to help Europe on its feet after the Second World War).

Recent figures show that the gross inequity of the flow of funds continues. During 1995 the poorer countries of the world paid US$220 billion to the richer countries in debt repayment while the richer countries gave aid to the value of US$55 billion to the poorer countries. The decade commencing 1980 was a lost decade for development in many of the poorest countries in the South. In the 37 poorest countries in the world spending on health care decreased by 50% compared to 1970. Likewise spending on education decreased by 25%.

Up till 1980 the infant mortality rate in low-income-countries had dropped from an average of 180/1000 live born to 70/1000 and the average life expectancy had increased from 40 to 60 years. However, after 1980 most of these figures have shown a decline in some of the poorest countries of the world. One expert who was previously at the World Bank (Davison Budhoo) has estimated that the debt crisis has been the indirect cause of 60 million deaths throughout the world by its impact on health systems. This is more than the deaths caused by the biggest recorded epidemic in the world's history, the Spanish influenza epidemic of 1918/19 when an estimated 20 million people died.

The data presented above show that certain features of the world are not in accordance with sustainable development since human activities are seriously undermining opportunities for future generations.

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Bibliography

Chivian et al. (ed.) (1993). Critical condition: human health and the environment: a report by Physicians for Social Responsibility. Cambridge, Mass. : MIT Press, 244 pp.

Editorial (1997). From what will we die in 2020? *Lancet* **349**, 1263. [Describes present trends and the future of various illness and population health.]

Hodge R.A.. (1997). Toward a conceptual framework for assessing progress toward sustainability. *Social Indicators Research* **40**, 5–98. [Emphasizes the need for a comprehensive framework in order to assess the progress toward sustainability. Discusses indicators.]

MacDonald J. J. (1992). *Primary Health Care Medicine in Its Place*. London: Earthscan. [Discusses major issues concerning primary health care medicine.]

McMichael A.J. (1993). Planetary Overload. Global Environmental Change and the Health of the Human Species. Cambridge: Cambridge University Press, 352 pp.

Murray C. J. L., and Lopez A. D. (1997). Global Burden of Disease study. *Lancet* **349**, 1269–1276, 1347–1352, 1436–1442, 1498–1504. [Analyzes the global burden of diseases based on a vast study carried out in many countries in order to identify actual causes of death in different settings. The book explores challenges and solutions.]

Nyerere J. (1990). *The Challenge to the South*. The Report of the South Commission. Oxford: Oxford University Press. [Examines challenges facing the South in terms of health problems.]

Swedish International Development Co-operation Agency (SIDA) (1995). *Poverty and Health Assistance—An Overview*, Sweden.

UNICEF (1994, 1995, 1998). *State of the World's Children.* New York: Oxford University Press. [Reports on children's health.]

United Nations Conference on Environment and Development (UNCED) (1992). *Agenda 21*. United Nations Department of Public Information, 294 pp. New York: United Nations. [An important document specifying the course of policy implementation for sustainable development. Agenda 21 is a political document elaborated after the Earth Summit conference. Particularly important is the concept of "indicators," a type of a check-list for sustainable development for the essential life support systems.]

United Nations Development Program (UNDP) (1997). *Human Development Report*. Oxford: University Press [Report on human development and its challenges.]

World Bank (1990). *World Development Report 1990. Poverty*. Washington, DC: World Bank. [Report on poverty by the World Bank.]

World Bank (1993). *World Development Report. Investing in Health.* Washington, DC: World Bank. Oxford University Press, 344 pp. [This report examines national health policies worldwide and measures their success in improving health and controlling health spending. It analyzes the many links between a nation's health status, its level of poverty, and its rate of economic growth.]

World Commission on Environment and Development (WCED) (1987). *Our Common Future*. Oxford: Oxford University Press. [Discusses the needs for sustainable development and environmental protection.]

World Health Organization (1995). *World Health Report. Bridging the Gaps*. Geneva: WHO. [The report on the status of health in the world.]

World Health Organization (1997). *World Health Report: Conquering Suffering, Enriching Humanity*. Geneva: WHO. [World Health Organization report on the health issues.]

Biographical Sketches

Dr. Maj-Lis Follér is an anthropologist and senior lecturer at the Department of Human Ecology, Göteborg University in Sweden. She has incorporated human ecology perspective into her scientific research on indigenous peoples in the Amazon area. She has been examining the connection between health and local knowledge from a human ecological perspective, and has analyzed ethnic groups' strategies for survival in the face of globalization. Foll**é**r has conducted extensive field work on the Cholera epidemic among the Shipibo-Conibo in Eastern Peru. She has written a number of articles on the subject, and has edited, *Human Ecology and Health: Adaptations to a Changing World*. (1996).

Gunnar Holmgren grew up in Zambia, where he also received his undergraduate medical education. For 17 years he was Medical-Officer-in-Charge at the Mpongwe Mission Hospital in Zambia, during which time he also studied at the Liverpool School of Tropical Medicine and earned the Diploma in Tropical Medicine and Hygiene. He is now responsible for Uppsala University's course in Global Medicine.