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HEALTH AND SANITARY ISSUES IN THE OIC MEMBER COUNTRIES: INCOME-HEALTH LINKAGES

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Prolonged health problems and insufficient public health systems lead to lower productivity and production levels of the labour force. This, in turn, leads at the micro level, to lower disposable income levels of households and, at the macro level, lower national income levels. Consequently, such a situation deprives households of the ability to afford health services and cripples governments' efforts in building and funding robust health systems. Therefore, the impact of health on development, particularly the health-income linkages, is a very important and closely related issue to focus on while discussing the state of public health and setting up new development programmes in many developing and least developed countries. In this context, this paper attempts to investigate and assess the status and determinants of the health situation in the OIC countries, focusing on health-income linkages and the economic costs of poor health conditions.

1. INTRODUCTION

The impact of health on development is an important issue that must be taken into consideration in building development programmes. Prolonged and generalized health problems lead to lower disposable income while reduced income deprives households of the ability to afford health services at the micro level. Furthermore, reduced national income hampers the governments' efforts to build and fund robust health systems at the macro level. Therefore, the state of public health, productivity and production level of the labor force, income generated and structure of national health systems are closely related issues to focus on. Furthermore, due to the weaknesses in the health systems, even the potentially effective policies and programmes often fail to reach the poor in many countries. The degree to which income generates better health is important for public health policy because the share of resources devoted to different policy options should depend upon this degree. Government policies are the key determinants of health care systems and one way by

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which adequate funding might generate health is through its effects on health care. Yet the responsibility of achieving better health care falls on the shoulders of both governments and international organisations.

Socio-economic conditions, including the state of public health, in many developing and least developed countries (LDCs) are inter-related with several economic problems such as poverty, accumulated debt stock and lack of good governance. Although the developing countries have limited resources, it is extremely important to invest a significant part of those resources in the health sector in order to improve the quality of the human capital. Measures taken relating to public health, famine control and availability of drugs and vaccines led to sharp falls in mortality rates in much of the developing world, excluding LDCs, where life expectancy now averages 64 years. On the other hand, life expectancy averages only 40 years in some Sub-Saharan African countries. Policy-makers in most low-income countries neglected the health care issue for years. Political instability, weak health infrastructure and the spread of AIDS have been the major causes of the deterioration of the state of health in those countries. Despite the resources spent on the area of health care, deaths from malaria, AIDS, tuberculosis, cancer and diabetes still continue to threaten some of those countries.

World population increased at a very high rate during the past 50 years and is expected to reach 9 billion by the year 2050. The largest increases will occur in Africa, where poverty and insufficient health services prevail. The fertility, mortality and population growth rates indicated great changes during the last century and geographical inequalities in income and health still continue to persist. Furthermore, new threats such as HIV/AIDS, environmental degradation and the ageing of the population have emerged.

Since the characteristics of poverty might be defined by low access to health care and other services and the prevalence of under-nourishment, the poor confront health problems leading to temporary/persistent removal from the labour pool which in turn causes further reduction in the income earned. In turn, the poor end up with lesser chance to have access to public services, such as health and education, with the reduced level of disposable income due to initial poor health conditions. In other words, household disposable income

might be reduced by prolonged failure to gain access to health services whose provision, in turn, is likely to deteriorate quickly due to the fall in gross national income caused by man/hour losses stemming from the poor health conditions of the labor force. In short, poverty is a consequence of poor health, but also poor health stems from low disposable income.

New technological advances, the deciphering of the human genome and rapid economic growth pave the way for better medical services and a longer span of life in industrialised countries. However, the developing countries, and especially the LDCs are yet to establish sustainable health systems in order to get a share of this progress. Unfortunately, attainability of good health remains to be a great challenge for low-income and least-developed OIC countries.

This paper attempts to investigate and assess the status and determinants of the health situation in OIC countries. In so doing, it focuses on the income and health linkages since low-income causes deprivation of basic health services which, in turn, aggravates the health problems. The paper first investigates the causes of poor health conditions and the interaction between the determinants of poor health, if any. Then, the economic costs that arise due to poor health are analysed at both micro and macro levels, also taking into account the relationship between income and health as well as the dynamics of interaction between the two. The conclusion section covers the appropriate policies to be adopted by developing country governments, international organisations as well as the industrialised countries and makes recommendations in this respect.

The analysis is carried out on the basis of the classification of OIC countries according to the three different human development groups of the United Nations Development Programme (UNDP). These are: low human development (LHD) countries, medium human development (MHD) countries and high human development (HHD) countries. The figures for the OIC-Human Development groups[*] are

[*] **High Human Development OIC Counries (OIC-HHD):** Bahrain, Brunei, Kuwait, Qatar, UAE; **Medium Human Development OIC Counries (OIC-MHD):** Albania, Algeria, Azerbaijan, Cameroon, Comoros, Egypt, Gabon, Guyana, Indonesia, Iran, Jordan, Kazakhstan, Kyrgyzstan, Lebanon, Libya, Malaysia, Maldives, Morocco, Oman, Saudi Arabia, Suriname, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Uzbekistan; **Low Human Development OIC Counries (OIC-LHD):** Bangladesh, Benin, Burkina Faso, Chad, Cote d'Ivoire, Djibouti,

compared with the worldwide human development groups, industrialised countries as well as the world. The tables within the text display the data for the above-mentioned groups. The OIC group averages in tables within the text have been derived from the data taken from the sources mentioned below each table. The core data obtained from those sources have been weighted with appropriate variables in order to reach the figures for the OIC groups. The figures for the worldwide human development groups, industrialised countries and the world are not available for some of the indicators used in this study. In such cases, the data for the different OIC-Human Development groups are compared with each other only.

2. CAUSES OF POOR HEALTH CONDITIONS

Problems pertaining to health and sanitary conditions in the developing countries, including OIC members, are multi-faceted and often inter-related. Hence, one or the other cause of the problem induces the rest. For example, high rates of population growth causes both poverty and rapid, haphazard urbanisation which, in turn, threatens the sanitary conditions and serves to augment the adverse effects of the infectious diseases. Those problems are also accelerated by the insufficient health services systems in the mentioned group of countries. If we disregard such interrelation among and/or between the factors affecting the health situation in the developing world, the following come to surface as the most common causes of poor health:

2.1. Rapid Population Growth and Urbanisation

During the last 50 years, the world's population increased more than it did in the preceding ages and is expected to reach about 9 billion by 2050. In fact the world fertility is currently lower than ever before, but the high fertility of previous generations would inevitably lead to a substantial growth in the world population throughout the 21st century. 97% of future population growth would occur in developing countries. The largest increases in world population would occur in countries where poverty and poor health are endemic. Because of its high birth rate and late demographic transition, Africa's share of world population will rise from 13% to 22% by 2050 (Raleigh 1999, p.1).

Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Mozambique, Niger, Nigeria, Pakistan, Senegal, Sierra Leone, Sudan, Togo, Uganda, Yemen.

The world today is going through a demographic transition. The advantages of this transition and its positive impact on the economic growth of developing countries will be discussed in the section on Impact of Poor Health on Economic Performance. This transition signifies a move from very high birth and death rates to low ones. It follows a path from an initially low population growth rates through a period of high rates associated with a boost in the total population, to very low or zero growth rates. This move also means a shift from a large young/elderly ratio to almost equal young and elderly in the population. Falling birth rates and increased longevity would lead to ageing populations everywhere and to greatly increased demands for health and social security provision. The number of people aged 60 and over will increase fourfold by 2050, their proportion rising from 9% of total population to 21%. For developing countries, managing the disease burden of poverty alongside the growing burden of non-communicable disease will bring enormous and uncharted pressures on health care systems and resources.

However, despite the slow decline in the number of births per woman in Africa, birth rates will continue to increase in this area even after they stabilise elsewhere. The decline in individual fertility will not result in fewer annual births globally until after 2025, and world population is not expected to stabilise until about 2100. The pace of decline in birth rates in regions where fertility has been relatively resistant to change, as in Sub-Saharan Africa, will be the most important determinant of future population size. Although the steep increase in mortality rate, due to AIDS in Africa, imposes great uncertainty over the future course of birth rates in this region, populations even in the worst affected countries are expected to triple by 2050 because of the historically-high birth rates (Raleigh 1999, p.2).

Table 1 shows that although there is not much difference between the OIC-LHD and LHD groups in their annual population growth rates for the periods 1975-2000 and 2000-2015, the data of the OIC-MHD group for both periods are slightly higher than the MHD group and the gap is the largest between the OIC-HHD and HHD groups. The industrialised countries have the lowest annual population growth rates in both periods, whereas the highest rates are observed in the OIC-HHD group. Also, the OIC averages are higher than the world averages for both periods. However, the OIC projection for the 2000-2015 period indicates a

decrease, from 2.4% to 1.9%, in the population growth rate vis-à-vis the 1975-2000 figure. This decrease can be observed in the 2000-2015 projections of all three OIC groups, but the decrease is less in the OIC-LHD group as opposed to the other two groups.

Table 1: Annual Population Growth Rate and Urban Population

	Annual Population Growth Rate (%)		**Urban Population (% of Total)**
	1975-2000	**2000-2015***	**2000**
OIC-LHD	**2.7**	**2.4**	**32.4**
OIC-MHD	**2.2**	**1.3**	**51.8**
OIC-HHD	**4.2**	**1.8**	**90**
Whole OIC	**2.4**	**1.9**	**42.9**
LHD	2.7	2.5	29.7
MHD	1.7	1	42.6
HHD	0.7	0.4	78.5
Sub-Saharan Africa	2.8	2.4	33.9
Industrialised	0.6	0.3	78.7
World	1.6	1.2	47.2

Source: Derived from data obtained from UNDP, Human Development Report 2002.
* Projections

People who live in rural areas tend to migrate to urban areas due to the rural poverty they live in. As a result of this migration, urbanisation may turn out to be out of control with too many people pouring into the cities and the demand for urban utilities skyrocketing. In most developing countries, however, local authorities can not meet this rapidly increasing requirement.

According to Table 1, urbanisation rate is higher in the OIC-HHD group than the OIC-MHD group which ranks higher than the OIC-LHD group. A similar sequencing also applies to the HHD, MHD and LHD groups respectively. Furthermore, the data for all three OIC groups are higher than those of their world counterparts. The highest urbanisation rate (90%) is observed in the OIC-HHD countries. There is a small gap between urban population values the whole OIC region (42.9%) and the world (47.2%) respectively. The fact that the share of urban population is quite high in the industrialised countries (78.7%) may suggest that urbanisation rate is commensurate with industrialisation and higher standards of living.

Therefore, we may go on to say that a large share of the health problems experienced in the high human development countries could be attributed to causes that stem from rapid urbanisation as well as high population growth rates. The share of rapid urbanisation as a cause of poor health will decrease as we go down on the human development scale.

Rapid urbanisation impacts the health situation of populations in the developing countries through the following channels:

- Spread of infectious diseases: Rapid urbanisation in developing countries is one of the factors that increase the potential for the spread of infectious diseases. Diseases once thought to be under control, like cholera, have again become major health problems in many cities.
- Public health infrastructure: Health systems in the urban areas which are already inadequate to handle ongoing surveillance of known infectious diseases will find it increasingly difficult to deal with emerging threats, from identification to prevention and control.
- Demands on the food and water supply: many places in the world are without safe and running water and suffer from malnutrition. As urbanisation accelerates, more fertile land gets taken for housing, thereby potentially increasing a food shortage. These deficiencies contribute to approximately 3.2 million deaths annually.

Problems affecting the health conditions of the urban poor are as follows:

Unemployment

Unemployment, low income and limited education can lead to inadequate diet, which can lead to malnutrition, which, in turn, increases the risk of infectious diseases. Resorting to immoral ways to earn money can also lead to other diseases such as AIDS and sexually-transmitted diseases.

Environmental Problems

Inadequate water supply and sanitation services, overcrowding, housing and traffic can lead to several outcomes: infectious diseases, pollution,

accidents, and consumption of junk food. Further explanation on water supply and sanitation services will be made in Section 2.4.

Psychosocial Problems

Stress, alienation, instability and insecurity lead to depression, increased smoking rates, alcoholism, and abandoned children.

2.2. Poverty

In fact, poverty and poor health are closely interrelated. Thus they may be considered as two factors which are both a cause and consequence of each other. However, this may not mean that the health conditions can be improved solely by the increase in income. For instance, the gross national product of a country may rise due to an increase in the foreign investment in that country which may end up at a higher level of welfare. This improvement may not necessarily lead to a positive shift in the health situation, unless bolstered by public and private investments in the health sector.

Although the number of AIDS cases in the HHD and industrialised countries is quite high (84 and 99.1 per 100,000 people respectively for 1997, see Table 4), since Sub-Saharan Africa has the highest level of worldwide disease outbreak in general, one can think that poor health is very much related to poverty. It is obvious that poverty worsens the health conditions. In turn, poor health prevents people from working and getting educated, and therefore contributes negatively to the economic output. For example, a careful statistical analysis of the effects of illness on wages and labour supply in Côte d'Ivoire and Ghana found that wages were significantly lower, in both countries, for each day of disability. Poor health in the form of disability in those poor communities contributed to their continuing poverty (WHO 1999, p.10).

