CHAPTER III

LITERATURE REVIEW

The literature on relationships between the economic development and health development is very extensive. The field is broad and complex. Different investigators have contributed on different subsets depending on kind of problem, professional field, and the availability of data.

3.1 Relations between the Economic Development and Health Development.

Literature review dealing with interaction between economic development and health development are as follows:

3.1.1 Economic Development and Health.

This subsection deals with various interrelations between different stages of economic development and health status. It is agreed that higher incomes help improve health and improved health contributes to economic growth. There are many studies that have investigated the relationships between economic development and health status.

Studies in brazil, Chile and Nicaragua (UNDP, 1996) shows that an increase in household income is associated with improvement in such health indicators as height- for- age ratio, survival rates and life expectancy at birth-and with reduced illness among children in northeast brazil a doubling of household spending increases the probability that a child will survive by 6.4 percent in rural areas.

Carrine (1996) estimated that an increase of 10 per cent in the level of G.D.P. per capita would result in an increase of life expectancy by 1.4 per cent and decrease infant mortality and under five mortality by 4.8 per cent and 5.8 per cent respectively.

Health affects economic growth several ways: improved health of employed Person's leads to increase lobar participation: Improved health result increased education, which in turn increases economic growth and improved health, may lead to population growth and labor force participation. Also, improved health reduces production losses caused by worker illness.

million additional workers: decline in mortality rates since1920, which had led to an increase of 6 million workers, had increased GNP in 1960 by$ 28 billion However Some authors such as Sorkin (1976) argued that countries are better off with reduced, rather than with increased population growth, diminished population growth will increase GNP per capita.

Human development report (1996)reported that the overall contribution of a healthy population to economic grow this evident from across-country study showing that 10 per cent increase in life expectancy ,equal to 5.7years in 1970,raises the growth rate by an estimated one percentage point a year.

Number of studies investigated an impact of economic recession on health status .The study supported by the Pan American health organization (1986) which investigates the consequences of the regions current economic crises for health and health care in six countries, concentrating on central governmental expenditure. Evidence from this study shows that in the long run health status improves as income increases: infant mortality declines mortality from certain diseases almost disappears, and life expectancy increases markedly. This same effect shows up in cross sectional comparisons of countries at different levels of development. This study also evidenced that connections between income and health depend on the stock of capital-including medical capital as well as safe water supplics and sanitation-accumulated from past incomes. Unless income stay so far so long that capital deteriorates, an economic recession does not mean returning down the path which a country followed.

Preston (1975) concluded that in poor countries a given increase in incomes brings a much greater absolute improvement in life expectancy than in richer ones. Also he said that the mortality situation in socialist countries for a given income level appears worse than the average, suggestion that equity of income distribution is not an important factor. He argued any function connecting national income and health levels has to be thought over time, presumably as a result of improvements in the information embodied in medical science, technology, and public education. He also analyzed (1980) the socio-economic variables relative health care expenditure.

Preston first studied in detail life expectancy changes in developing countries between 1940-1970 in income, literacy rate and calories per capita. Half of the improvement was due to improvement in

these variables. Then he examined (1985) the continued improvement in life expectancy in his sample of developing countries and found that 72 percent of the total improvement, was due to improvements in income, education and nutrition. Preston s work contradicts the popular idea that expenditures on health care, specially curative health care , largely determine our health, on the contrary , many factors contribute to health including education, nutrition and income, in addition to preventive and curative health care. These other factors played a relatively small role in developing countries during the early years of their development , but now account for a large percentage of improvements in life expectancy .one of his findings is that countries whose per capita GNP ,education and nutrition stop improving will see little increase in life expectancy in future years.

Preston doubt regarding the relationships between country's ladder of development and health status is supported by kaneko et al in 1986. They studied the interrelationships between gross national product (GNP) and infant mortality rate in GNP tended to decrease infant mortality rate in under developed countries. Increase in per capita GNP range from 400 U.S. dollars to 20000 U.S. in developing and developed countries whose per capita GNP more than 5000 U.S .dollars infant mortality rate is reached level sufficient for sustaining human health .therefore, his conclusion was that each economic development group shows a rather distinct pattern in the relationship between infant mortality rate and per capita GNP. Among underdeveloped countries the conclusion that in the early stages of the development process, more attention should be given to improving infant mortality rates rather than to substantially increasing economic activities.

