ASSESSMENT OF MORTALITY LEVELS, TRENDS AND DIFFERENTIALS IN RELATION TO THE GOAL OF "HEALTH FOR ALL" BY YEAR 2000 IN SOME ECA MEMBER STATES
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I. INTRODUCTION

The assessment of the goals for attainment of the "Health for All" by the year 2000 among Member states of the Economic Commission for Africa, is the subject of this study. The knowledge available about mortality among developing countries of Africa points towards existence of extremely unfavourable conditions of status of health of the people. This state of poor health was more severe particularly during the period before and immediately after the second world war. The period after the world war two experienced improvement in the health status of people in most countries in Africa. For example, estimates of life expectancy at birth were less than forty years and infant mortality rates of 200 or more in many African countries during the period 1950-55. However, this poor state of health changed only slightly between 1955 and 1975. For instance, during that period life expectancy increased from about 38 to 46 years while infant mortality rate dropped from about 188 to 137 per 1000 live births over the same twenty year period. In aggregate terms the estimates conceal much more severe conditions of mortality that existed in majority of Africa countries 1. It is because of the poor health condition in Africa that the desire of most governments has always been to strive for better social and economic development as a means of reducing high levels of mortality and morbidity. In this connection several population conferences held have recommended that studies should be conducted and encouraged in order to monitor levels of mortality and conditions of health. Some of recommendations of the conferences and meetings have been reviewed in order to enable reformulation and implementation of national health strategies and policies for consideration in this study.

1.1 The 1974 World Population Conference.

This was the second conference on world population and it was held at Bucharest, Romania in 1974. The major achievements of the conference included the setting for the first time of targets of reduction of mortality in all the countries of the world, particularly were levels of mortality were highest like in developing areas of Africa. These targets are contained in a document that has come to be known as the World Population Plan of Action, WPPA. It is this WPPA which defined the goals to reduce morbidity and mortality to a maximum feasible extent possible in conjunction with provision of massive social and economic development.

In order to monitor the implementation of WPPA, the conference decided upon setting specific targets for the world as a whole, developed countries and especially developing countries where mortality levels were highest. Thus developing countries of Africa and other developing countries were grouped amongst those associated with highest

1 UN, World Population Prospects 1990, Population studies No.120, ST/ESA/SERA/120, New York 1991
levels of mortality. The targets set for these countries were that by 1985 they should achieve an expectation of life at birth of 50 years and an infant mortality rate of less than 120.

The WPPA also devised strategies to be adopted in order to facilitate quicker reduction in levels of morbidity and mortality. In order to achieve its aims, the following goals were specified: (1) the reduction in foetal, infant and childhood mortality and related maternal morbidity and mortality, (2) reduction in differential morbidity and mortality within countries, between geographic regions, rural and urban areas, (3) eradication or control of infectious and parasitic diseases, malnutrition and provision of potable water and sanitation. It was further strongly emphasized that health and nutrition programmes should be an integral part of development strategy and social policy measures in order to reduce levels of morbidity and mortality.

1.2 The Alma-Ata Conference and Primary Health Care.

The international conference on Primary Health Care, PHC, was held at Alma-Ata in the former Soviet Union in 1978. That conference endorsed the declaration that primary health care was the single most important key to achieving an acceptable level of health in a foreseeable future.

The year 2000 was the target date agreed upon that by that time the PHC would have achieved its major goals for attaining an acceptable level of health for all the people. The desire was that all citizens of the world would attain, by the year 2000, a level of health that would permit them to lead a socially and economically productive life. It was believed that countries would by the turn of the century be able to satisfy the central objectives of the definition of health as contained in the WHO constitution of 1947. The definition was stated as 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.

The strategy adopted at Alma-Ata for Health For All (HFA) by the year 2000 approved a minimal list of 12 indicators. These indicators were formulated to be used to monitor progress for the HFA. Some indicators have preset specific quantitative targets for monitoring progress towards attaining the goals of Health For All. For example, some of the indicators agreed upon for assessing the Health For All by the year 2000 were as follows: (1) Immunization by 1990 for all children against the main infectious childhood diseases like measles, tetanus, whooping cough and tuberculosis; (2) There should be available safe water in the house or within 15 minutes walk; local health facilities, including at least 20 essential drugs, within one hour's travel and trained maternity personnel; (3)

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3 WHO, Development of indicators for monitoring progress towards health for all by the year 2000, Geneva 1981.
Nutritional standards for minimum birth-weight of 2.5 kg for 90% of newborn babies; (4) Adult literacy of 70% for both men and women; (5) At least 5% of GNP to be spent on health; (6) The GNP per head of more than US$500 a year; (7) Childhood mortality rate of less than 70 per 1000 live births (8) Infant mortality rate of under 50 per 1000 live births (9) Life expectancy of at least 60 years.

It should be noted that the Alma-Ata conference set out other doctrines in designing the targets to be achieved towards the "health for all" by the year 2000. In this connection some of the recommendations were set as follows: (1) It was the responsibility of governments for the health of their people, (2) It was the right and duty of people individually and collectively to participate in the development of their health, (3) It was important that there were more equitable distribution of health resources within and among countries, including their preferential allocation to those in greatest need in order to cover all groups of population, (4) There was need for emphasis on preventive measures were fully integrated with curative, rehabilitative and environmental measures, (5) there should be application of appropriate technology through well defined health programmes which were integrated into a country-wide health systems whose basis is the PHC as well as incorporating other related health systems. It was understood that these recommendations took into consideration that any health system existed as part of an integral part of the overall social and economic development of the community.

Having endorsed the doctrines of Alma-Ata Conference it was found necessary to develop series of indicators that would facilitate to monitor and evaluate progress for achieving the goals of HFA. The indicators were to be used to monitor progress towards achieving targets set for ideals of "health for all" by the year 2000. There were four odd groups of indicators which were developed and these are the following: (1) Health policy indicators: comprising of political statements of commitment to "health for all", resource allocation to health and other related sectors, equity distribution of resource for health, community involvement in attaining aims of "health for all" as well as in organizational and managerial framework. (2) Social and economic indicators: these are related to health like rate of population growth, per capita growth of national product or growth domestic product, income distribution, adult literacy rate, housing and food availability. (3) Indicators of the provision of health care like coverage of PHC and the referral system. (4) Health status indicators such as nutritional status, infant, child and maternal mortality rates, life expectancy at birth and other specified age groups. Other health related indicators were included like disease-specific mortality and morbidity rates, disability, and social and mental

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*George Stolnitz, "How do we evaluate the effects of different social policies on health?" in *The Health Transition: Methods and Measures*, pp 193-216 Health Transition Series No. 3 Edited by John Cleland & Allan G. Hill, The Australia National University 1991.

well-being. These groups of indicators have since been reformulated to consider requests from member states.

1.3 1984 African and International Conferences on Population

The Kilmanjaro Plan of Action (KPA) adopted at the Second African Population Conference as a forerunner to International Conference on Population held at Mexico. The KPA recommendations on morbidity and mortality were reiterated at the 1984 Mexico Conference. It was evident that delegates to that meeting realized the difficulties of achieving the targets which were spelt-out in the WPPA concerning reduction of mortality and morbidity levels. The Mexico population conference subsequently revised the WPPA targets.

All counties were accordingly urged to strive to reduce morbidity and mortality levels, socio-economic and geographic differentials of mortality as well as to improve health status among all population groups, particularly those whose levels of morbidity and mortality were highest. For those counties new targets were set which included that by the year 2000, they should achieve life expectancy of 60 or more years at birth and an IMR of less than 50 infant deaths per 1000 live births.

It was the Mexico Population Conference which came out strongly about poor status of health among the people. The conference therefore endorsed recommendation that mortality levels, trends and differentials should be monitored in order to evaluate the success of programmes designed to achieve goals of reducing high levels of mortality. This conference also endorsed the recommendations of the Alma-Ata doctrines on PHC, particularly with importance placed on participation at local level community involved in planning, implementation and evaluation of their own health programmes. In addition all development programmes were to be monitored and analyzed in order to assess and improve their impact on health status of the people.

In conclusion therefore the Mexico conference fully supported and endorsed strongly the implementation of the Primary Health Care strategy for implementing the goals of Health For All by the year 2000. The Health For All policy was designed to reduce high levels of morbidity and mortality, with particular emphasis placed on monitoring health

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6 WHO, Development of indicators for monitoring progress towards health for all by the year 2000, pp9-38, Geneva 1981

7 WHO, Evaluating the Strategies for Health For All by the Year 2000, Common Framework, Division of Epidemiological Surveillance and Health Situation and Trend Assessment, Geneva, 1990.
programmes\(^8\).

1.4 Health status and Mortality levels and trends

Results of studies undertaken by the ECA secretariat recently strongly suggest a consistent disease pattern for counties in the region. It is apparently clear that major causes of ill-health and mortality still remain to be infectious and parasitic diseases, diseases of the respiratory system, digestive disorders, circulatory groups of diseases and complications arising from accidents, injury and poisoning. Complications of pregnancy, childbirth and certain conditions originating from perinatal period pose greater concern on ill-health in the continent \(^9\).

The African year of Immunization, 1986, witnessed the declaration to immunize children against six major childhood killer diseases, namely diphtheria, tetanus, whooping-cough, measles, polio and TB. Many counties have since specified various targets of immunization coverage. During the same period results of sixth inquiry of United Nations suggested that besides the six major childhood diseases principal causes of ill-health and mortality included complications arising from childbearing, diarrhoeal diseases, malaria and AIDS complications. Malaria alone remains one of the greatest concern because of emergence of mosquitos resistant to drugs like chloroquine \(^10\).

The 1990 revision of estimates and projects provides estimates of life expectancy at birth for various regions of the World. For Africa life expectancy for the 1990-1995 was estimated as 54.1 for both sexes. Similar estimates for other regions were 63.3, 74.9 and 65.5 years of life expectancy respectively for less developed groups of counties, those of the more developed and for the world as a whole. Estimates of IMR for the same period were provided as 94 for Africa and 70, 12 and 63 respectively for less developed, advanced countries and for the whole world \(^11\).