The OIC-LHD countries, all of which –with the exception of Nigeria- are also referred to as the least developed countries (LDCs), are poverty-stricken. Those countries have the highest averages for most, if not all, diseases. Prevalence of tuberculosis in 1997, for example, is the highest in the LHD countries, and even higher in Sub-Saharan Africa (Table 4). Malaria is another major problem. Although statistical data are inadequate, the heavy incidence of Malaria in poor populations makes this disease a

powerful factor. It is a fact that poor health goes hand in hand with poverty. Actually, not only infectious diseases, but childbirth complications and undernutrition are also concentrated in the poorest countries. *"Those living in absolute poverty, compared with those who are not poor, are estimated to have a five times higher probability of death between birth and the age of 5 years, and a 2.5 times higher probability of death between the ages of 15 and 59 years"* (WHO 1999, p.19).

Table 2 compares the GDP per capita data for OIC countries at different levels of human development with the selected health indicators data for those countries. It is clear that the health situation worsens as the income declines and improves as the income increases. In the OIC-HHD countries, where the GDP per capita is highest among the three groups, infant mortality rate and malaria cases observed present the lowest figures while access to essential drugs and access to improved sanitation facilities present the highest. Obviously, health systems respond better to the requirements of populations in the OIC-HHD countries. All indicators selected display deterioration as we go down on the human development level and thus on the income level. Therefore, disposable income may be considered as one of the determinants of the state of health in the OIC countries.

Table 2: Comparison of GDP per Capita with Selected Health Indicators

	GDP per Capita (PPP)(US$)	Infant Mortality Rate (per 1000 live births)	Malaria Cases (per 100000 people)	Responsiveness of Health Systems	Access to Essential Drugs (%)	Access to Sanitation (% of Population)
	2000	2000	2000	1999	1999	2000
OIC-LHD	**1289**	**87.9**	**2940.5**	**4.18**	**46.8**	**56.3**
OIC-MHD	**4899.7**	**38.2**	**148.1**	**5.12**	**78.5**	**80.5**
OIC-HHD	**16877.2**	**9.1**	**4.0**	**6.32**	**99.1**	**n.a.**

Source: Derived from data obtained from UNDP, Human Development Report 2002.

As a matter of fact, the great progress in the 20th century in reducing poverty and improving well being was also observed in many low-income OIC countries. However, during the last decade success in reducing poverty was overshadowed by rising incidence of AIDS, economic crises, declining Official Development Assistance (ODA), trade barriers of developed countries and lack of comprehensive and targeted poverty reduction strategies.

However, poverty, on its own, is not a factor that has the ability to yield poor health. It is the conditions and environment (e.g. less access to clean and safe water and sanitation) set by poverty, rather than poverty itself, that make the health problems even bigger. If the policies adopted are right, good health conditions can still be attainable even in the LHD countries, some of which achieve better health conditions for their people than others within the same group. The income-health relation will be further analysed later on in the paper.

2.3. Insufficient Access to Sanitation and Clean Drinking Water

Consumption of clean water and removal of human wastes are two crucial factors for living in good health. Insufficient supplies of clean water and failure to establish adequate sanitation facilities, on the other hand, are major determinants of poor health and death. Today, more than one billion people do not have access to clean water and around 3 billion lack access to sanitation facilities. Failure to establish clean water and sanitation facilities can lead to spread of infectious diseases. According to the WHO, the number of people without access to clean water and sanitation facilities could reach 4.5 billion during the next 20 years, the urban poor being the most vulnerable.

Table 3: Access to Improved Water and Sanitation Facilities (Percent of Population)

	Access to improved sanitation facilities (% of population)		**Access to an improved water source (% of population)**	
	1990-95	**2000**	**1990-95**	**2000**
OIC-LHD	**34.2**	**56.3**	**66.3**	**75.9**
OIC-MHD	**69.6**	**80.5**	**64.6**	**83.8**
OIC-HHD	**77***	**n.a.**	**95***	**n.a.**
Whole OIC	**51.1**	**68.7**	**65.5**	**79.9**
LHD	n.a.	50	n.a.	67
MHD	n.a.	52	n.a.	81
HHD	n.a.	n.a.	n.a.	n.a.
Sub-Saharan Africa	37	55	45	54
Industrialised	n.a.	n.a.	n.a.	n.a.
World	n.a.	56	n.a.	81

Source: Derived from data obtained from UNDP, Human Development Report 2002 and 1996.

* United Arab Emirates only.

The 2000 figures in Table 3 show that OIC-MHD countries are better off than the OIC-LHD countries in terms of both access to improved water resources and access to improved sanitation facilities. Although statistical data are unavailable for the OIC-HHD group, we can easily assume that this group is also better-off than the OIC-MHD countries. What is more significant in the above table is that, from the 1990-95 period to the year 2000, there are increases, both in OIC-MHD and OIC-LHD countries, in the percentage of population with access to improved water resources and sanitation facilities.

Table 3 also shows the comparison between different OIC groups and other groups in the world. As expected, Sub-Saharan Africa is the region where the share of people who do not have access to safe water and sanitation facilities is the highest. The OIC average for access to safe water for the year 2000 (79.9%) is slightly lower than the world average (81%) whereas the OIC average for sanitation facilities for the same year (68.7%) is higher than the world average (56%).

In the International Framework for Action, agreed upon during the Second World Water Forum in The Hague in 2000, tackling urgent water priorities was identified as a major area of action. Five priority areas were subsequently identified at regional meetings across the world. These include (IFRC 2000, p.2):

- protecting and restoring water resources,
- achieving water-food security,
- extending sanitation coverage,
- meeting the challenge of urbanisation, and
- improving flood management.

Possible ways to establish sufficient improved water and sanitation facilities depend upon many factors some of which can be listed as: (a) Governments' responsibility in playing a more active role as a community level provider, regulator and monitoring agency of improvements in water supply and sanitation; (b) implementation of a community management-training programme by people experienced and qualified in participatory methods and in training communities to manage their water supply; and (c) implementation of emergency water and sanitation operations including a system of emergency response units.

2.4. Infectious Diseases

Resulting from the conditions of persistent poverty, disease is becoming the most devastating disasters in the world. The worldwide death toll from infectious diseases in 1999 was 160 times greater than that from natural disasters. In 1999, natural disasters killed some 100,000 people; but a staggering 13 million died of infectious diseases such as AIDS, malaria, respiratory illnesses and diarrhea. Malaria has appeared for the first time in places such as Azerbaijan and Tajikistan. Some 40,000 new tuberculosis cases have been reported in North Korea; and in Russia, syphilis infections have increased 40 times since the collapse of the Soviet Union.