The 1996 world development report estimated the health situation in member countries of council for mutual economic assistance and concludes that many of these countries face health problem associated with transition itself, superimposed on a longer term problem. This report developed policy options concentrating on the four group of factors influence on person's health: income, life style, education, environmental pollution, occupational risks and quality of available health care.

Murray (2001) investigates the effects of health indicators such as adult survival rates (ASR) on GDP growth rates at 5-year intervals in several countries. The results showed positive effects of ASR on GDP growth rates in low-income countries. Conclusion of this study is the proximate determinants of economic growth at 5-year intervals using panel data on GDP series based on purchasing power parities from the

PWT and on exchange rate conversions from the WDI. In the conceptual framework of the analysis, the demographic literature relating life expectancy to income. The study showed significant effects of ASR on economic growth rates for low income countries. Thus, for example, for the poorest countries, a 1% change in ASR was associated with an approximate 0.05% increase in growth rate.

ASR in poor countries reflects the levels of nutrition, smoking prevalence rates, infectious diseases, health infrastructure, and factors such as accidents leading to premature deaths. By contrast, differences in ASR in middle and high income countries may be influenced by genetic factors and by access to and costs of preventive and curative health care countries.

Schmitt (1992), using data from the National Longitudinal Mortality Study showed that people whose reported family incomes in 1980 were less than $5,000 in 1980 prices are estimated to have a life expectancy around 25 percent lower than those whose family incomes were over $50,000. Some investigators suggest that the relationship between socioeconomic status and health is best characterized as a linear gradient of risk, with even those in relatively high socioeconomic groups having better health than those just below them in the social hierarchy.

Backlund (1996) showed that small differences in income are associated with much larger changes in health status among low income as compared to high income families.

Williams (2000) reported that a number of other studies have shown diminishing or even non-existent relationships of income with mortality.

Herzog (1994) suggested that there is a "ceiling effect"; that people throughout the upper socioeconomic strata maintain overall good health until quite late in life, leaving little opportunity for further improvements in average health among those who are especially wealthy.

Backlund (1999) added additional light on the nonlinear functional form of income's relationship with mortality. Using data from the National Longitudinal Mortality Study they found that a two-sloped function better described the association between income and mortality than did a linear function for both men and women. The decrease in mortality associated with a US $1,000 increase in income was shown to be much greater at incomes below US $22,500 than at incomes above US $22,500.

Ecob & Smith (1999) used the Health and Lifestyle Survey (a national sample survey of adults in England, Wales and Scotland, 1984-85) demonstrated that indices of morbidity are approximatcly linearly related to the logarithm of income, in all except very high and low incomes. They found that throughout the middle 80% of the income distribution (i.e., from the 10th to the 90th percentiles) a doubling of income is associated with a similar positive effect on health. These studies taken together argue that assuming a constant effect per unit change in income, or using income as a simple continuous linear variable, may be inappropriate.

Donough (1997) used the U.S. longitudinal Panel Study of Income Dynamics (PSID) of adults 45 years and older, found that persistent low income was a particularly strong determinant of mortality. He also showed however that income instability was an important predictor of mortality particularly among middle-income adults.

He suggested that income fluctuations may be more normative at lower incomes, or may be ameliorated by community support or public aid, while at higher levels of income, individuals may have accumulated assets that are economic reserves that can compensate for lost income. Middle-income adults, on the other hand, are less likely to have either of these resource types available to help bridge times of income instability.

Krieger (1997). Wealth is often an indicator of income over the life course, and thus may be a better indicator of overall socioeconomic status than is contemporaneous income. Households with comparable lifetime incomes may differ on sources of wealth (e.g., inherited wealth, patterns of savings, and differential rates of return on savings), and these sources may vary by age, race/ethnicity and gender. Retired and elderly individuals may have low pension or social security incomes but substantial accumulated wealth he reported on data from SIPP, note that in 1991 the median net worth of US white households was 9.6 times that of black households, and 8.3 times that of Hispanic households; that of married households was 4.1 times that of female-headed households. These racial/ethnic inequalities were more evident among households in the lowest income quintile (e.g., median net worth of white households equaled $10,257, as compared to only $1 for black households and $645 for Hispanic households.

Kington & Smith (1997) in their study of socioeconomic status and racial/ethnic differences in functional status associated with chronic diseases, emphasize that household income and household wealth have

sizable independent relationships with both the likelihood of experiencing a chronic condition and the number of functional limitations for those with these conditions. In addition, the relationships of income and wealth with these health outcomes are highly nonlinear, with the greatest influence of these SES factors shown in the poverty and near-poverty population.