It should be mentioned that compared to other regions of the world the Africa region is associated with lowest estimates of life expectancy at birth and highest levels of infant and

\(^{8}/UN,\ \textit{Report\ of\ the\ International\ Conference\ on\ Population,\ 1984,\ pp19-22, E/CONF.76/19, New York 1984.}\)

\(^{9}/ECA, \ "Mortality\ levels,\ patterns,\ trends\ and\ differentials\ in\ Africa",\ in\ \textit{African\ Population Studies\ series\ No.8,\ pp33-38,\ pp81-84,\ pp120f, Addis Ababa 1985.}\ \ "Mortality\ patterns,\ trends, differentials\ and\ life\ tables\ in\ African\ countries",\ pp8-20, ECA/POP/TP/90/3(2.2a), Addis Ababa 1990.\)

\(^{10}/UN,\ \textit{World\ Population\ Monitoring\ 1989,\ pp171f, ST/ESA/SER.A/113, New York 1991.}\)

\(^{11}/UN,\ \textit{World\ Population\ Prospects\ 1990,\ Population\ studies\ No.120, ST/ESA/SER.A/120, New York 1991.}\)
child mortality for any of the periods considered above. This observation therefore suggested that conditions of health remained still poorer in Africa than elsewhere and targets set might not be attained in many countries in Africa.

However, within Africa mortality levels have been reducing, but at varying pace and magnitude. Results of comparative studies of selected countries in Eastern, Southern, Western, Central and Northern African subregions completed by the ECA secretariat have identified and emphasized the existence of large differentials of mortality within and between African countries.

1.5 Socio-economic and political developments in the region

Most countries in Africa attained their independence during 1960s and 1970s. At the time of independence the emerging countries adopted existing economies of their erstwhile colonial rulers. Most countries inherited mono-based economies and highly skewed social infrastructure. The majority of people living in deprived rural areas having limited social services like lack of adequate education facilities, health services and employment opportunities. Peasant and traditional agriculture was the mainstay in the rural areas of most countries in Africa. Because of better and improved socio-economic services available and concentrated in urban areas, many people therefore drifted into towns and cities. The rural areas lagged behind and underdeveloped.

As the 1980 decade approached socio-economic conditions in Africa began to fail and many of them were burdened with external debt that since the beginning of the 1970s many an African economies severely shattered and therefore they were very indebted. The share of world trade fell drastically in many sub-Saharan Africa. The ever increasing external debt has devastate their economies. Nearly all countries have experimented and adopted painful structural adjustments programmes in the hope to improve the economies and development of countries. The result has been continuing falling of social standards, deteriorating health conditions, malnutrition, unemployment and political instability in many countries.

Political developments started to change in the latter part of 1980s. At independence many countries in Africa with their weak political institutions, run one-party governments or had military rule. Few of them had multi-party elected governments. The difficulties arising from weak economies and political systems, African countries were expected to adapt to changing conditions. Therefore, in the latter part of 1980s and since the beginning of the

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1990 decade, political change occurred. Many one-party governments were replaced by plural partysm of governments and other quasi/military governments joined the process of change. The process of change in many cases was erratic and therefore the socio-economic development programmes of the people are destabilized. The result being changing development course with reduced national income per capita.

In addition many wars and conflicts continue to affect people in the region. The resurgence of many diseases which were brought under control and being eradicated are posing new health problems to many African Governments. Diseases like malaria, TB, diarrhoea and complications of HIV and AIDS are deliberating on the health and reversing achievements gained so far on improved health status of the people because health financing has been problematic.

1.6 Scope, Coverage and Objectives of the Study

The second world population conference which was held at Bucharest in Romania in 1974 deliberated on concerns and aspirations of the people for better quality of life and for accelerated social and economic development. At the end of the conference the delegates adopted the WPPA decisions. Some of the major aims of the plan of action were the targets set to meet human aspirations for better quality of life. More specifically, all governments delegates at the conference endorsed plans aimed at reducing high levels of mortality and morbidity by some defined date in the future. For example it was agreed to promote efforts in order to reduce mortality and morbidity levels in order to attain life expectancy at birth of 62 years by 1985 and 74 years by 2000, for the world as a whole. However, for countries with highest levels of mortality should aim by 1985 at having a life expectancy at birth of at least 50 years and an infant mortality rate of less than 120 infant deaths per 1000 live births 14.

Few years later, the Alma-Ata Declaration provided means to assess progress towards achieving aims of the WPPA. At the Alma-Ata conference delegates pledged to work together in order to attain the goal of "health for all" by the year 2000 that would permit the people to lead a socially and economically productive life. Some specific strategies were therefore formulated and designed their corresponding indicators to be used to measure progress. Most of these strategies and indicators have since been adopted by governments of member states, including those in Africa 15.

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---, Development of indicators for monitoring progress towards health for all by the year 2000, Geneva 1981.
Realizing the obstacles to attaining the WPPA targets the population conference held at Mexico agreed upon revised set of mortality levels to be attained by the turn of the century. The decisions of the Alma-Ata conference also provided further insights into tackling problems of knowledge and awareness of mortality. It was observed that regular monitoring of levels of mortality would enhance knowledge, awareness and measuring progress towards attaining targets set in the revised WPPA and the Alma-Ata Declaration.

In the current biennium of work programme of the ECA secretariat included programme of work on "Assessment of Mortality levels, trends and differentials in relation to the Goal of Health for all by the year 2000 in ECA member states". The reasons that influenced the secretariat to add the programme of work included the fact that the target date was in its last decade in which to assess the achievements or shortcomings of the WPPA and the Alma-Ata Declaration.

The objectives for undertaking this particular study were therefore to assess progress towards achieving aims and goals of "health for all" by the year 2000 in selected ECA member states. The specific aims are to: (1) Derive estimates of levels of mortality, (2) Analyze trends and differentials of mortality since adoption of WPPA, and (3) Provide an assessment of the goals of health by the year 2000.

In order to satisfy these objectives of this study some countries were selected to be covered in the study. For purposes of availability of comparable information and data and the conviction that as many countries as possible should be included in this series of studies; this initial study will cover countries in Eastern and Southern Africa. It was the intention that this study covered (1) Lesotho, (2) Swaziland, (3) Botswana, (4) Kenya, (5) Tanzania and (6) Uganda. It should be added that each of these countries has most recent demographic data from population censuses and demographic surveys or civil registration and has strong commitment to the ideals of "health for all" by the year 2000. All these countries endorsed the Alma-Ata Declaration that PHC was adopted as the strategy of achieving the goals of "Health For All" by the year 2000.

This study has been organized in such a way that the introduction presents summaries of the meetings and conferences which dealt with policies and strategies for "health for all" by the year 2000 and defined the objectives of the study. The methodology of data collection and particularly the conceptual framework of analysis which has been adopted for this study has been presented in the second section. The third part provides analysis of mortality levels, trends and differentials in relations to "health for all" by year 2000. The fourth section analyses health systems and strategies of selected member states. Finally the fifth part of study provides the assessment of achievements of goals of "health for all" by the year 2000. Some recommendations deduced from the study pertaining to accelerating pace for attaining the targets for "health for all" by year 2000 constitute the last section of the study.
II METHODOLOGY OF DATA COLLECTION AND FRAMEWORK OF ANALYSIS

2.1 Sources and Type of Data.

The main types of data required for this study are varied and come from two or three sources. The demographic data needed for deriving the parameters for mortality estimates were compiled from population censuses or demographic surveys. Population census data for Botswana (1971 and 1981) and the Demographic and Health Survey (1988), for Lesotho population census data (1966, 1976 and 1986) were available. Population census data for Swaziland (1966, 1976 and 1986) were used. For Kenya population census data (1969 and 1979) and the Demographic and Health Survey (1989) were available. The population data of 1967 and 1978 for Tanzania were used. Population census data for Uganda available were from the 1969 census only. It was difficult therefore, to include Uganda in this comparative study.

Information about conditions of health was compiled from administrative records of ministries of health for the five countries covered by the study. This information was supplemented by documents available at the regional offices of UNICEF in Nairobi and WHO in Brazzaville. The health information used in this study was mainly about morbidity and mortality by type of disease groups reported, the health facilities and services available, etc.

2.2 Framework of Analysis.

Studies which are intended to draw on possible relationships between different types of variable need to define a conceptual framework of methodology adopted for the study. Many researchers have been involved in designing many kinds of framework of analysis and therefore there are many kinds of models that have been proposed. However, in principle different kinds of research studies have their on specific types of models for analysis depending upon the type of problem they intend to deal with and solve. For example, policy related formulation studies will require type of data and information that would be different from studies that are of methodological type of studies. Mostly and other researchers have attempted on designing conceptual frameworks for demographic studies that link health relationships to attitudes of the people and so on.16

In this study there are three main groups of variables interacting together. There is the group to be referred to as the HFA variable. The second set is the intervening variable like government policies of health, population, development etc, the ecological and cultural tradition of the people. The third group comprises the demographic factors. This conceptual framework is illustrated in fig. 1

The conceptual framework adopted for this study, because of lack of adequate information and data merely attempts to provide a description of interrelationships between the different groups of variables. It should be understood that the adaptation of the HFA would facilitate governments to attain better health for their people by specified future date such as the year 2000.

In using this conceptual framework it is not possible to quantify the impact the HFA or its PHC strategy because of lack of adequate data and a clear research methodology. It was therefore appropriate that a descriptive approach was considered in presenting an assessment of the mortality in relation to the goals of HFA. The major underlying assumption was that the implementation of the PHC as a strategy for HFA would enable governments realize their goals of improved conditions of health such that levels of mortality would respond and attain the preset level of infant mortality rate of less than 50 infant deaths per 1000 live births by the year 2000. It was expected that if the target of infant mortality rate were achieved then the life expectancy of a minimum of 60 years should also be achieved. This framework of analysis should enable qualitative interpretation of assessment of abilities of countries in the region being able to attain the preset goals of HFA by the turn of the century. In addition it is important to realize that the relationships between the different variables acts in either direction since they are largely interdependent. For example, the goal of universal child immunization for all countries to be achieved by 1990 has the implication that child mortality due to preventive measures that had been implemented would drop. However, the programme of immunization would itself depend upon adequate resources allocated to health. The implementation of HFA undoubtedly depends upon the influence of intervening variables in the entire equation of attaining the goals of improved health conditions of the people by the year 2000. The next two sections that follow used the framework to interpret some of the results of analysis.
III MEASUREMENT AND ANALYSIS OF MORTALITY

The realization by governments that participated in the world population conference held at Bucharest in 1974 and at a similar International population conference held at Mexico City in 1984, was that improved levels of health and life expectancy were the most important components necessary to achieve the goal of development towards advancing welfare and well-being of the people. It was in this connection that targets were formulated and set in the WPPA package. All governments have therefore committed themselves to improving conditions of health by achieving life expectancy of 60 years and over and reducing infant mortality rates to about 50 per 1000 live births by the year 2000, for countries with high levels of mortality, particularly those in sub-Saharan Africa region.