There are 36 million people worldwide living with AIDS and an estimated 22 million have died from AIDS-related illnesses. Most of the AIDS victims are adults at the working and parenting stage of their lives. Therefore, AIDS has a negative impact on the social and economic development of countries. 70 percent of HIV-infected people live in Sub-Saharan Africa.

Of the 54 million deaths annually in the world, 1 million are from malaria, 1.5 million from tuberculosis and 2.3 million from AIDS. In Africa, AIDS is the leading cause of death. Because most AIDS victims are young adults or infants infected by mother to child transmission, the virus has reduced life expectancy in the worst affected countries to as low as 28 years, wiping out the improvements in health standards of the previous century (UN, 1998).

Table 4 shows the cases of AIDS, malaria and tuberculosis in the OIC countries. Figures displayed for the most recent year are the latest available. For malaria and tuberculosis, data for all years are commensurate with the human development ranking of the OIC countries. In other words, both diseases are most observed in OIC-LHD countries, followed by OIC-MHD countries and finally least observed in OIC-HHD countries. The same order also applies to the non-OIC figures for tuberculosis. However, the LHD-MHD-HHD sequence is not true for AIDS. As far as the OIC countries are concerned, the 1997 data indicates that AIDS has been most frequently observed in OIC-LHD countries, then in OIC-HHD countries and, finally, in OIC-MHD countries. Although there is a small gap between the OIC-HHD and OIC-MHD groups (4.6 and 4.4 per 100000 people respectively), the OIC-LHD countries indicate

a relatively high figure (38.1 per 100000 people). World figures indicate a more distinctive shift to the detriment of HHD countries. AIDS in the world is most observed in HHD countries, with the industrialised countries having an average of as high as 99.1 per 100000 people, followed by LHD countries and, finally, by MHD countries. Sub-Saharan Africa, on the other hand, is the all-time most disease-stricken region in the world.

Table 4: AIDS, Malaria and Tuberculosis Cases for Different Groups

	AIDS Cases (per 100000 people)		**Malaria Cases (per 100000 people)**		**Tuberculosis Cases (per 100000 people)**	
	1995	**1997**	**1995**	**2000**	**1996**	**1999**
OIC-LHD	**5.9**	**38.1**	**658.4**	**2940.5**	**55.9**	**49.7**
OIC-MHD	**0.7**	**4.4**	**409.1**	**148.1**	**30.4**	**40.7**
OIC-HHD	**0.3**	**4.6**	**80.1**	**4.0***	**25.5**	**34.5**
Whole OIC	**2.1**	**18.9**	**497.8**	**1622.9**	**38.5**	**44.9**
LHD	5	67.5	n.a.	n.a.	100.7	73
MHD	3.5	17	627.4	n.a.	75.2	74
HHD	7.7	84	n.a.	n.a.	19.6	18
Sub Saharan Africa	22.2	111.1	n.a.	n.a.	129.3	121
Industrialised Countries	5.6	99.1	n.a.	n.a.	14.8	13
World	5	39.7	n.a.	n.a.	68.5	64

Source: Derived from data obtained from Human Development Report 2001, 2000, 1999 and 1998.

* 1997 figure, latest available.

Although the figures for the whole OIC region indicate, in absolute terms, lower averages in AIDS and tuberculosis vis-a-vis the world averages, the percentage increase in these diseases between the start year and the end year in the OIC region is greater than the increase in the world. While tuberculosis is decreasing in the world, it is increasing in the OIC region. Malaria cases also reached as high as 1622.9 in 2000 from 497.8 per 100000 people in 1995. This increase in malaria in the OIC countries can be attributed to the sharp boost in the OIC-LHD group, which points to a 5 time increase in the disease from 658.4 in 1995 to 2940.5 per 100000 people in 2000. The number of AIDS cases has increased, in only two years, 9 times among the OIC countries and 8 times in the world. This mainly stems from the fact that Sub-Saharan Africa, where AIDS went up from an average of 22.2 in 1995 to 111.1 per 100000 people in 1997, occupies an important share of the total OIC member countries.

2.5. Inadequate Health Systems

A health system is defined, in the World Health Report 2000 of the World Health Organisation (WHO), as a system that includes all the activities whose primary purpose is to promote, restore or maintain health. The delivery of health services, disease prevention methods, use of medication, medical facilities and staff and even environmental safety improvements are all components of a health system. Differentiation and specialisation of skills and activities are also part of a health system. What matters most here is whether the concerns of the people regarding the health system are satisfactorily fulfilled. Although these concerns may vary from one country to another, they can be listed in general as follows:

- Are the health services easily accessible by people?
- Is the infrastructure sufficiently good?
- Do the medical facilities have enough supplies of medicine, drugs, vaccines, etc?
- How are the health systems financed?
- What percentage of the population has health insurance?
- How well does the health system ensure the delivery of high quality services to the poor? Do payments for services leave the poor unable to afford other essential commodities like housing and food?

In order to measure the responsiveness of health systems to the people's expectations, WHO asked informants in 35 countries to evaluate the health system's performance with respect to dignity, autonomy, confidentiality, prompt attention, quality of basic amenities, social support and choice of provider. The results were combined in a composite score ranging from 0 to 10. The higher the score, the greater the health system's responsiveness.

Responsiveness is not a measure of how the system responds to health needs, which shows up in health outcomes, but of how the system performs relative to non-health aspects, meeting or not meeting a population's expectations of how it should be treated by providers of prevention, care or non-personal services (WHO 2000, p.31).

Table 5: Indicators of Health Systems

	Responsiveness of Health Systems	Population without Access to Health Services (% of population)	Access to Essential Drugs (% of population)
	1999	1981-93	1999
OIC-LHD	4.18	36.8	46.8
OIC-MHD	5.12	27.4	78.5
OIC-HHD	6.32	3.5	99.1

Source: Derived from data obtained from UNDP, Human Development Report 2001, 2000, WHO Report 2000.

Table 5 shows that the responsiveness of health systems is greater in the OIC-HHD countries, followed by OIC-MHD countries and then by OIC-LHD countries. In other words, the degree to which the health systems are fulfilling peoples' expectations in the OIC countries is declining from high to low human development. The same sequencing is also applicable to the population without access to health services and access to essential drugs. The portion of people without access to health services is the greatest in the OIC-LHD countries and the lowest in the OIC-HHD countries. Similarly, people have better access to essential drugs in the OIC-HHD countries, then in the OIC-MHD countries and finally in the OIC-LHD countries. Due to the lack of data, it is not possible to compare the situation in the three OIC groups with other groups, such as the LHD, MHD, HHD, industrialised countries and the world.