They found that income and wealth disparities associated with the presence/absence of a chronic condition are much larger among women than among men and also appear to be larger among African Americans than among Whites (based on a cross-sectional analysis of a national sample of men and women aged 51 through 61 from the 1992 Health and Retirement Survey).

Other studies that have used wealth or permanent income in health research in the U.S. and Canada include Robert and House (1996), Schoenbaum and Waidmann (1997).

Wealth can also be assessed by classifying people according to household assets such as whether the family home is owned or rented, and whether there is a car or garden. In Britain, markers of low available income, such as not being a home owner or having access to a car, are strongly associated with increased mortality risk.

The above mentioned finding that income instability has its greatest impact on the health of those at middle income levels is consistent with the buffering effect that accumulated assets can provide.

Knowledge of household income may not be predictive of family purchasing power or the income available to individual household members. Studies have shown that goods and services available in lower income neighborhoods and African-American neighborhoods are often poorer in quality and costlier than those available in higher income and white neighborhoods

Kaplan (1996) Troutt (1993) in a study of two socially contrasting localities in Glasgow City, Sooman & MacIntyre (1993) reported that in the more deprived neighborhoods the price of healthy foods is higher, the availability and quality of fruits and vegetables are lower, and the price differential of a "healthy food basket" and an "unhealthy food basket" is greater.

Gender may also affect the availability of income within the household. Studies have shown that poor and working class family mothers may

skimp on using available money for their own needs to provide first for the needs of their children and husband Krieger (1997).

The effect of health on income (reverse causality, selection, drift) although probably a minor contributor to the overall association of economic status and health, can have important consequences for some people Smith (1999).

Economists and others have documented the effect of poor health on earnings in some contexts. For example, disability is a major cause of low income and poverty, and ill health is not infrequently the proximate cause of retirement.

Deaton (2002) how might the flow of resources in the form of income and economic reserves in the form of assets benefit health? Income and wealth represent material resources, potential access to different lifestyles, a sense of security, and contribute to a sense of power and control.

Reynolds (2000) discussed about the resource substitution which occurs between education and economic status, in which they propose that "education apparently acts as an alternative to income" Economic resources support the discretionary use of time for health-promoting and leisure activities (e.g., having sufficient funds to hire assistance in household upkeep). They widen the range of options available to cope with unexpected stressors (e.g., household and automobile repairs), and increase the individual's ability to integrate key multiple roles in mutually accommodating ways (e.g., the ability to satisfy the demands of a job and the demands associated with the care of young children.

Pearlin (1999)). For those who experience a chronic health condition economic resources may allow them to alter their environment to reduce the impact of changes in physical functioning, and to moderate environmental exacerbation of such conditions. Wealth in the form of accumulated assets, which is not impacted as is income by reductions in employability due to chronic conditions, would be of particular importance in this case. Income and economic reserves probably impact access to primary, secondary and tertiary care. Income/wealth is probably associated with obtaining routine screening for blood pressure, cholesterol, mammography, prostate screening, having routine physicals and receiving vaccinations (e.g., children's vaccines, plus tetanus, hepatitis, flu vaccines in adults). Those with substantial income/wealth also have greater access to expensive treatments, premier medical experts, and care in premier institutions.

Acemoglu and Johnson (2006) study the effect of life expectancy on economic growth. By exploit the international epidemiological transition, the wave of international health innovations and improvements that began in the 1940s and obtain estimates of mortality by disease before the 1940s from the League of Nations and national public health sources. Using these data, they construct an instrument for changes in life expectancy, referred to as predicted mortality, which is based on the pre-intervention distribution of mortality from various diseases around the world and dates of global interventions and document that predicted mortality has a large and robust effect on changes in life expectancy starting in 1940, but no effect on changes in life expectancy before the interventions.

The instrumented changes in life expectancy have a large effect on population; a 1% increase in life expectancy leads to an increase in population of about 1.5%. Life expectancy has a much smaller effect on total GDP both initially and over a 40-year horizon, however. Consequently, there is no evidence that the large exogenous increase in life expectancy led to a significant increase in per capita economic growth. These results confirm that global efforts to combat poor health conditions in less developed countries can be highly effective, but also shed doubt on claims that unfavorable health conditions are the root cause of the poverty of some nations.