In this part of the report an attempt has been made to derive estimates of life expectancy and infant mortality rates in order to assess efforts by governments towards achieving desired targets. Before deriving these estimates a brief description of methods used and available demographic data is provided below. For lack of adequate demographic data it was not possible to include an analysis of mortality differentials for the selected countries.

3.1 Data and methods of analysis of mortality levels and trends

Reliable data for mortality analysis come from population censuses and demographic surveys. Secondary data from records of medical statistics are also useful for complimenting population statistics collected from censuses or surveys. Data on number of children ever bone and surviving or the proportions dead among ever bone by age of women can be analyzed for mortality estimation. Indirect demographic techniques available provide fairly reliable estimates of mortality.

There are a number of methods that have been developed for use in estimating general mortality from data on age and sex distribution of population. These techniques rely on population models which were constructed based on different assumptions like fertility or mortality behaviour in the past and future. It is important to be aware of these basic assumptions about fertility remaining fairly constant, that mortality has been declining gradually and lastly that the entire population has remained closed to international migration. Some of these methods that were used in this report are the following:

(a) Age Distribution Methods

There are a number of methods developed recently that use population age distribution data to derive estimates of indices of mortality like crude death rate CDR and life expectancy at birth. These methods use adjusted proportion of age distribution by cumulating them to obtain Cx values to exact age x for x = 5, 10, 15, ---40, 45 as C5, C10, C15--- C40, C45. The rate of growth, r, during intercensal period is estimated from given total
population of two censuses. In this analysis $C_x$ is the proportion of population cumulated to age $x$ and $r$ is the annual rate of growth of population.

The procedure in deriving estimates of mortality depends essentially on mapping observed $C_x$, $r$ values to those of stable model population like the Coale-Demeny Regional Model Life Tables and Stable Populations\textsuperscript{17}. The derived or matched stable population model provides indices of mortality required. The simple best estimate of mortality levels is the median ranked level of mortality among the mapped stable population mortality levels. The results obtained from this method are presented in Table 1 below.

\textsuperscript{17} Ansley Cole and Paul Demeny, \textit{Regional Model Life Tables and Stable Populations}, Princeton University Press, New Jersey 1966.
Table 1: Estimates of mortality based on Cx,t from census data of countries included in this study.

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*Data used were from the UN projections.*

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Estimates of mortality indices presented in Table 1 above, seem to indicate that mortality conditions remain very poor in all the counties. During the censuses conducted as part of the 1960 Round of censuses, the results of our estimates suggest that mortality was very high in all the countries. Estimates of CDR for example, were all around twenty and over, per 1000 population. Swaziland showed the highest levels of mortality with CDR of 25.9 for males and 21.2 for females respectively. Around the same period mortality levels were relatively lower in Botswana or Kenya than the other countries, i.e. Lesotho, Tanzania and Uganda being in the intermediate position. As a result of these high levels of mortality, estimates of expectation of life at birth were quite low. Life expectancy at birth around forty years in all the countries. Among the males, Swaziland had the lowest estimate of life expectancy given as 38.6 years and the highest estimate was Botswana followed by Kenya and Tanzania. While for females, Kenya and Lesotho on the other hand had highest estimates of life expectancy given as 48 and 48.9 years respectively and the lowest estimates of life expectancy for females was reported for Tanzania which was given as 42.1 years. These estimates strongly suggest that conditions of mortality were very poor among countries in Africa.

Results of estimates of mortality from the 1970s Round of Population censuses presented in Table 1 above suggest that mortality did undergo changes. It showed a somewhat declining trend in all the countries. Estimates of CDR were several points lower than earlier estimates based on data collected as part of the 1960s Round of censuses. For example, estimates of CDR for Swaziland dropped to 19.4 for males and 16.2 for females respectively. However, during the period highest estimates of CDR were observed in Swaziland for females and Tanzania for males respectively. Lesotho on the other hand had the lowest estimates of CDR for males and females than any other country. As a result of these declines in estimates of CDR, all the counties showed marked increases in estimates of life expectancy at birth. For example Botswana and Lesotho had life expectancy of fifty years and over, while Tanzania lagged behind others with estimates of life expectancy being much less than fifty years.

As regards mortality conditions during the 1980s Round of Censuses suggested continued improvements. As it can be observed from estimates of mortality CDR registered lower estimates and much increased life expectancy estimates than the case was in 1970s decade or earlier. The analysis of data indicated following estimates of CDR and life expectancy as estimates of mortality induces presented in Table 1 above, seem to indicate that mortality conditions remain very poor in all the counties. During the censuses conducted as part of the 1960 Round of censuses, the results of our estimates suggest that mortality was very high in all the countries. Estimates of CDR for example, were all around twenty and over, per 1000 population. Swaziland showed the highest levels of mortality with CDR of 25.9 for males and 21.2 for females respectively. Around the same period mortality levels were relatively lower in Botswana or Kenya than the other countries, i.e. Lesotho, Tanzania and Uganda being in the intermediate position. As a result of these high levels of mortality, estimates of expectation
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(b) Estimation of infant and child mortality

Research undertaken by Brass and other demographers pertaining to estimation of mortality indices from inadequate and defective data led to successful development of methods of mortality analysis.

Data on children ever born and children surviving or dead were applied to different methods of analysis of infant and child mortality. The main demographic technique used was the QFIVE demographic computer software developed by the United Nations Population Division. These results are presented in Table 2 below.
Table 2: Estimates of infant mortality rates and probabilities of in childhood for countries included in the study.

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<td>162</td>
<td>120</td>
<td>--</td>
<td>220</td>
<td>156</td>
</tr>
<tr>
<td>q₂</td>
<td>.130</td>
<td>.145</td>
<td>--</td>
<td>.194</td>
<td>.183</td>
</tr>
<tr>
<td>q₃</td>
<td>.150</td>
<td>.166</td>
<td>--</td>
<td>.208</td>
<td>.196</td>
</tr>
<tr>
<td>q₅</td>
<td>.163</td>
<td>.188</td>
<td>--</td>
<td>.225</td>
<td>.232</td>
</tr>
<tr>
<td>1981</td>
<td>133</td>
<td>105</td>
<td>152</td>
<td>161</td>
<td>148</td>
</tr>
<tr>
<td>q₂</td>
<td>.096</td>
<td>.123</td>
<td>.134</td>
<td>.192</td>
<td>.175</td>
</tr>
<tr>
<td>q₃</td>
<td>.107</td>
<td>.131</td>
<td>.140</td>
<td>.197</td>
<td>.198</td>
</tr>
<tr>
<td>q₅</td>
<td>.126</td>
<td>.158</td>
<td>.167</td>
<td>.215</td>
<td>.230</td>
</tr>
<tr>
<td>1991</td>
<td>58</td>
<td>72</td>
<td>90</td>
<td>88</td>
<td>106</td>
</tr>
<tr>
<td>q₂</td>
<td>-</td>
<td>88</td>
<td>112</td>
<td>110</td>
<td>-</td>
</tr>
<tr>
<td>q₃</td>
<td>-</td>
<td>78</td>
<td>111</td>
<td>122</td>
<td>-</td>
</tr>
<tr>
<td>q₅</td>
<td>-</td>
<td>104</td>
<td>135</td>
<td>141</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>q₂</td>
<td>-</td>
<td>88</td>
<td>112</td>
<td>110</td>
</tr>
<tr>
<td>q₃</td>
<td>-</td>
<td>78</td>
<td>111</td>
<td>122</td>
</tr>
<tr>
<td>q₅</td>
<td>-</td>
<td>104</td>
<td>135</td>
<td>141</td>
</tr>
</tbody>
</table>

a: Data used were from the UN projections of 1990
b: Data used were from the Kenya Demographic Health Survey 1989.

The estimates of infant and child mortality presented in the table above support the position of existence of high levels of mortality in all the countries particularly in 1960s. However, child survival improved by late 1980s and early 1990s because the original targets of WPPA were apparently achieved, but the same might not be for the HFA.

IV. HEALTH CARE DELIVERY SYSTEMS DEVELOPMENT AND ORGANIZATION

All the six countries included in this assessment of goals of 'Health for All' by the year 2000 were on one time or the other under the British Empire colonial rule. Therefore the type of government and services provided to people were those modeled on colonial pattern. This includes the type of health services and facilities available in these countries. The delivery of health care services has been split into two periods, (1) Before 1978, and (2) the 1978 Alma-Ata Conference on Primary Health Care.

4.1 Period Before 1978

This period spans two era, the first being during the colonial period up to when the respective countries gained their independence from the British colonial rule. The second part of the period comprises the time from independence up to 1978. The type of health delivery services were basically continuation of the colonial type.

The major characteristics of health services were hospital based with emphasis on curative services. Therefore the health catchment area was the hospital facility complemented by some clinics. All persons seeking medical attention were therefore expected to be admitted to a hospital as either in-patient or out-patient.

During both the colonial administration and post-independence government delivery of health services and facilities was the responsibility of the colonial department of health and later the Ministry of Health. Therefore in all these countries, the Ministry of Health was charged with the responsibility of formulation of health policies and strategies as well as their implementation.

4.2 The 1978 Alma-Ata Conference

The awareness of governments about better health for their people was the driving force to organize the Alma-Ata Conference in 1978 in the former Soviet Union. The conference was jointly organized by the WHO and UNICEF. Among the major achievements of the conference were declarations such as: (1) primary health care should be the strategy for
providing health for all people who needed the services, (2) all countries have an acceptable level of health for the people of the world by the year 2000 that can be attained through a fuller and better use of resources for social and economic development of primary health care, (3) primary health care is essential health care based on practical, scientifically sound and socially acceptable and universally accessible in the community. It forms the integral part of the health system and of the overall social and economic development and (4) the joint WHO/UNICEF report on primary health care constituted a solid basis for further development and operation of primary health care worldwide.  

The Alma-Ata conference hence changed the organization and operations of government ministries of health and related institutions providing health services. The new structures that emerged comprised working partnerships with government health institutions, those of the private sector mainly of missionary centres and other private companies. The operational or functional structures were re-organized to put emphasis on localized provision of health service delivery system. For example the set-up was the reverse that existed before the conference. The health situation and delivery of services have since exerted different impacts.

4.4 The Primary Health Care Strategy for Health For All

Since the adoption by governments of the Alma-Ata Declaration, governments worldwide have adopted Primary Health Care as an integral strategy for providing better health to all their people. In order to achieve the goals of Health for All by the year 2000 set targets were formulated to facilitate monitoring of attainments of goals of health by the turn of the century. For example, specific targets were set for immunization coverage, reduction of infant and child mortality, increase in the expectation of life at birth and provision of safe water and sanitation. Countries included in this study have adopted the Primary Health Care in order to attain the recommended targets to be achieved by the year 2000.