Table 6: Medical Staff and Facilities

	Hospital Beds (per 1000 people)		Physicians (per 1000 people)		Births Attended by skilled health staff (% of births)
	1980	1990-99	1980	1990-99	1995-2000
OIC-LHD	0.6	0.8	0.1	0.3	27
OIC-MHD	4.3	2.3	1.4	1	70.1
OIC-HHD	3.6	2.7	1.5	1.6	98.5

Source: Derived from data obtained from UNDP, Human Development Report 2001, 2000 and World Bank, World Development Indicators.

Table 7: Child Immunisation Rates

	Child Immunisation Rate (% of under 12 months)		
	Tuberculosis 1997-99	Measles 1997-99	DPT* 1995-99
OIC-LHD	69.7	53.8	50.8
OIC-MHD	90.6	78.6	81.8
OIC-HHD	94.1	95.4	94

Source: Derived from data obtained from UNDP, Human Development Report 2001, 2000 and World Bank, World Development Indicators.
* Diphtheria, Pertussis and Tetanus.

It is not surprising to observe the same LHD-MHD-HHD sequence for some other indicators. Tables 6 and 7 show that the OIC-HHD countries have the best performance in the number of hospital beds, physicians and births attended by skilled health staff as well as in the child immunisation rate for tuberculosis, measles and DPT. The situation for all the mentioned indicators is worst in the OIC-LHD countries.

The analyses made in the above paragraphs indicate an unequal resource allocation over the health systems regardless of the need among the OIC groups and not at all in proportion to the distribution of health problems. 84% of the world's population live in the low and middle-income countries that bear 93% of the world 's disease burden (WHO 2000, p. 7). Those countries face many challenges in meeting the health needs of their populations. Especially in the LHD countries, large segments of the poor still do not have access to basic and effective care.

Today in most industrialised and many middle-income countries, governments have become central to social policy and health care. Government involvement in the health sector is based on equity and efficiency in those countries. The purpose of governments in the industrialised countries is to provide people with the least costly and most effective health care. However, in low-income countries where total public revenues are scarce (often less than 20% of GDP) and institutional capacity in the public sector weak, the financing and delivery of health services is largely in the hands of the private sector. On the contrary, large segments of the population living in the OIC-LHD countries still have no access to basic and effective health care as shown in Tables 5, 6 and 7.

2.5.1. Financing of the Health Systems

Health systems are in fact responsible not only for the delivery of health services, but also for protecting people from the financial cost of illness. Therefore, fair financing is a very important component of health systems. *"Fair financing in health systems means that the risks each household faces due to the costs of the health system are distributed according to the ability to pay rather than to the risk of illness"* (WHO 2000, p. 35). A fair health system covers everyone regardless of his/her income, social status or class. A part of the population in the LDCs, in most low-income developing countries, and even in some medium-

income developing countries, can not afford to make use of the health services because doing so pushes them into poverty. Evidently, there is a minimum amount of expenditure required in each country to provide the population with adequate health services and this amount varies from one country to another. Although many LDCs are spending too little on health to ensure the receipt of health services by their people, the level of spending does not necessarily reflect the gain acquired from the health services. Sometimes a country might spend quite a lot on the health sector but the gain might end up very little. Health interventions can be cost-ineffective when in fact they do not cost very much. For example, many service providers continue to rely on antibiotics to treat viral illnesses even though this is known to be ineffective.

The financing of the health services is perfectly fair if the ratio of total spending on food to the total spending on non-food is the same for all households within a country (WHO, 2000). In other words, a fair health system ensures that the poor population does not spend a larger share of its non-food income on purchasing health services than the wealthy population does. Studies show that populations that spend 50% or more of their non-food income on health are more likely to be impoverished.

Another impoverishing factor is the *out-of-pocket payments* made by people while using the health services. As the out-of-pocket payments within a household increase, the possibility of getting impoverished also increases. Out-of-pocket payments are the payments not covered by the household's income but those done by the households through going into debt, selling assets or working overtime. These payments are at very high levels among the populations of the LDCs and low-income countries. There are many ways for the governments, employers and communities to reduce the out-of-pocket payments of the households. For example, governments can impose low user fees or totally remove them and instead finance the cost of health services through taxation. They can also exempt the poor segments of their populations through fee-waiver schemes. Furthermore, employers can adopt their own insurance schemes for their institutions with employees paying through wage deductions.

The share of total world health expenditures (public and private) in the world GDP has risen from 3% in 1948 to 8% in 1997. This increase in the health spending led people to look for different types of financial arrangements so that nobody would be denied access to health services.

These arrangements became the cornerstone of modern-day health systems. They include government and private health insurance schemes as well as other government policies and actions that would lift some of the financial burden from the back of the households. It is not the purpose of this paper to analyse different types of insurance schemes since they constitute a huge topic in its own right which deserves a careful and separate study. Therefore, we will deal in the next section of this paper, with the government spending on the health sector and the importance of government policies and actions in attaining a sound health system as well as their impact on economic development.

2.5.2. Health Expenditures

The question to be asked, then, is what proportion of the GDP should be allocated to the health sector so that the developing countries can pave the way for a more advanced health care system.

Table 8: Expenditure on Health

	Public Expenditure on Health (% of Government Expenditure)	Public Expenditure on Health (% of GDP)	Private Expenditure on Health (% of GDP)	Per Capita Expenditure on Health (PPP)
	1998	1990-98	1990-98	1990-98
OIC-LHD	6.8	1.5	2.2	42.5
OIC-MHD	7.8	2.4	1.9	276.1
OIC-HHD	7.7	1.7	1	1392.4

Source: Derived from data obtained from various issues of the WHO Report.

Notwithstanding the fact that the answer to the above question depends upon the economic and social conditions in each country, there still is a need to take a look at the health expenditure figures. Table 8 shows that per capita expenditure on health is highest in the OIC-HHD countries, followed by the OIC-MHD countries and then by the OIC-LHD Countries. Since the OIC-HHD countries are the ones that fall under the high-income classification, one can go on to say that as a country's income increases, the health situation of its citizens also improves as more health expenditure is made for each citizen.

One interesting feature of the above table is the distribution of health expenditures between public and private spending. While the share of public expenditures in the GDP is greater in the OIC-MHD and OIC-HHD groups than the share of private expenditures, the opposite is true

for the OIC-LHD group. Thus, the share of private expenditures in the GDP is higher than the share of public expenditures in this group. This signifies that the governments of the countries forming this group did not invest adequately in the health sector. Hence, the policy-makers' choices in these countries were not in favour of the health services. This conclusion is further bolstered by the first column of the table which shows that the share of public health expenditures in total government expenditures in the OIC-LHD group is the lowest (6.8%) among the three groups.