Results indicate that the increase in life expectancy led to a significant increase in population; birth rates did not decline sufficiently to compensate for the increase in life expectancy. They find a small initial positive effect of life expectancy on total GDP, and this effect grows somewhat over the next 40 years, but not enough to compensate for the increase in population. Overall, the increases in life expectancy (and the associated increases in population) appear to have reduced income per capita at first, with this negative effect slowly wearing off over the next 40 years. There is no evidence that the increase in life expectancy led to faster growth of income per capita. This evidence sheds considerable doubt on the view that health has a first-order impact on economic growth.

3.1.2 Health Expenditure and Health Status

Health Is a state of complete physical, mental, social well being and not the absence of disease. From this broad definition raises the question of which expenditures on the various health-improving activities should included as health sector expenditures.

In the background study to the world development report of 1993, the operational definition includes all expenditures incurred by the preventive and curative health services for individuals, and population-based public health programs, as well as some programs with a direct impact on health status. They summarized and analyzed the study results, which have done on the health expenditure among different countries. The unrelated to income, mortality the size of governmental, geographical region, education or public health expenditure. In contrast to private spending, public health expenditure has elasticity substantially greater than one.

Interest in health expenditure is rising, both in poor countries facing the challenge of maintaining health services during global recession and structural adjustment, and their countries trying to limit health expenditures that are growing faster than the GDP .it is emphasized in the world development report in 1993.

Steven (1980) reported that a World Bank survey of 65 developing countries. Results shows that these countries typically had government financed health expenditures of one percent GNP, comparable figures of developed countries range any where from 4to 7 percent however , major increases in the percentage of budget devoted to health spending would do little to close this gap.

Gray and Taylor Using data from the 1995 National Health Survey (NHS) .the study about health expenditure, Income and Health Status among Indigenous and Other Australians. This study asks the question what is the relationship between incomes, health expenditure and health status for the Indigenous and non-Indigenous populations in Australia? Income is generally seen as an indicator of ability to address the need for health expenditure, and as a factor in influencing health status.

The expectation, therefore, is that income and health status are positively related. The analysis measures differences in health expenditure and reported health status between the Indigenous and non-Indigenous populations, holding income level constant. No association is found between income and Indigenous health status. A number of explanations are canvassed. The finding may simply reflect poor data quality, both in terms of income and self-assessed health status. An alternative hypothesis, with long-term implications, is that adult mortality reflects fetal and childhood health, regardless of current income status.

Davis, Schoen, t Guterman Shih, Stephen. Schoenbaum, and Weinbaum (2007) Study the growth of U.S health care expenditures. They found that health care expenditures are expected to continue to rise

rapidly over the next decade, outpacing income and imposing stress on families, businesses, and public budgets. Evidence indicates that the U.S. should be able to achieve savings and better value for this investment by creating more efficient and effective health care and insurance systems.

The U.S. is an outlier in the level of health care spending, with far higher spending on health care per capita than other countries. There is ample evidence that the U.S. does not obtain value for money spent, and that there are wide variations in health care spending across the U.S. that do not contribute to better health outcomes.

Substantial net gains in quality at lower costs are potentially achievable from realigning payment incentives to reward efficient and high-quality care, reshaping market incentives to reward value-driven health care, improving administrative efficiency, and redesigning care delivery systems to enhance primary care. Such reforms would be founded on enhanced information about the quality and cost-effectiveness of care and appropriate deployment of modern information technology. Fragmented policies that focus on one aspect of care or shift expenditures from one payer source to another, or from one sector to another, will not result in transformation of the health care system to yield high performance.

There is a compelling need for a coherent public and private sector strategy, with all parties working in concert toward agreed-upon health system aims. Such a strategy should place high priority on policies and practices that have the potential to move the nation toward benchmark levels of performance on access, quality, and efficiency, so that the U.S. health system could achieve commensurate value for the significant resources it commands.

They review factors contributing to high expenditures and examine strategies that have the potential to achieve savings, slow spending growth, and improve health system performance. These strategies cluster into six areas: increasing the effectiveness of markets with better information and greater competition; reducing high insurance administrative overhead and achieving more competitive prices; providing incentives to promote efficient and effective care; promoting patient centered Primary care; investing in infrastructure such as health information technology; and investing strategically to improve access, affordability, and equity.