The compounding result of adopting the PHC as a strategy of delivering health care services has been reorientation of provision of services and facilities to the people. The most conspicuous is the decentralization of health services to involve the community at the district and locality levels, before reaching the regional or provincial level then the national health system. For example in the Kingdom of Lesotho, the Health Service Area constitutes the primary level, the District Health Service System is at secondary level and the tertiary level is at national or referral apex with the Queen Elizabeth II hospital services.

The other feature of adopting PHC is the integration of providers of health services. However, the governments through the ministries of health have the responsibilities to formulate health policies and strategies for health planning and programme implementation.

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For instance both international organizations like WHO or UNICEF and private religious missionary institutions as well as government ministries with health components are being co-ordinate by the government Ministry of Health.

4.5 Social and Health Indicators of Countries in the Study

The development of health since adoption of PHC has enabled governments to integrate health planning with that for social and economic planning. It is possible therefore to measure achievements through monitoring of specific indicators and parameters of health. The indicators presented in the Table 3 provide an analysis of status of health among the selected countries chosen for this study.

Table 3: Most recent estimate of selected Social and Health Indicators by country

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Pop/doc</th>
<th>Pop/nur</th>
<th>Pop/bed</th>
<th>%Pop access health</th>
<th>%measles</th>
<th>%DPT</th>
<th>%DIT</th>
<th>%safe sanitation</th>
<th>%safe water</th>
<th>%GDP health</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOTSWANA</td>
<td>6,897</td>
<td>702</td>
<td>483</td>
<td>88</td>
<td>91</td>
<td>86</td>
<td>46</td>
<td>36</td>
<td>54</td>
<td>3.3</td>
</tr>
<tr>
<td>KENYA</td>
<td>10,103</td>
<td>949</td>
<td>690</td>
<td>-</td>
<td>60</td>
<td>75</td>
<td>26</td>
<td>44</td>
<td>-</td>
<td>1.6</td>
</tr>
<tr>
<td>LESOTHO</td>
<td>18,614</td>
<td>-</td>
<td>487</td>
<td>80</td>
<td>79</td>
<td>77</td>
<td>68</td>
<td>20</td>
<td>40</td>
<td>3.2</td>
</tr>
<tr>
<td>SWAZILAND</td>
<td>18,848</td>
<td>1,054</td>
<td>-</td>
<td>21</td>
<td>74</td>
<td>74</td>
<td>-</td>
<td>36</td>
<td>57</td>
<td>3.7</td>
</tr>
<tr>
<td>TANZANIA</td>
<td>26,552</td>
<td>5,832</td>
<td>772</td>
<td>76</td>
<td>78</td>
<td>82</td>
<td>14</td>
<td>78</td>
<td>52</td>
<td>3.2</td>
</tr>
<tr>
<td>UGANDA</td>
<td>761,080</td>
<td>2,055</td>
<td>657</td>
<td>71</td>
<td>48</td>
<td>40</td>
<td>5</td>
<td>13</td>
<td>16</td>
<td>0.3</td>
</tr>
</tbody>
</table>


Data presented in the Table 3 provide mix of interpretation about the social and health status of people in the different countries. The ratio of number of people for every doctor is very high in all the countries. Botswana fairs much better than Tanzania or Uganda and even Lesotho. The implication is that the number of doctors available to provide health services is appallingly very low, similarly the number of people per available hospital bed facilities is quite high and the same applies for trained nurses in health institutions. Therefore all these indices suggest that available medical facilities are very inadequate.

On the level of immunization it appears that the countries fared well because coverage improved considerably. Botswana, Lesotho and Tanzania had achieved satisfactory progress for having extended coverage to more than 75% which was the preset target. The political and economic difficulties experienced in Uganda in particular might have caused poor
immunization coverage for children in that country. In the case of Kenya, it might be that the PHC has not been adequately integrated in the health system which remains hospital based and centralized. The proportion of population having access to health facilities reinforces this observation of relatively better services in Tanzania and Lesotho than in Kenya, for example. However, the implication about availability and utilization of facilities of PHC depends upon the level and sophistication of development of health services and facilities. Therefore the extent and development of the PHC corresponds to degree of urbanization.

4.6 Disease Pattern, Prevalence and Incidence

The ecological or geographical factors usually influence pattern of diseases prevalent or endemic in certain regions or countries. Their socio-economic level of development and the demographic characteristics. Most countries in Africa are within the tropics and therefore are associated with tropical diseases like malaria, diarrhoea and tuberculosis. The low levels of development in most of these countries hinders provision of environmental health and awareness of personal hygiene and technology to prevent and control communicable diseases. Childhood diseases which are preventable and avoidable with simple primary health care services like immunization, are wide spread in the region.

Disease patterns throughout the Africa region are common. However, disease prevalence and incidence appear to be localized to particular group of countries in Africa. In West Africa the major causes of morbidity and mortality are infectious and parasitic group of diseases mainly malaria, onchocerciasis (main cause of blindness), schistosomiasis, those of the digestive system and complications of child birth and puerperium. In the Eastern and Southern Africa, the major group of causes of diseases remain the infectious, parasitic and respiratory, followed by complications of pregnancy child birth and puerperium. Cases of motor vehicular problems are of greater concern.²¹

4.7 Health Situation in the selected Countries

1. BOTSWANA

The health policies for Botswana government are on the basis of commitment to the strategy of Health for All by the year 2000. The health services therefore, incorporate the preventive, promotive, curative and rehabilitative programmes and services. However, more emphasis is on Primary Health Care Strategy of the promotion of better health for all by the year 2000.

The central issues of the PHC are equity, inter-sectoral collaboration and community involvement. The Ministry of Health provides professional and supervisory advice to (1) the Ministry of Local Government and Lands which is responsible for the management of district health management; (2) mission hospitals and (3) private practitioners. The whole health system is decentralized to village level.

The health facilities and services provided are categorized as follows (reference, 1990):

1. Hospitals (15)
2. Health Centres (15)
3. Clinics with Maternity (66)
4. Clinics without Maternity (103)
5. Health Post with an Enroled Nurse (168)
6. Health Post without an Enroled Nurse (140)
7. Mobile stops (665)

The number of facilities available were from both public institutions and the private organizations. The government number of hospital beds and cots for urban and rural areas were 1031 and 1200 respectively. The missions and private institutions had 255 in urban and 248 in rural areas.

Major Causes of ill-health

1. Infections
2. Conditions of under-nutrition, diseases associated with poor socio-economic status like inadequate food, illiteracy or low levels of education, inadequate or lack of clean water supplies and conditions of poor quality of life.

3. Respiratory and gastro-intestinal infections.

---

4. Malaria, is seasonal in northern part of country.

5. Schistosomiasis (bilharzia), northern part in the delta area of the Okavango.

4. Trypanosomiasis (sleeping sickness) occurs in the delta area and it has disappeared from humans.

5. Cardia-vascular diseases.

6. Degenerative, metabolic and malignant diseases are common.

7. Road accidents and injuries.

8. HIV and AIDS complications.

Major Causes of Out-Patients

<table>
<thead>
<tr>
<th>Percent</th>
<th>Disease (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.0</td>
<td>Diseases of Respiratory system (exclude asthma)</td>
</tr>
<tr>
<td>8.3</td>
<td>Diseases of digestive system (exc. dental)</td>
</tr>
<tr>
<td>4.9</td>
<td>Diarrhoea</td>
</tr>
<tr>
<td>4.5</td>
<td>Musculo-skeletal and connective tissues</td>
</tr>
<tr>
<td>4.5</td>
<td>Skin infection (exc. ringworm and scabies)</td>
</tr>
<tr>
<td>4.4</td>
<td>Accidents (exc. burns and bites)</td>
</tr>
<tr>
<td>3.3</td>
<td>Gonorrhoea</td>
</tr>
<tr>
<td>2.9</td>
<td>Blood pressure</td>
</tr>
<tr>
<td>2.1</td>
<td>Skin and subcutaneous tissue (exc. ringworms &amp; scabies)</td>
</tr>
<tr>
<td>38.2</td>
<td>All other causes</td>
</tr>
<tr>
<td>2,252,795</td>
<td>Total Number of patients</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beds</td>
<td>2,548</td>
<td>2,608</td>
<td>2,638</td>
<td>2,924</td>
<td>3,215</td>
<td>3,233</td>
</tr>
</tbody>
</table>

Major Causes of In-Patients morbidity

<table>
<thead>
<tr>
<th>Percent</th>
<th>Disease (1986)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>Complications of pregnancy and childbirth</td>
</tr>
<tr>
<td>6.3</td>
<td>Intestinal infections</td>
</tr>
<tr>
<td>5.8</td>
<td>Upper respiratory tract</td>
</tr>
<tr>
<td>4.8</td>
<td>Female genital organs</td>
</tr>
<tr>
<td>4.8</td>
<td>Abortions</td>
</tr>
<tr>
<td>4.7</td>
<td>Pulmonary TB</td>
</tr>
<tr>
<td>4.6</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>3.9</td>
<td>Trauma (early complications)</td>
</tr>
<tr>
<td>3.8</td>
<td>Fractures</td>
</tr>
<tr>
<td>2.5</td>
<td>Skin and subcutaneous infections</td>
</tr>
<tr>
<td>2.3</td>
<td>Bronchitis, emphysema and asthma</td>
</tr>
<tr>
<td>2.1</td>
<td>Hypertensive heart disease</td>
</tr>
<tr>
<td>46.9</td>
<td>All other causes</td>
</tr>
<tr>
<td>51,521</td>
<td>All in-patients</td>
</tr>
</tbody>
</table>

Major Causes of In-patient Mortality

<table>
<thead>
<tr>
<th>percent</th>
<th>Disease Groups (1986) 11.7 Pulmonary TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.8</td>
<td>pulmonary circulation</td>
</tr>
<tr>
<td>7.1</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>5.9</td>
<td>Cerebro-vascular</td>
</tr>
<tr>
<td>5.4</td>
<td>Digestive system</td>
</tr>
<tr>
<td>4.8</td>
<td>Intestinal infection</td>
</tr>
<tr>
<td>2.5</td>
<td>Nephritis</td>
</tr>
<tr>
<td>2.3</td>
<td>Septicaemia</td>
</tr>
<tr>
<td>2.1</td>
<td>Liver cancer</td>
</tr>
<tr>
<td>49.3</td>
<td>All other causes</td>
</tr>
<tr>
<td>1,459</td>
<td>Total in-patient deaths</td>
</tr>
</tbody>
</table>

Some demographic and health indicators for Botswana are provided by the Central Statistical Office are as follows:

<table>
<thead>
<tr>
<th>indicator</th>
<th>1980</th>
<th>1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDR/1000</td>
<td>14.4</td>
<td>9.7</td>
</tr>
<tr>
<td>CBR/1000</td>
<td>49.1</td>
<td>40.4</td>
</tr>
<tr>
<td>$e_0$</td>
<td>55.9</td>
<td>60.2</td>
</tr>
</tbody>
</table>
A. LESOTHO

The Kingdom of Lesotho is a small mountainous independent country and lies entirely within the Republic of South Africa. It covers an area of about 30,355 square kilometres outside the tropics. Lesotho is situated between latitude 28 and 31 degrees south and between 27 and 30 degrees longitudes. The total de jure population of approximately 1,605,177 of which 126,691 was outside the country, according to the 1986 Population Census24.