Table 9 summarises the comparison of OIC public expenditure figures vis-à-vis some other groups as well as the world. It indicates that the OIC public expenditure figures are far below the other groups' averages. This is true both on the human development classification basis and on overall basis. It is worth noting that all OIC groups (OIC-LHD, OIC-MHD and OIC-HHD) fall behind their world counterparts. Even the OIC-HHD group figures (3.6% and 3.8 % of the GDP) are nowhere near the World-HHD figures which are 5.2% and 6.2% of the GDP respectively. Furthermore, there is a great discrepancy between the overall OIC averages (1.7% and 1.8%) and the world averages (4.7% and 5.6% of the GDP). Data for industrialised countries were not available. However, the OECD figures, which somehow equal the World-HHD figures, may reflect in the reader's mind an approximation for the industrialised countries. Needless to say, there is room for progress in the OIC countries, and better health services would require a higher share of public health expenditures in the GDP.

Table 9: Public Expenditure on Health

	Public Expenditure on Health (% of GDP)	
	1990	**1996-98**
OIC-LHD	**1.2**	**1.2**
OIC-MHD	**1.7**	**1.7**
OIC-HHD	**3.6**	**3.8**
Whole OIC	**1.7**	**1.8**
LHD	n.a.	1.3
MHD	2.1	2.3
HHD	5.2	6.2
Sub Saharan Africa	n.a.	2.4
OECD	5.2	6.2
World	4.7	5.6

Source: Derived from data obtained from UNDP, Human Development Report 2001.

If one compares the data in Table 9 with the data in Table 10, he/she would inevitably conclude that the higher the public expenditures on health, the lower the infant mortality rate and the higher the life expectancy rate. In Section 3.2, it will be explained that demography is determined in part by health status, and has a direct effect on economic growth through the age structure of the population, in particular the ratio of the working age to the total population. Therefore, public expenditure on health emerges as a determinant of overall economic growth.

In accordance with all the previously-explained causes of poor health, the data for infant mortality rate, life expectancy and probability of not surviving to age 40 indicate a situation in favour of the countries at a high level of human development and to the detriment of the countries at a low level of human development.

Table 10: Life Expectancy at Birth, Infant Mortality Rate and Probability of not Surviving to Age 40

	Life Expectancy at Birth (years)		Infant Mortality Rate (per 1000 live births)		Probability at Birth of not Surviving to age 40 (% of cohort)
	1970-75	1995-2000	1970	2000	1995-2000
OIC-LHD	**45**	**54**	**136.1**	**87.9**	**28.4**
OIC-MHD	**53.8**	**66.8**	**118.5**	**38.2**	**11.2**
OIC-HHD	**65.4**	**74.3**	**52.2**	**9.1**	**4.4**
Whole OIC	**49.9**	**60.9**	**126.8**	**61.4**	**19.7**
LHD	44,6	52.2	141	99	n.a.
MHD	58.4	66.5	100	46	n.a.
HHD	71.3	77	25	7	n.a.
Sub-Saharan Africa	45.3	48.8	135	107	n.a.
Industrialised	72.1	77.8	20	6	n.a.
World	59.9	66.4	96	56	n.a.

Source: Derived from data obtained from UNDP, Human Development Report 2002 and 2001.

Life expectancy figures in Table 10 reflect, for both period 1970-75 and period 1995-2000, a similar sequencing in terms of classification of different groups. In both periods, life expectancy is highest, with 72.1 and 77.8 years respectively, in the industrialised countries and lowest, with 45.3 and 48.8 years respectively, in Sub-Saharan African countries. The OIC averages in both periods (49.9 and 60.9 years) are below the world averages (59.9 and 66.4 years), but the gap has narrowed in the latter period. The good news is that from the first period to the second, life

expectancy averages of all three OIC groups, and thus the whole OIC average, indicate increases. From the first period to the second, life expectancy in the OIC countries has gone up from 49.9 years to 60.9 years.

If we take a look at the infant mortality rates in Table 10, we see that the comments we have made for life expectancy are still prevalent. That is, better conditions in the OIC-HHD countries than the other OIC groups, lowest infant mortality rates in the industrialised countries and highest rates in Sub-Saharan African countries. Again from 1970 to 2000, infant mortality rates of all three OIC groups, and therefore the whole OIC average indicate improvements. Infant mortality rate in the whole OIC region, despite being higher than the world averages (96 per 1000 live births in 1970 and 56 in 2000) in both 1970 and 2000, has gone down from an average of 126.8 per 1000 live births in 1970 to 61.4 in 2000.

The data for probability at birth of not surviving to age 40 also clearly show that the higher the place of the OIC countries on the human development scale, the higher the chances that their populations would survive to age 40. Since the data for other groups are not available, it is not possible to make a wider comparison.

3. ECONOMIC COST OF POOR HEALTH

The economic costs of poor health and insufficient health services are in fact higher than publicly acknowledged. Health condition of the human capital is not just a factor that facilitates economic development but also establishes the very foundation of economic development. Poor health traps people in poverty. One of the economic benefits of improved health conditions might be stated as accelerating the growth via strong labour force. Hence, rapid growth rates observed in some of the countries might be ascribed to this pre-condition, among others. Although physical capital accumulation and technology transfer are two crucial factors of rapid economic growth, recent studies point to the fact that healthier people are more productive than others. Thus economies with labor forces that have attained and sustained favorable health conditions realise higher rates of growth. In parallel with this, people in wealthier countries live longer and have lower morbidity, on average, than people in poorer countries. Insufficient health conditions serve to hamper economic growth as analysed in the following sections.

3.1. Impact of Diseases on Households' Income

The impact of health on household income is positive. In other words, the better the health conditions of a household, the more income is generated by that household. The South African Integrated Family (Langeberg) Survey concluded that poor health was the primary reason of reduction in the hours of work (Case 2000, p. 12).

It is possible to measure the impact of particular diseases on households. Tuberculosis is one of these diseases and it negatively affects the economic performance through two channels: First is the impact on households through prevention and treatment costs. Purchasing drugs and medication and paying fees to health institutions bring a burden on the households. Secondly, the labour time lost because of illness contribute to the continuing poverty of households. A careful statistical analysis of the effects of illness on wages and labour supply in Côte d'Ivoire and Ghana found that wages were significantly lower in both countries for each day of disability. Furthermore, tuberculosis-related morbidity directly increases household and public sector expenditures. It reduces labour inputs and can reduce human capital as a result of declines in school attendance. In a case study of costs of improving tuberculosis control in Thailand in 1995, the cost of treatment was estimated at US$ 343 per case. The researchers also estimated the total indirect cost of lost productivity in Thailand as a result of morbidity associated with treated and untreated cases of tuberculosis, amounting to $57 million (WHO 1999, p.10).