3.1.3 Government Expenditure and Health

Carrin and politi in 1996 it is very difficult for current public health expenditure variable to take account of the efficiency of public health expenditure. Because, the improvement in health status depends not only how much spend for health but also how use it effectively. Secondly public health expenditure needs to be complemented by other expenditure essential for health improvement such as sanitation, water supply; also privet health expenditure may be needed as complement to public health expenditure.

Gupta, verhoeven, and Tiongson (1999).proved that there is little empirical evidence to support the claim that public spending improves education and health indicators. there study was cross-sectional data 50 developing and transition countries to show that expenditure allocation within the two social sectors improve both access to and attainment in schools and reduce mortality rates for infant and children .the size and efficiency of these allocations are important for promoting equity and furthering second –generation reform.

World spending on health totaled about $1700 billion in 1990, or 8 per cent of global income of these governments spent more than $1000 billion or nearly 60 percent. Of the $170 billion spend on health in the developing countries of Africa; Asia, and Latin America, governments spent half of the total amount -2 percent of those regions GNP. Differences in health spending are an obvious starting point in the search for explanation of differences in health. But health spending alone cannot explain all the variation in health among countries. Nor can income and education, or even spending, income, and schooling taken together. Health expenditure, income, and schooling only partly explain variation in the health status.

The improvement in health status depends not only how much spend for health but also how use it effectively. Also public health expenditure needs to be properly complemented by other expenditure essential for health improvement such as sanitation, water supply. Also private health expenditure may be needed as a complement to public health expenditure.

3.1.4 Demographic factor and Economic development

Sarkar (2005) study The Relationship between Fertility and Socio-Economic Development in Selected States of India the objective of his study is to examine the relationship between the fertility and

socioeconomic development in selected states of India .and to examine how the regional pattern effects on fertility. From census of 1991 and 2001 through panel data regression. Conclusion of this study. The findings of the paper are connection between female education and fertility in India. Connection between socio-economic development and fertility. In the specification the literacy has negative and significant effects on fertility rate.

Various indicators of overall development and modernization, such as, male literacy, urbanization and poverty are influence on fertility. Fertility decline is not just a byproduct of economic growth, it depends on improvement in the specific conditions that are conducive to change the fertility and that help parents to realize these goals. Similarly, the negative relationship between fertility and female work participation rate indicates the requirement of programmers that controls the condition of labor force market.That variables related to status of women have a significant influence on fertility .The study clearly brought out that for acceleration the fertility decline in various districts of 8 states of India programmers efforts can be made more effective by giving particular attention to key structural variables .Thus the process of fertility change can clearly by reinforced through variety of channels.

1994 both the publication Population and Development: Implications for the World Bank Population in developing countries will grow more during this decade (by more than 80 million people each year) than ever before. This surge in population growth, which began when death rates declined earlier and faster than birth rates, has begun to abate as more and more countries experience the transition to lower fertility.

This has lowered population growth rates. However, countries will continue to experience very large absolute increases in numbers during the next two to three decades. These large absolute increases further exacerbate the difficulties faced by poor countries in providing social services, creating jobs, and achieving sustainable economic growth.

Fertility rates in developing countries have declined by as much as half, but the number of couples in reproductive ages has more than doubled. As fertility declines toward the replacement level (the level at which couples have the number of children required to replace themselves, that is, about two), population growth does not immediately decline to zero. Large absolute increases in population can persist for several decades. This phenomenon, referred to by demographers as population momentum, is a facet of the youthful age structures of

developing- country populations, which in turn reflect high birth rates in past decades. Population momentum is a major challenge, not just for poor countries with high birth rates but also for the world at large.

Population momentum can be reduced by investments to increase educational opportunities, to expand reproductive health and family planning information and services, and to reduce maternal and child mortality. The timing of these investments is critical to offsetting momentum. Slowing population growth sooner rather than later could reduce the future global population size by 2 to 3 billion when global population finally stabilizes at the end of the next century. Delaying such investments will only add to the ultimate costs of poverty reduction.

3. 1.5 Education and Health.

Households with more education enjoy better health, for both adults and children. This result is strikingly consistent in great number of studies, despite differences in research methods, times period and population samples. Personal habits and life style choices affect adult health .because educated people tend to make choices that are better for their health; there is often strong relation between schooling and health.