According to the 1986 Census results estimates of life expectancy at birth of 54.05 and 56.7 years for males and females respectively. Estimates of infant mortality rates were 71 for urban and 86 for rural areas per 1000 live births respectively. While estimates for child mortality being 45 per 1000 population for urban and 58 per 1000 population for rural areas respectively. These differentials persist because socio-economic infrastructure is better in urban than rural areas. However, Lesotho is basically rural as only a small proportion of 14.0 percent is urban25.

The Government of Lesotho like most African countries, has health policy which is based on Primary Health Care as its main strategy for achieving goals of health for all by the year 2000. The PHC strategy was adopted by the Government in 1979 when 19 Health Service Areas (HSA) were created. Each service area was created around existing hospital with surrounding satellite clinics forming the catchment area. However, the 19th HSA was created under the Flying Doctor Service to cover areas inaccessible like the remote mountainous regions.

The health services in the country are managed, organised and co-ordinate jointly by the Ministry of Health and other non governmental institutions. The Private Health Association of Lesotho (PHAL) and other non government organizations collaborate with the Ministry of Health in the delivery of health services to the people. Both health facilities of the Government and those of the PHAL follow the PHC strategy of providing services to the people. Thus the health system in the kingdom combined services for both curative and preventive as well as promotive skills. For example, there is emphasis on improvement of environmental health conditions in the country. Other services are for prevention and control of epidemics and spread of communicable diseases like TB which is a major cause of morbidity and mortality for adults and children, to ensure that drugs and related supplies and equipment were available in order to provide treatment for those who are ill and lastly, to provide support for relevant research and investigations in the areas of disease prevention and treatment, environmental health as well as related health care delivery.

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The kingdom of Lesotho has made considerable effort in its implementation of the PHC strategy of achieving the goals of health for all by the year 2000. For example, some of the health policies for Lesotho have emphasized the areas as follows: (1) Rural sanitation and water project, rural safe water supply coverage of about 44% as against 21% in the early 1980s. It should be added that the Drinking Water Supply and Sanitation for Lesotho ended in 1989, (2) Nutrition, malnutrition is seasonal and its severity ranges from 20% in lowlands and 35% in the mountain areas. Diseases associated with nutrition deficiency are still endemic in the country, (3) Maternal Child Health and Family Planning, MCH/FP, the services are fully integrated into the curative services of all the 19 HSAs. Attendance at ante-natal clinics is above 80%. The safe motherhood project is expected to improve health of both mother and child, (4) Immunization, the Expanded Primary Immunization EPI was launched in 1980 and its present coverage of fully immunized children surpassed in 1988 the target of 75% 26, (5) Control of Diarrhoeal Diseases, through this project all HSAs adopted the establishment of ORT corners as an effective tool to manage diarrhoea in children. Child mortality consequently reduced due to diarrhoea.

The kingdom of Lesotho does not lie within the tropics. As a result there are no diseases commonly found in the tropics like malaria and other communicable diseases. The disease pattern for the kingdom is largely due to diseases like all forms of tuberculosis, those associated with malnutrition, measles, diarrhoea, diseases of the respiratory and digestive system, those of the skin and sub-cutaneous tissues and the genito-urinary system. The diseases of the respiratory system are the major causes of morbidity and mortality for both adults and children in Lesotho.

The national health policy is based on PHC strategy. Health policy is influenced by status of health of the population, health related factors, socio-economic situation, topography and geopolitical situation as well as cultural traditions.27 HFA strategies for Lesotho therefore, include the following:

i. Population policy, to be formulated and put in place.

ii. Environment management, of air pollution, water, sanitation and housing

iii. Financing of health services and facilities.

iv. Manpower development, training and retaining.

v. Resource mobilization for transport, financial and equipment.

26 Kingdom of Lesotho, 1990 National EPI Coverage Survey, Ministry of Health

27 WHO, Health for all Evaluation Report, Maseru 1990
Development of health system as based on PHC strategy. The Health Service Areas HSAs are principle to delivery of services.

1. Safe water, available more in urban than rural areas.
2. Sanitation, urban centres have more access than rural areas.
3. EPI coverage expanded in recent past.
4. Access to treatment and essential drugs, more and better services continually being provided by both the Ministry and other organizations like PHAL.

Access to health care has improved because of the additional health facilities available, like new clinics built and provision of drugs.

Some health indicators

i. IMR, 67/1000 from cluster survey in Mokhotlong HSA extending to 76/10000.

ii. MMR. estimated to 220/100,000

iii. Causes of infant and child mortality

The major causes of infant mortality in Lesotho remain to be those associated with complication of malnutrition. Gastroenteritis, acute respiratory infections and complications of perinatal conditions. Almost similarly child mortality causes are the same except for perinatal conditions. Therefore it can be deduced that the increased use of ORS reduced morbidity and mortality due to gastroenteritis.

KENYA

Kenya is on the east coast of Africa. Covering an area of approximately 582,646 sq. kilometres, shares borders with Ethiopia and Sudan to the north, the Indian Ocean and Somalia to the east, Tanzania to the south and Uganda to the west. Under the former colonial rule of the British, Kenya gained independence in 1963. Administratively the country is divided into eight regions or provinces.

The 1979 results of census, the population of Kenya was reported to be 16.1 million people and was projected to be about 35 million by the year 2000. Both crude birth and crude death rates were very high although declining more steadily for the latter.
The policies and strategies of health in Kenya are based on the long term objective of achieving the goals of 'health for all' by the year 2000. The primary health care strategy was therefore adopted as its strategy to integrate health care in order to achieve improved and better health of the people by the turn of the century.

The health services in Kenya as in Lesotho, are co-ordinated and fall under the responsibilities of the Ministry of Health. The provision of health facilities and services in the country is an integrated effort of the private sector, self-help groups (Harambee) and non governmental organizations as well as other international organizations such as the WHO and UNICEF. Therefore, in order to attain goals of better health there is an integration of health services of the Ministry of Health on one hand and on the other, those basic services of education, training, water and sanitation, distribution of basic foodstuffs and the feeling of mental, social and spiritual well-being with other government ministries and agencies.

The health programmes and strategies of the Ministry of Health in Kenya have been re-oriented in order to focus on the goals of the 'health for all' by the year 2000. Among these programmes and strategies are the arrangement of (1) financing health services. It has been estimated that curative services took about 70% and 5% went to preventive and promotive services, of the government allocation to health; (2) cost-sharing, this entails levying charges and fees for users; (3) health insurance, to be introduced and cover certain category of public service employees; (4) the private sector and non governmental organizations, since about one-half of both recurrent and development costs were provided by this group, it was therefore necessary to mobilize their services in order to help expand health services in the country and (5) the primary health care, adopted the Alma-ata declaration of 1978 as its strategy in providing health services. The action necessitated that emphasis were to be on both preventive and curative health services, with priority to immunization programme, decentralization of administration of health services, focus on environmental health and strengthening MCH/FP programme.

The impact and influence of these policies and strategies of the Ministry of Health in Kenya has been exerted on pattern of morbidity and mortality according to type of diseases, the effect of the Kenya Expanded Programme on Immunization and the services of the MCH/FP.

Kenya which lies within the tropics with the equator passing though, also succumb to debilitating tropical diseases. The diseases that cause major concern of morbidity and mortality are the infectious and parasitic group of diseases. Malaria, TB, pneumonia and other diseases of the respiratory system, skin diseases and those of the digestive system like

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29 Government of Kenya, op.cit, sessional paper No.1
diarrhoea cause illness and death most in the country. The resurgence of malaria and complications of the HIV/AIDS pose more health problems in the country.

The coverage of immunization programme has since increased as a result of the Kenya Expanded Programme of Immunization which was launched in 1980. The programme focused on immunization coverage of six preventable diseases in order to reduce morbidity, mortality and disability especially among children, like tuberculosis, tetanus, diphtheria, whooping cough (pertussis), measles and polio. Immunization coverage of the childhood diseases have been increasing steadily approaching target level since its introduction. By 1987 the overall coverage was more than 51% and according to the Kenya Demographic Health Survey coverage was ranging from 96.2% for BCG to 64.8% for measles and a national coverage of about 60% around 1989.

Kenya is an agricultural country with 85% plus population lives in rural areas. Agriculture accounting for more than 1/3 of GDP. Population distribution concentration is linked to availability of arable land. More than 80% population lives in about 17% of land suitable for agriculture. About 15% population is in urban areas. Health care, policies and objectives remain to attain the global goals of health for all by the year 2000. The emphasis on increased coverage and accessibility of health services in rural areas, and with main national focus on:

i. strengthen and implement measures to eradicate, prevent and control diseases, through environmental health, vector control, immunization, early detection and treatment of diseases and health education;

ii. provide adequate and effective diagnostic, therapeutic and rehabilitative services through hospitals, health centres, dispensaries and mobile units;

iii. undertake biomedical and health services research to provide more efficient and cost effective methods for better health of people.

The 6th national Health Plan 1988-1992, to consolidate achievements in health gained since independence 25 years earlier, on following issues:

i. strengthen rural health infrastructure

ii. strengthen PHC in health development in all districts and donors, like UNICEF,


SIDA, NORAD and IFAD

iii. strengthen health management capability including training
iv. improve health information systems
v. increase inter-sectoral and multi-disciplinary approach to health care services
vi. cost-sharing and alternative health care financing
vii. increase MCH/FP services

Government through Ministry of Health provides largest share of health services and facilities. Others are voluntary organizations (religious missionaries) and private (commercial) sectors. Total facilities are as follows:

254 hospitals
282 health centres
1,535 sub-centres and dispensaries

Kenya had 31,356 beds and cots, or 146 per 100,000 population. The large share of facilities was in Nairobi, followed by Coast Province, Central and Rift Valley in that order. North-eastern because of its climatic and other difficulties having lowest health care facilities, of 82 beds and cots per 100,000 population. The health personnel for the country as a whole had 13.94 doctors per 100,000 population and 44.77 registered nurses per 100,000 population.