Treatment costs of malaria for small farmers have been estimated to be as high as 5% of total household expenditure in Kenya and 13% in Nigeria. Many are simply too poor to be able to pay for adequate protection. One estimate of the impact of malaria on national income in Africa put the economic burden at 0.6–1% of gross domestic product (GDP). Separate estimates for Kenya put the overall production loss at 2–6% of GDP, and at 1–5% for Nigeria. Recent research suggests that the adverse economic impact of malaria in Africa is probably even greater than 1% of GDP. This figure is mainly made up of estimated productivity losses through premature mortality and spells of sickness (WHO 1999, p.51).

Similarly, in Indonesia, men with anaemia were found to be 20% less productive than men without it. Therefore, diseases are thought to

drive away potential development opportunities by making certain zones unsuitable for habitation, deterring international trade and foreign investment, and jeopardising the development of sectors such as tourism. Economic development may also be retarded by reduced access to international flows of knowledge and technology because companies may be reluctant to send representatives to disease-stricken countries. Diseases like malaria may thus be causes, and not just consequences, of underdevelopment.

3.2. Impact of Poor Health on Demography and Economic Performance

Recent economic studies have added new explanatory variables to the determinants of growth rate. Some health indicators are among those variables. Studies show that there are direct links between economic performance and health indicators such as life expectancy. Some variables such as geography and demography, on the other hand, indirectly link health with economic growth. Geography, particularly tropical location, is highly correlated with disease burden which in turn affects economic performance.

Recent studies found a strong impact of health status on economic growth rates. They concluded, for example, that survival rates or life expectancy are powerful predictors of income levels as well as of subsequent economic growth. Interestingly, economic historians have concluded that perhaps 30% of the estimated per capita growth rate in Britain between 1780 and 1979 was a result of improvement in health and nutritional status (WHO 1999, p.8).

Demography, on the other hand, is determined in part by health status and has a direct effect on economic growth through the age structure of the population, in particular the ratio of the working age to the total population. For example, in the 1940s, improvement of the health status in East Asia led to a demographic transition in that region. An initial decline in infant and child mortality swelled the youth population and, somewhat later, prompted a fall in fertility rates. These changes in mortality and fertility, which comprise the first phase of the demographic transition, substantially altered East Asia’s age distribution. After a time lag, the working-age population began growing much faster than the young dependent population, temporarily creating a disproportionately high

percentage of working-age adults. This change in the age structure of the population created an opportunity for increased rates of economic growth. By introducing these demographic considerations into an empirical model of economic growth, studies undertaken for the Asian Development Bank (ADB) were able to show that East Asia's changing demography could explain perhaps a third to half the economic "miracle" experienced between 1965 and 1990 (WHO 1999, p.8).

The ADB study cautions, however, that although a demographic transition provides an opportunity for increasing prosperity, it by no means guarantees such results. Sound macroeconomic policies are required to make good use of the demographic transition. East Asian countries could achieve the high growth rates because both the government and the private sector were able to channel the work force, which emerged as a result of the demographic transition, into well-managed investments. Otherwise, the result would have been severe unemployment. These investments included adopting new industrial technologies, enhancing basic education and exploiting global markets. The next phase for East Asia will involve less favourable dependency ratios consequent to population ageing. In contrast, both South Asia and Africa are now entering the period when demographic factors can enhance growth prospects.

Therefore, the demographic transition in developing countries will result in large increases in their populations of working ages and hence reduce the overall dependency ratio. The economic potential of this structural shift, however, will depend on employment prospects for the expanding, largely unskilled workforces of countries already facing high levels of unemployment and poverty.

In fact the poor health-low income relation is a circle, with each of the earlier and the latter affecting the other. Claeson et al. 2001 explained this circle as follows:

> **Characteristics of the poor:** Inadequate service utilisation, unhealthy sanitary, dietary practices, etc. which are caused by lack of income and knowledge; weak institutions and infrastructure, bad environment; poor health provision, that is, inaccessible, irrelevant services, low quality and inadequate stock of basic medicines and poorly trained staff; exclusion from the health finance system, in

other words limited insurance and co-payments lead to **Poor health outcomes:** Ill health, malnutrition and high fertility lead to **Diminished income:** Loss of wages, increased costs of health care and greater vulnerability to catastrophic illnesses lead to **Characteristics of the poor** (Claeson et al. 2001, p.1).

The degree to which income generates better health is important for public health policy, because the share of resources devoted to different policy options should depend upon this degree. Since government policies are the key determinants of health care systems, one way in which money might generate health is through its effects on health care.

As mentioned earlier, people in wealthier countries live longer and have lower morbidity, on average, than the people in poorer countries. Furthermore, even within countries, wealthier people live longer than poorer people and, over time, as countries become wealthier, average life expectancy increases (Case 2000, p.30). Therefore, the statement "wealthier people have better health and longevity" is evident throughout the income distribution, both at the country level and the household level. If that is the case, one can conclude that high-income countries are more likely to achieve better health care systems than low-income ones. The justification of this statement was displayed earlier in Table 2, Section 2.2. A rise in the disposable income at the household level, and in a similar manner, a rise in the total GDP at the macro level, accompanied by sound investments in the health sector, will not only help curb poverty, it will also help attain better health conditions.

4. POLICY RECOMMENDATIONS AND CONCLUSION

Given the strong and dual relationship between poor health and income, one inevitably goes on to say that economic growth and development can contribute to improved health and better health care services in the developing countries. Unsustainable economic growth, on the other hand, can cause environmental degradation which together with inappropriate consumption, can adversely influence human health. The purpose of governments and international organisations should be to protect and promote human health, especially of the vulnerable groups such as children, women and the elderly; break the poverty and health vicious circle; meet primary health care needs both in rural and urban areas; control communicable diseases; and reduce health risks from environmental pollution and hazards.

This is where the importance of resources allocation enters the picture. Despite the fact that economic growth is the strongest tool to fight against poor health conditions, growth by itself does not necessarily translate into improvements in health status. The impact of reductions in health expenditures and other social services resulting from public-sector retrenchment, misuse of the resources allocated to the health sector and inappropriate consumption patterns all contributed to the increase in morbidity and mortality. Therefore, policies and programs to improve health as well as government action designed to promote investment in the health sector will have a fundamental role in riding the LDCs and developing countries off poor health conditions.