The 1993 world development report. Investing in health conducted a study of U.S life expectancy at age 25 and found that between the highest and lowest levels of education, the differences was about six years for white men and about five years for white women. The same pattern occurs in developing countries.

In Jamaica education had a bigger influence on health than did income, particularly before age fifty .in Russia deaths from coronary heart disease was two to three times more common for poorly educated than for those with higher education. In Brazil those who were illiterate or who had only primary schooling were about five times more likely to have high blood pressure than secondary school.

There are number of studies, concerned with the different aspect of relationship between education and health status of the population. From the results of these studies one can generally conclude that education has an enormous effect on the personal habits and life style. Many the personal habits and life style choices that have important consequences for health are formed early in life .therefore, education can help to make informed choices and it can result changes in health status. Income, Education and Health. Income and Education among Cohorts and Individuals Paxson (1999) looked at the relationship between health and

economic status among American birth cohorts. He focused on the idea that health is determined by an individual's income relative to other members of a reference group whose membership typically is unobserved by the analyst.

Even if income inequality has no direct effect on health, the fact that the reference groups are not observed means that the slope of the relationship between health and income depends on the ratio of the between-to-within group components of income inequality. For example, if doctors' health depends on the income of other doctors, and economists' health on the income of other economists, then the health-to-income relationship in the pooled data will flatten if the average incomes of the two groups pull apart.

Among birth cohorts there is a strong protective effect of income on mortality; the elasticity of mortality rates with respect to income is approximately 0.5. These estimates are consistent with estimates from the individual data in the National Longitudinal Mortality Study NLMS), and show much the same pattern over the life cycle, with income most highly protective against mortality in middle age, in the mid-40s for women and the mid-50s for men. Although it is difficult to test for reverse causality in the cohort data, we can experiment in the NLMS by looking at the effects of income at the time of interview on the probability of death over an interval some years later, thus eliminating or at least reducing the effects of including in the sample people who are already sick, and whose income is already reduced by the illness that will later kill them. Some what surprisingly, there is only a small reduction in the estimated protective effects of income as we move the death interval forward from the date of interview.

Paxson also looked at the respective roles of education and income in protecting health. In both cohort and individual data, income and education are protective when analyzed separately. Taken together, the picture depends on the level of aggregation. In the individual data, the effect of each is robust to allowing for the other, which is consistent with the view that both education and income promote health in different ways.

Education makes it easier to use and benefit from new health information and technologies and income makes life easier more generally, reducing stress and wear and tear, for example by having helped to look after the children, or the money to buy first class travel. In the aggregated cohort data, income and education are more highly

correlated than in the individual data, so it is harder to distinguish their effects. Nevertheless, we find that, conditional on education, increases in cohort average income are hazardous to health, a finding that is consistent with other evidence of hazardous effects of income variation over the business cycle. Parallel work on British birth cohorts also shows a protective effect of education, although an additional year of schooling is much less protective in Britain than in the United States. Still, cohort income is never estimated to be protective of cohort mortality in Britain, whether analyzed in isolation or in competition with education. Interestingly, analysis of MSA averages shows similar results to the American birth cohorts; cities with higher average education or higher average income have lower mortality, but conditional on average income, the correlation between income and mortality is negative. The contrast between the effects of income in the individual and aggregate data remains an important unresolved puzzle.

Gan and Guan (2007) Estimated Interdependence between Health and Education in a Dynamic Model. Investigates to what extent and through which channels that health and educational attainment are interdependent. A dynamic model of schooling, work, health expenditure, and savings is developed. The structural framework explicitly models two existing hypotheses on the correlation between health and education. The estimation results strongly support the interdependence between health and education. In particular, the estimated model indicates that an individual's education, health expenditure, and previous health status all affect his health status. Moreover, the individual's health status affects his mortality rate, wage, home production, and academic success. On average, having been sick before age 21 decreases the individual's education by 1.4 years. Policy experiments indicate that a health expenditure subsidy would have a larger impact on educational attainment than a tuition subsidy.

3.1.6 Employment and Health.

Employment is defined as follows in the Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth International Conference of Labor Statisticians Geneva (1982).