Other Health indicators, 1987

CDR 12.0/1000 population
CBR 50.0/1000 population
IMR 81.0/1000 live births
e0 54.0 for males and 57.0 for females
Some Problems of health and diseases in the country included the following:

i. diseases of respiratory system, like pneumonia, TB, bronchitis, measles and whooping cough. These account for more than 30% of morbidity and 13% of mortality per 100,000 reported cases.

ii. non-communicable diseases like malnutrition, hypertension and neoplastic diseases.

iii. trauma and traffic accidents, worrying causes of death and disability.

iv. maternal and perinatal problems, result of lack of MCH/FP

v. parasitic and infectious diseases, include malaria, schistosomiasis, sleeping sickness, kalaazar, filariasis etc. accounting for more than 18% of mortality.

vi. diseases of poor environmental sanitation; like cholera, enteritis and dysentery and other intestinal parasitic diseases. Intestinal and diarrhoeal diseases account for 10% of out-patient morbidity in 1980.

Difficulties of health services included the following:

1. economic and social structures of development. The poor and other vulnerable groups at risk most.

2. population growth rates highest among the risk groups of minimal education, poor, shanty and peri-urban.

3. utilization and distribution of health facilities concentrated in urban areas and hospitals, not in rural areas where many live.

4. drug shortages

Health services organizational structure

The organizational structure of the health systems in the country has a three level system. At the national level, that at provincial and the last is at district. The district level is divided further into division, location and sub-location or community sections. With this arrangement, health has an inter-sectoral development objectives at all levels.
Disease prevention and control measures and programmes have been taken towards the HFA goals to be attained:

1. Commitment to universal immunization of infants by 1990. The KEPI increased coverage especially for measles and all antigens
2. Training programmes for health personnel
3. KEPI centres increased
4. Surveillance for epidemics outbreak
5. Malaria control measures
6. Tropical disease research, Kenya trypanosomiasis research institute KETRI
7. Control of diarrhoeal diseases cdd
8. National Leprosy and Tuberculosis control programme
9. STDs and HIV/AIDS

SWAZILAND

Swaziland lies almost surrounded by the Republic of South Africa, but shares the borders with Mozambique to the east. Like Lesotho, there is rule of the king and a relatively a small population.

The national health strategies and policies are committed to the goals of health for all by the year 2000. Currently emphasis is on encouraging more community participation in (1) health matters and family planning (2) concern with HIV/AIDS complications, hence priority for control and prevention of the spread of this disease (3) Child survival programmes like RTS/ORS, acute respiratory diseases and child nutrition and breastfeeding (4) Reduction of health problems of less privileged and living in rural areas, and (4) The problem of poverty and its related diseases.

The Government strategy for health development has the priorities as follows:

1. Develop health education
2. Promote provision of clean water supplies and sanitation
3. Increase immunization coverage
4. Better nutrition
5. Basic medical care and drugs
6. MCH/FP
7. Develop rural health care services
8. Community level health planning and implementation
9. Health manpower training
10. Effectiveness of health services and facilities.

Organization of health services is on the basis of the PHC. The ministry of health coordinates provision of health services with services of the private organization. There were a total of nine hospitals, another nine health centres and 118 clinics with six public health units.

These units provide care for 70% population within 8 km. and they are inequitably distributed across the country. The water supply and sanitation facilities are more developed in urban than rural areas.

There exist inter-sectoral collaboration between the Ministry of Health on one hand and other Government ministries like Education, Agriculture, Social Security Plan, Housing and Community Amenities, Ministry of Interior, Mass Media including Television and Radio and the Ministry of Works. Other NGOs, donor agencies and UN agencies, all together coordinate health care services and PHC activities.

Disease pattern in Swaziland

1. Acute respiratory infections
2. Skin diseases
3. Diarrhoea
4. Digestive diseases
5. Dental problems
6. Eye
7. Accidents and trauma
8. Urinary disorders
9. Musculoskeletal disorders
10. Intestinal worms

Health status indicators

<table>
<thead>
<tr>
<th></th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>2500 gm or more</td>
<td>91.6 %</td>
<td>93.0 %</td>
</tr>
<tr>
<td>IMR</td>
<td>105/1000</td>
<td>99.0/1000</td>
</tr>
<tr>
<td>U5MR</td>
<td>147/1000</td>
<td>130.0/1000</td>
</tr>
<tr>
<td>MMR</td>
<td>125.5(1987)</td>
<td>107.0/100,000</td>
</tr>
</tbody>
</table>

TANZANIA

The United Republic of Tanzania lies on the east coast of Africa. To the north are borders with Kenya, Uganda, Burundi and Rwanda, Zaire is to the west and to the south are Zambia, Malawi and Mozambique. Tanzania has a long coastline of the Indian Ocean to the east. The island of Zanzibar is off the coastline in the Indian Ocean. The main land covers one of the largest areas in Eastern and Southern Africa, with an area of 881,289 sq. kilometres and the island of Zanzibar has a total area of 2,460 sq.km. The last population census of 1988 reported a total population of almost 23.2 million for the whole of Tanzania.33

The development of health services in Tanzania has passed through several distinct phases. At independence in 1961, the mainland Tanzania inherited health services which were dominated by curative services in hospitals found in towns and cities. After independence the government through the Ministry of Health expanded health services in rural areas. The Arusha Declaration of 1967 enhanced the government strategy of providing health services within reach of the majority of the people. In 1974 the government further adopted the strategy of MCH for the whole country. This strategy put emphasis on immunization, antenatal and postnatal care, child spacing and growth monitoring. At the time the Alma-ata declaration on primary health care in 1978, Tanzania was well ahead of health prevention and promotion. However the eight main areas of the PHC programme strengthened the existing health programmes of the government throughout the twenty or more years of independence. The economic difficulties of 1980s and beyond, coupled with political developments the health delivery services in Tanzania entered a crucial phase.

The optimal objective of health services is to provide for good health. However, provision of services for good health depends upon factors like health services should function well, there is control and prevention of diseases, provision of safe water, adequate environmental sanitation and the reduction of workloads. These and other factors influence the organization and administration of health services.

In the United Republic of Tanzania as is the arrangement in Kenya or Lesotho, the Ministry of Health provides the guidance of delivery of services for government facilities and those of the non governmental organizations like the private sector and the religious health services. The organization is that at the apex are consultant hospitals, followed by regional and district hospitals. The rural health centres, dispensaries and village health posts are at the periphery levels.

The changing political developments saw the re-introduction of local government system in the country. Therefore the Ministry of Health shares responsibility of providing services with the Local Governments in their areas. The NGOs, mostly religious organizations assists the Ministry of Health with almost 20% of health services available in the country. The increasing cost of health financing, like in Kenya, the Government of Tanzania also introduced cost sharing, at moderate level, to users of health facilities.

The re-organization of health services after independence and the changing health policies and strategies arising from both Arusha Declaration and the adoption of the Alma-ata conference on PHC as a strategy of health care for the future, the pattern of morbidity
and mortality therefore changed. The diseases of concern in the country are main malaria especially its resistance to drugs like chloroquine, malnutrition and its related anaemia, pneumonia and respiratory diseases as well as childhood diseases including malaria and diarrhoea. The complications of new diseases like the HIV/AIDS has caused drastic changes to health care services in the country.

Health indicators 1985

<table>
<thead>
<tr>
<th>Indicator</th>
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<tbody>
<tr>
<td>IMR</td>
<td>112/1000</td>
</tr>
<tr>
<td>CBR</td>
<td>46/1000</td>
</tr>
<tr>
<td>CDR</td>
<td>13/1000</td>
</tr>
<tr>
<td>MMR</td>
<td>200/100,000</td>
</tr>
<tr>
<td>e0</td>
<td>50 years</td>
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</table>

Major causes of morbidity

<table>
<thead>
<tr>
<th>Diseases</th>
<th>1984/85</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>26.1%</td>
<td>31.0%</td>
</tr>
<tr>
<td>URTI</td>
<td>10.6</td>
<td>11.0</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>7.7</td>
<td>8.4</td>
</tr>
<tr>
<td>Eye</td>
<td>6.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Intestinal worms</td>
<td>4.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>4.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Skin</td>
<td>5.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>4.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Accidents</td>
<td>3.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Anaemia</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Nutrition</td>
<td>1.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>1.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Ear</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Schistomias</td>
<td>1.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Mental disorders</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>Measles</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Whooping cough</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Tetanus</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Ill defined conditions</td>
<td>13.9</td>
<td>11.6</td>
</tr>
</tbody>
</table>

Ten Common Diseases

1. Malaria
2. Nutritional deficiencies
3. Other diseases of digestive system
4. Gastroenteritis
5. Symptoms ill defined conditions
6. Ulcers
7. Accidents and poisoning
8. Bronchitis
9. Other diseases of respiratory system
10. Inflammatory diseases of the eye

V. ASSESSMENT OF MORTALITY IN RELATION TO HFA/2000

The World Population Plan of Action which was adopted at the World Population Conference held at Bucharest in 1974 contained specific targets to be achieved for reduction of mortality. The International Population Conference held at Mexico in 1984 revised the WPPA targets and endorsed the Alma-ata Declaration. It was agreed that by the year 2000, governments of developing countries such as those in Africa should aim at achieving life expectancy at birth of at least 60 years and reduce further the infant mortality rate to 50 or less infant deaths per 1000 live births per year.

The WHO and UNICEF have been collaborating to assist member states to achieve these targets for reduced levels of mortality. In order to be able to achieve better health, the primary health care package adopted at the Alma-ata conference was the strategy for attaining goals of health for all by the year 2000. In order to be able to quantify or assess the achievements, indicators were therefore formulated and developed. Some of the indicators for the strategy for attaining the goals for health for all are (1) universal access to safe drinking water and adequate sanitation; (2) reduction of under five mortality rate to 70 or less per 1,000 live births and reduction of infant mortality rate to 50 or less per 1,000 live births; (3) high percentage of one year olds fully immunized against diphtheria, pertussis and tetanus and universal access of pregnant women to trained attendants during child birth; and (4) universal access to basic education and completion of primary education by at least 80% of primary school age children.

Demographic studies programmed to assess or evaluate expected achievements are most invariably affected by many limitations and obstacles. The formulation and designing strategies of such studies require relevant and reliable data and information. Demographic data are not adequate for estimation of reliable indices of mortality like computation of expectation of life at birth and rates of infant and child mortality. Population census data, although available, they are not the most adequate to be used to assess achievements of

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better health conditions because they have not sufficient detail and usually refer to time in the distant past. Vital registration systems and epidemiological surveys that would provide the necessary information to assess health achievements have not fully been developed and their coverage has always been biased to more accessible areas.