In many low-income countries governments often fail to devise effective policies and make available information about personal hygiene, healthy lifestyles, and appropriate use of health care; regulate and contract with available private sector providers; ensure adequate financing arrangements for the whole population; and secure access to public goods with large externalities for the whole population (Preker and Harding, p.3).

The United Nations International Conference on Population and Development (4-6 February 1999, Hague, Netherlands) lists the objectives to attain better health conditions as follows:

a. To increase the accessibility, availability, acceptability and affordability of health-care services and facilities to all people in accordance with national commitments to provide access to basic health care for all;

b. To increase the healthy life-span and improve the quality of life of all people, and reduce disparities in life expectancy between and within countries;

c. To prevent, reduce the spread of and minimise the impact of infectious diseases, especially the HIV infection; increase awareness of the disastrous consequences of these diseases at the individual, community and national levels, and of the ways of preventing it; address the social, economic, gender and racial inequities that increase vulnerability to diseases.

The responsibility to achieve these objectives falls on the shoulders of governments themselves and the international organisations.

4.1. Actions by the International Community and Industrialised Countries

The international community, led by the United Nations, the multilateral financial institutions and all regional organisations need to positively contribute their own share and resources in order to win the fight against poor health.

Through technology transfer, developing countries should be assisted in building their capacity to produce generic drugs and vaccines for the domestic market. To meet the substantial increase in demand for vaccines, antibiotics and other commodities over the next decade and beyond, the international community should strengthen global, regional and local mechanisms for the production, quality control and procurement of those items, where feasible, in developing countries. The international community should facilitate regional cooperation in the manufacture, quality control and distribution of those items.

The G8 group endorsed, in August 2000, in Okinawa, Japan, the international development targets agreed in 1999 in Hague by the United Nations. These targets included:

- A 50% reduction in the proportion of people living in extreme poverty by 2015
- Demonstrated progress towards equality of the sexes and the empowerment of women by eliminating disparity between the sexes in education by 2005
- A reduction by two thirds in mortality among children aged under 5 by 2015
- A reduction by three quarters in maternal mortality by 2015
- Universal access to reproductive health services not later than 2015
- Implementation of national strategies for sustainable development in all countries by 2005
- A 24% reduction in HIV infection rates among 15-24-year olds in the worst affected countries by 2005 and globally by 2015
- A 50% reduction in mortality from tuberculosis and malaria by 2010

Although chances of achieving these targets may not be quite high, international organisations and industrialised countries should maximise their efforts to help especially the LDCs achieve them. Britain's decision in December 2000 to stop taking debt repayments amounting to US$ 2.24 billion from 41 of the world's poorest countries and to use this amount to fight poverty in the debtor countries sets a good example of these efforts.

As an extremely vital step to be taken by the international organisations and the industrialised countries, the debt relief currently provided to the poorest countries must be increased. The international organisations and the industrialised countries should make sure that some of the poorest countries in the world are not forced to spend more on debt servicing than on essential services like health. Despite being steps in the right direction, initiatives like HIPC* and HIPC2 should be applied on a wider range of poor countries.

The World Bank officials emphasise that virtually every country that supplies a decent education sector programme will find finance for it. This implies that the same will hold for health too. However, the fact is that too few countries are preparing ambitious health sector plans for international finance.

The World Health Organisation (WHO), in collaboration with other international organisations, needs to strengthen the international system of support and capacity building for the health problems of the poor. These organisations should continue to build partnerships with national and international institutions to address health issues in developing countries, especially in LDCs. With a network of volunteers that work inside vulnerable communities, these organisations should put knowledge and tools in the hands of the people and facilitate and support processes that reduce vulnerability.

4.2. Government Actions

Firstly, all countries should enable easy access to basic health care services and develop central strategies for reducing mortality and

* Debt Initiative for Heavily Indebted Poor Countries.

morbidity. Sufficient resources should be allocated so that primary health services attain full coverage of the population. Access to health care services for all people and especially for the most underserved and vulnerable groups must be ensured. Governments should seek to make basic health care services more sustainable financially. Governments should provide the necessary backup facilities to meet the demand. Out-of-pocket payments of the poor should be avoided.

Secondly, health sector and health policy reforms, including the rational allocation of resources, should be pursued. Governments should adopt policies which will prioritise cost-effective health programmes.

Efforts to ensure a longer and healthier life for all should emphasise the reduction of morbidity and mortality differentials between males and females as well as among geographical regions, social classes and indigenous and ethnic groups.

Governments should make available health and nutrition information and strengthen education and communication activities in order to enable people to improve their health. Governments should establish programmes to ensure community participation in health policy planning. These programmes should take into account the long-term care of the elderly, the disabled and those infected with HIV and other endemic diseases, child-survival, maternal health, family-planning, early detection and treatment of cancer and prevention of HIV infection and other sexually transmitted diseases.

Finally, countries should give priority to measures that improve the quality of life and health by ensuring a safe and sanitary living environment for all population groups through measures aimed at avoiding crowded housing conditions, reducing air pollution, ensuring access to clean water and sanitation, improving waste management, and increasing the safety of the workplace. Special attention should be given to the living conditions of the poor and disadvantaged in urban and rural areas. The impact of environmental problems on health, particularly that of vulnerable groups, should be monitored by governments on a regular basis.

In conclusion, it is worth mentioning that although affordable drugs, surgeries and other health-related interventions may be available, even in low-income countries, because of weaknesses in one or more of the

components of health systems—*financing, generation of inputs, and provision of service*s—potentially effective policies and programmes often fail to reach the poor (Preker and Harding, p.1).

Also, having said that the poverty-poor health relation is a vicious circle and that the poor are the main actors in the fight against poverty, actions by the governments and international community will continue to be essential. Furthermore, economic growth is the strongest weapon in the fight against poverty as long as it generates well-developed health services that are accessible to the most vulnerable segment of the population, i.e. the poor.

However, we still need complementary investments and a certain level of expenditure in the health sector to channel more benefit to the poor. Higher share of public health expenditures in budget leads to lower levels of infant mortality rates and higher levels of life expectancy. In addition, through technology transfer, developing countries and LDCs should be assisted in building their capacities. Developing country and LDC governments must pursue global integration, and international organisations and industrialised countries must provide the developing and least-developed countries with technological advances in order to serve the interest of the poor. The poor health-low income vicious circle must be broken with the cooperation of developing country and LDC governments, international organisations and industrialised countries. In addition to the international partnerships between governments, the private sector and financial institutions, local partnerships with the communities facing the threats of disease and endangered health are crucial in overcoming the impacts of poor health. Trained volunteers and community health workers should carry out preventive strategies and health education in the developing and least-developed countries.

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