Difficulties of data collection is one of the main problems of demographic research on health. The Ministries of Health in nearly all countries are fundamentally responsible for providing health facilities and services, have problems of adequate financing. The demands on scarce resources entails that the allocation of resources becomes very competitive with priority accorded to other pressing programmes of governments. Health in most instances is only one of the social sectors with less priority. Government administration costs, expenditure on defence (only until recently) have been allocated the largest proportion of the GNP for majority of countries. For example, less than three percent of GNP was available for health expenditure in five of the countries included in this study. Uganda, perhaps due to war situation and difficulties of the government to be able to manage the institutions of the government has been able to allocate merger resources to health (see Table 3 of text).

The political instability of governments and their inability to sustain socio-economic development of countries pose many difficulties for people to be able to lead a health and useful life. The war situation in African countries retards progress in general and health development, in particular because priority of resource allocations changes and health sector becomes at a disadvantage most of all. Uganda, Mozambique, Ethiopia and recently Somalia and Liberia have experienced health deterioration. The relation between health and instability in socio-economic development is closely linked to that existing between health and good governance. For example, poor economic performance of African countries has disabled their countries to allocate adequate resources for health development. Preventive and promotive health services have therefore retrogressed and epidemics of preventable and communicable diseases are common. The combined result could reverse successes already achieved for better health.

The environmental crisis of drought, decimal performance of African economies, and expanding populations in most countries have contributed to changes in disease prevalence and incidence. Diseases associated with poverty like malaria, diarrhoea, acute respiratory infections and diseases of congenital anomalies and complications of childbirth are changing the disease pattern in the region. The malarial drug resistance to chloroquine, the wild spread of the HIV/AIDS complications present enormous challenges to health promotion and development in the region.

Some studies on implications of HIV/AIDS to mortality in African countries have gloom picture of prospects of reduction of mortality. Since the data are not adequate it might not be very accurate to suggest that mortality will reverse its course. It is probable that both crude death rates and infant mortality will certainly rise as the current decade draws to a close. Similarly the gains achieved in life expectancy will reduce that possibilities are that
the goals of HFA will not be realized by the year 2000. The fact that there has not been any cure developed for the AIDS and that health resources have been redirected to assist orphans of victims.

The existing situation of socio-economic development, demographic changes, the environmental crisis mainly of drought moving southwards and changing priorities of government institutions re-enforce the necessity to appraise efforts and assess achievements of goals of health for all by the year 2000. The strategy adopted to assess efforts for better health has approached through two procedures, namely (1) analysis of reduction of infant and child mortality rates and (2) analysis of increments in life expectancy at birth.

There are other difficulties for monitoring and evaluation of assessment of goals of HFA in any country. Among these problems are the following:

1. Lack of clearly defined national health strategy
2. Absence of a coordinating body at central level for monitoring and evaluation
3. Shortage of skilled personnel
4. Lack of capacity at local level to process data
5. Poor vital registration systems
6. Inadequate communication between different agencies and levels of the health system
7. Poor utilization of available data and lack of feedback to field staff also contribute to low levels of awareness and weak attitudes of health staff towards information collection, monitoring and evaluation.

Among the possible solutions to overcoming the above referred difficulties in order to implement strategies in future, following should be considered:

1. Enhancing monitoring and evaluation of implementation of the strategies including future trend analysis
2. Strengthening information support and epidemiological capacity at various levels
3. Developing national monitoring, evaluation and projection analysis methods
4. Strengthening epidemiological and statistical methods as required.

It has been suggested to member states that there is a minimum list of indicators of the global HFA to assist implementation of the strategy. They would be able to assess the relations between mortality and the goals of HFA, three possibilities require attention. The first is that to be able to measure progress, efficiency, effectiveness and impact of their various health programmes. There is need to identify difficulties and obstacles encountered. Lastly it is necessary to use the resulting analysis to improve their health plans and programme implementation as necessary.
In order to implement these suggestions, the global indicators have subsequently been revised to enable countries set their own targets like levels of life expectancy. Other sub-indicators included at request of member states are on maternal mortality and on the probability of dying before age 5 years $q_5$. The $q_5$ is more robust to deficiencies in data and it is easier to calculate. UNICEF uses it more often for monitoring and evaluating child survival programmes. The use of family planning services is the third sub-indicator added at request of member states. The list of reformulated indicators for the HFA is as follows:

1. The number of countries in which HFA is continuing to receive endorsement as policy at highest level

2. The number of countries in which mechanisms for involving people in the implementation of strategies are fully functioning or are being further developed.

3. The percentage of gross national product spent on health.

4. The percentage of the national health expenditure devoted to local health services.

5. The number of countries in which resources for primary health care becoming more equitably distributed.

6. The amount of international aid received or given for health.

7. The percentage of population covered by primary health care with at least the following:
   
   i. Safe water in the home or with reasonable access, and adequate excreta-disposable facilities available;
      
      a. Immunization against diphtheria, tetanus, whooping-cough, measles, poliomyelitis and tuberculosis
      
      b. Local health services, including availability of essential drugs, within one hour's walk or travel
      
      c. Attendance by trained personnel for pregnancy and childbirth and caring for children up to at least 1 year of age
   
   ii. The percentage of women of child-bearing age using family planning;
   
   iii. The percentage of each element should be given for all identifiable subgroups.
8. The percentage of newborns weighing at least grams at birth and the percentage of children whose weight-for-age and/or weight-for-height are acceptable.

9. The infant mortality rate IMR, maternal mortality rate MMR and probability of dying before the age of 5 years q5, in all identifiable subgroups.

10. Life expectancy at birth, by sex in all identifiable subgroups.

11. The adult literacy rate, by sex in all identifiable subgroups.

12. The capita gross national product 35.

It can be deduced that implementation of HFA with the reformulated indicators would influence some shift in fulfilling the WPPA targets on reduction of mortality. In an attempt to assess the relationship between mortality and the goals of HFA, the conceptual framework has been applied as far as possible to interpret results of analysis. To be more practical the two demographic parameters of the goals of HFA have therefore been considered in the subsections that follow.

5.1 Analysis of Reduction in Infant and Child Mortality

The major target set by WPPA as an indicator of improved health was the infant mortality rate. The WPPA and its subsequent revision at the International Population Conference held at Mexico in 1984, the target set for high mortality developing countries inclusive of the Africa region was that IMR should be 50 or less infant deaths per 1000 live births by the year 2000. Since this rate poses difficulties of measurement and interpretation, preference has extended to using the child mortality rate as a better indicator of conditions of health of a population. UNICEF has since recommended a rate of 70 or less childhood deaths per 1000 live births by the year 2000 36.

Data in Table 2 of this text presented the trend of infant and child mortality in the countries covered in this study. The results of analysis of childhood mortality indicate strongly that levels of mortality have been declining for some time in all the countries. This observation is expected because all governments are responsible for better health and therefore they should achieve lower rates of mortality. However, the extent of this decline in the levels of infant and child mortality varies among the different countries. Some factors and determinants of the differentials may be due to differences in health development, availability of facilities and services, their utilization by the people and resource allocation


to health programmes. The prevailing pattern of diseases and type of treatment influences extent of mortality in specific country. Above all other determining factors, the political commitment of governments to implement the PHC as a strategy for health for all by the year 2000 becomes very significant in achieving the global aims of better health. For example, increased coverage and intensity of immunization against childhood preventive and communicable diseases would undoubtedly reduce childhood mortality more than where immunization is relaxed. Therefore in Tanzania and Lesotho where the PHC full package is being implemented and strengthened, childhood mortality rates are apparently lower than in Swaziland, for example.

Although the intervening variable are almost similar in all the countries covered in the study, it is necessary that a descriptive account of each country had to be presented, starting with Botswana.

**BOTSWANA**

The results of estimation of infant and child mortality indicate strongly that child survival has improved much more. Estimates of infant mortality rates dropped from 162 in 1971 to about 133 in 1981 and by 1991 the estimate dropped further to about 58. The large declines in child mortality, especially during the 1980s were due to the impact the PHC strategy which the government adopted for the implementation of the national HFA. For example immunization for measles, control of diarrhoeal diseases by using the home remedies of ORS/ORT and general access to health have already attained large coverage. It is therefore most probable that the HFA goal of infant mortality rate of less than 50 or that of under five mortality rate of less than 70 would be achieved by the year 2000.

**KENYA**

The estimates of infant mortality rates from population census data for 1969, that of 1979 and from the Demographic and Health Survey of 1989 suggest that infant and child mortality has undergone a declining trend. Like in the case of Botswana the drop was greater for 1980s than for the 1970s. The change could be attributed to the implementation of the PHC strategy for the HFA. If the data of the DHS(1989) were representative it may not be very likely that the goal of HFA for attaining IMR of 50 or less will be achieved. The obstacles which should be overcome must concentrate on extending the PHC services like putting more emphasis on preventative care. It appears from data and information available that development of curative hospital care was comparatively advanced in the country with its concentration in urban areas. This type of service is available to a much smaller population residing in urban areas and cities of Nairobi or Mombasa, for example.
LESOTHO

In adopting the PHC as a strategy for national programme of HFA, much effort has been directed at health care development in the country. The reorganization of health services under the HSAs has brought facilities closer to the people. The impact of PHC has been on the reduction of infant and child mortality as it can be observed from the estimates available. Infant mortality rates dropped almost by half during 1980s from the high levels of the 1970s. Even-though most recent estimates are not available it is most likely that Lesotho would achieve its goals of reducing infant mortality rates at a later date, after the target date of the HFA. Sample surveys indicate that some areas of the country have already attained relatively lower estimates of infant mortality, like the Mokhotlong cluster survey results have indicated.

SWAZILAND

Like Lesotho the kingdom of Swaziland adopted the PHC as its strategy for implementing the national HFA programme. The policy has had influence on reduction of infant and child mortality because estimates of infant mortality rates dropped from as high as 220 in 1966 to about 161 in 1976 just before the conference at Alma-Ata was convened. The rates fell even further to about 88 in 1986. In order for Swaziland to achieve the goals of HFA the effort should be increased or doubled for the PHC to have an impact in order to reduce mortality to about half the levels of the 1980s. It is almost likely that the goals of HFA might not be achieved by the turn of the century.

TANZANIA

At the time the WPPA was debated the United Republic of Tanzania had realized the problems of prevailing conditions of health in the country. The government which already had the Arusha Declaration of 1967 started implementing the declaration in 1974 by setting up health strategies similar to the package endorsed at Alma-Ata in 1978.

Mortality in Tanzania has been declining as can be observed from the estimates of infant mortality rates which dropped from as high as 156 in 1967 to about 148 in 1978 and by 1988 the level had reached 106. Although most recent estimates are not available it is likely that child survival has continued to improve. The prospects are likely that the goals of HFA might not be achieved by the target date.
5.2 Analysis of increments in life expectancy

Estimates of life expectancy at birth presented earlier in Table 2 indicate strongly that mortality has been declining steadily in the countries included in the study, in particular and in the Africa region as a whole. The implication of the decline in mortality has been the improvement in conditions of health, in general and the gain in life expectancy of the people in Africa.

The efforts by governments and international organizations to improve conditions of health in countries of the region can be noted from gains achieved in levels of life expectancy since the adoption of the WPPA at Bucharest in 1974. Therefore around 1985 Botswana, Lesotho and Tanzania, for example had achieved life expectancies at birth of greater than the original target of \(e_0\) of 50 years. This achievement has the implication that the target of life expectancy of 60 or more years would be attained by the year 2000, on assumption that there was no change to conditions of health during the period between the adoption of WPPA in 1974 and its revision at the International Conference of Population held at Mexico in 1984.

However, the conditions of health changed and that many countries in the region were perhaps unable to meet the targets. The WPPA was therefore revised and new targets of \(e_0\) set for the year 2000. It is apparent for derived estimates that increments of life expectancy were greater for females than males during intercensal periods between the 1960s and 1970s rounds of censuses. Similarly, the same observation was noted for the latter intercensal period preceding the 1990s round. The implication is that the countries in this study would most probably achieve the target of life expectancy at birth of at least 60 years especially for females. A descriptive analysis for each of the countries would provide a better interpretation of the results of assessment of mortality in relation to the HFA.

BOTSWANA

Similar to the reduction observed for infant and child mortality Botswana has had significant gains in life expectancy, both males and females. The latter groups has gained much more in expectation of life at birth than the former. Life expectancy for males increased from 45.8 years in 1971 to about 50.1 in 1981 and reaching almost 58.0 years in early 1991. This pace of gain in life expectancy for males is a clear indication that it is most likely that by the turn of the century the goal of achieving target of life expectancy of greater than 60.0 years will be achieved.

The estimates of expectation of life at birth for females improved steadily since records of 1971. The \(e_0\) for females increased from 46.2 years in 1971 to about 53.1 in 1981 and reaching more than 64.0 years by 1991. The implication is that in the past thirty years life expectancy for females recorded a gain of more than half a year per year (0.6 years). Therefore the goal of HFA will undoubtedly be attained by the turn of the century.
KENYA

Estimates of life expectancy for Kenya suggest that both males and females have gained considerably the number of life span since 1960s. Life expectancy estimates for males increased from 44.0 years in 1969 to about 47.4 years in 1979 and by 1989 the estimate was 56.5 years. The gain in life expectancy between 1979 and 1989 was tremendous because the increment was one year per year in life expectancy. Therefore this gradual gain in life expectancy has been possible because of developments in health and it is most likely that the target will be achieved by the year 2000.

If the males gained that much in life expectancy during the three periods then the same should be expected for the females. Expectation of life for females increased from 48 years in 1969 to 50.8 years in 1979 and by 1989 it was 60.5 years. Therefore the gain in life expectancy was almost similar to that for males. There is little doubt that health development in the country facilitated the improvement in conditions of mortality and the goals of HFA will certainly be attained.

LESOTHO

The strategy adopted by the government of the kingdom of Lesotho for implementing the national HFA, as for other countries is the primary health care. From the estimates available it can be noticed that for males, life expectancy increased from 44.6 years in 1966 to reach 50.5 years in 1976 and gradually rising to 52.0 years in 1986. The quality of data for the two census periods of 1976 and 1986 may not be comparable because the gain was not significant. If the estimates correspond to correct conditions of health it is most likely that for males the goal of HFA might not be realized by the year 2000.

Estimates of expectation of life at birth for females suggest that the increment was significantly greater for females than males. The life expectancy increased from 48.9 years in 1966 to 54.1 years in 1976 and reached 59.1 years in 1986. It should be noted that this significant increase in life expectancy and the large differential with male life expectancy is very much expected for Lesotho. All conditions of mortality and its correlates strongly favour advantages for females. It is therefore most likely that the goals of national HFA programme will achieve its targets by the year 2000. The large gains in life expectancy for females will strongly pull the national average towards the target of achieving at least an e0 of 60.0 years by the turn of the century.

SWAZILAND

The estimates of life expectancy for males and females in Swaziland indicate that conditions of mortality in that country are expected to improve. Expectation of life at birth
for males increased from 38.6 years in 1966 to 45.9 years in 1976 and by 1986 it reached about 50.1 years. This was a very gradual rise in life span that over a period of twenty years life expectancy increased by about twelve years or a gain in life expectancy of about half a year per year. Considering that these conditions remain unchanged therefore the goals of the national HFA might not be attained.

The differences in life expectancy between males and females also underscores the favourable conditions of mortality for females. The $e_0$ for females increased from 44.1 years in 1966 to 50.8 years in 1976 and it reached 54.0 years in 1986. This consistent increase in life expectancy for females over the last twenty years could provide possibilities for females to attain the target of the goals of HFA in Swaziland. Any further gains will strongly depend on improvements in the implementation of the PHC in that country.

**TANZANIA**

The Arusha Declaration of 1967 contained recommendations on health being very similar to the PHC strategy adopted at Alma-Ata in 1978. Therefore at the time all other countries were implementing the PHC Tanzania was ahead. The impact of the development of primary health care was exemplified in the achievements in mortality reduction. Estimates of life expectancy at birth for males increased from 43.7 years in 1967 to 47.0 years in 1978 and probably reached 51.7 by 1987. This trend of mortality decline is apparently very gradual because the gain was only eight years of life expectancy over a period of more than twenty years. Therefore it is more likely that the target set for reduction of mortality and the consequent gains in life expectancy will not be achieved by the turn of the century.

The estimates of life expectancy at birth for females suggest little difference between females and males particularly under conditions of high mortality. However, estimates of life expectancy for females increased from 42.1 years in 1967 to 46.0 years in 1978 and by 1987 the estimate was 54.7 years. Like their male counterparts, the slow gain in expectation of life at birth of less than half a year per year has the implication that it will be difficult to achieve the targets for national HFA programme by the turn of the century.

**VI. SUMMARY AND CONCLUSION**

The ECA programme of work for the current biennium (1992-93) included this programme element in agreement with the recommendations of the KPA and the Mexico Population Conference to monitor conditions of mortality and assess progress of the HFA. Furthermore, implementation of HFA was entering in its last decade. It was therefore important that this study was undertaken as an attempt to assess progress of the aims of the programme of achieving the goals of Health For All by the year 2000. Demographic targets
agreed upon in the HFA package were examined for selected countries initially for Eastern and Southern Africa. The implementation of the PHC as the strategy of HFA was reviewed in terms of development of provision of health services and facilities among the selected countries. This study, therefore, was a demographic analysis of mortality levels and trends in relation to various countries being able to achieve the goals of Health For All by the year 2000. Two demographic preset targets for the HFA and these are that high mortality countries mainly those in Africa should strive to attain firstly, the life expectancy at birth of at least 60 years and secondly the level of infant mortality rate should be less than 50 infant deaths per 1000 live births. The targets were to be achieved for all countries by the year 2000.

When the WPPA was adopted at the Bucharest conference in 1974 most governments in Africa were less concerned about population problems of high mortality, fertility, urbanization and spatial distribution. However, it was encouraging that they conceded to the plan of action designed to accelerate social and economic development in order to improve the general health conditions of the people. Few years later at the Alma-Ata Conference the objectives of the WPPA were further strengthened by the Declaration of the conference on primary health care. The conference adopted unanimously the PHC as the strategy for implementing the goals of Health For All by the year 2000.

In order to monitor progress towards HFA a set of quantifiable indicators was formulated. As governments proceed on the implementation of the PHC, it was found necessary to reformulate the original set of indicators in order to be able to monitor progress of achieving the goals of HFA.

Some of the results of this study have suggested that since the adoption of the WPPA some countries registered progress towards attaining the targets of the plan of action in terms of achieving reduced rates of infant and child mortality and increased expectation of life at birth. For example, Botswana and Kenya had their levels of mortality significantly reduced after the adoption and implementation of the Alma-Ata Declaration of 1978. However, many African countries lagged behind the attainment of WPPA targets because of decennial economic performance during the 1970s when many an African economies were destroyed and mainly from external indebtedness.

The international population conference held at Mexico in 1984 adopted the revised targets of the WPPA and endorsed the PHC as a strategy of implementing the national programmes of Health For All by the year 2000. The Mexico conference went further and recommended that mortality levels should be monitored regularly in order to appraise progress of implementing the national HFA programmes designed to improve health conditions for all. The results of this study strongly suggest in countries where there was less support for PHC, were behind others in attaining preset targets of life expectancy and infant mortality rates, like in Swaziland.

The results of this study have shown that it is possible to monitor mortality levels and
trends for the selected countries. Considering the inadequacy of both demographic data and relevant information on health, the study therefore attempted to formulate a conceptual framework of analysis in order to identify relationship between reduction in mortality and health development. The framework considered intervening variables as socio-economic development, social and health policies of governments, ecological and environmental conditions of different countries, provision and utilization of available health services and facilities and level of financing of health services through government budgetary allocation and external assistance. These variables according to the results of the study presented some of the difficulties for influencing attainment of goals of HFA. Despite the numerous obstacles, countries like Botswana, Kenya and Lesotho should be able to achieve the goals of HFA.

In order to be able to attain the goals of improved health full implementation of the PHC is critical. However, integration of health and demographic factors in both formulation and implementation of development planning should be recommended to all governments in the region. Studies designed to monitor and evaluate progress towards achieving the goals of better health and be able to identify problems of implementation should rely on reliable database. It is therefore necessary that both demographic and health information systems should be strengthened and there should be development of research methodologies of analysis. Finally, the PHC as a strategy of HFA should be reviewed taking into consideration of the rapidly changing morbidity patterns as a result of drug resistance of some disease vectors and wild spread of the HIV/AIDS complications.

In conclusion therefore better health for all would be achieved in an enabling environment of sustainable socio-economic development because health is integral component of progress. According to the WHO definition "Health is a state of complete physical, mental and social well-being and not merely absence of disease or infirmity."