(1) The "employed" comprise all persons above a specific age who during a specified brief period, either one week or one day, were in the following categories:

(a) "Paid employment":

> (a1) At work": persons who during the reference period performed some work for wage or salary, in cash or in kind;
>
> (a2) "With a job but not at work": persons who, having already worked in their present job, were temporarily not at work during the reference period and had a formal attachment to their job. This formal job attachment should be determined in the light of national circumstances, according to one or more of the following criteria:
>
> > (i) The continued receipt of wage or salary;
> > (ii) An assurance of return to work following the end of the contingency, or an agreement as to the date of return;
> > (iii) The elapsed duration of absence from the job which, wherever relevant, may be that duration for which workers can receive compensation benefits without obligations to accept other jobs?

(b) "Self-employment":

> (b1) "At work": persons who during the reference period performed some work for profit or family gain, in cash or in kind;
> (b2) "With an enterprise but not at work": persons with an enterprise, which may be a business enterprise, a farm or a service undertaking, who were temporarily not at work during the reference period for any specific reason.

(2) For operational purposes, the notion "some work" may be interpreted as work for at least one hour.

(3) Persons temporarily not at work because of illness or injury, holiday or vacation, strike or lockout, educational or training leave, maternity or parental leave, reduction in economic activity, temporary disorganization or suspension of work due to such reasons as bad weather, mechanical or electrical breakdown, or shortage of raw materials or fuels, or other temporary absence with or without leave should be considered as in paid employment provided they had a formal job attachment.

(4) Employers, own-account workers and members of producers' cooperatives should be considered as in self-employment and classified as "at work" or "not at work", as the case may be.

(5) Unpaid family workers at work should be considered as in self-employment irrespective of the number of hours worked during the reference period. Countries which prefer for special reasons to set a minimum time criterion for the inclusion of unpaid family workers among the employed should identify and separately classify those who worked less than the prescribed time.

(6) Persons engaged in the production of economic goods and services for own and household consumption should be considered as in self-employment if such production comprises an important contribution to the total consumption of the household.

(7) Apprentices who received pay in cash or in kind should be considered in paid employment and classified as "at work" or "not at work" on the same basis as other persons in paid employment.

(8) Students, homemakers and others mainly engaged in non-economic activities during the reference period, who at the same time were in paid employment or self-employment.

Mel Bartley (1996) study the. Relation between socioeconomic status, employment, and health during economic change, 1973-93. Data from general household surveys, 1973-93. He tacked all men aged 20-59 years in each survey between 1973 and 1993.

Main outcome measures: Change over time in class specific rates of employment, unemployment, and economic inactivity in those with and without limiting longstanding illness.

The conclusion of his study is socioeconomic status makes a large difference to the impact of illness on the ability to remain in paid employment, and this impact increases as unemployment rises. Men with chronic illness in manual occupations were not drawn back into the labor force during the economic recovery of the late 1980s.

Ahs and Westerling (2005) studied the Self-rated health in relation to employment status during periods of high and of low levels of unemployment. Data included cross-sectional interviews from the Swedish Survey of Living Conditions, which were based on random samples of inhabitants between 16 and 64 years of age living in Sweden.

Data were collected for the period 1983–89, when unemployment levels were low (*n* = 35 562; 2.5%) and for the period 1992–97 when unemployment was high (*n* = 24 019; 7.1%). Results: After adjusting for socio demographic variables as well as long-term disease or handicap, the differences in self-rated health between the unemployed and employed were larger when unemployment levels were high in the 1990s, than when they were low in the 1980s. More groups of the unemployed were afflicted with poor health when unemployment was high, compared with when it was low. In 1992–97, being married, living in larger cities, or not having a long-term disease or handicap no longer buffered the negative effects on health among the unemployed.

The Conclusions of study is: Poorer self-rated health among the unemployed seems to be an increasing public health problem during high levels of unemployment.

3.1.7 Health indicators and Human development

Health indicators and human development in the Arab region. Boutayeb and Serghini (2006) study the relationship between health indicators and human development in the Arab region. Beyond descriptive analysis showing geographic similarities and disparities inter countries, the main purpose is to point out health deficiencies and to propose pragmatic strategies susceptible to improve health conditions and consequently enhance human development in the Arab world.

The results given by the present analysis give a good panorama of the Arab countries with their geographic similarities and disparities. The high correlation between health indicators and human development is well illustrated and consequently, countries are classified by groups having similar human development. The analysis shows clearly how health deficits are impeding human development in the majority of Arab countries and allows us to formulate suggestions to improve health conditions and enhance human development in the Arab World. the conclusion of this study that Arab countries have made substantial economic and social progress during the last decades by improving life expectancy and reducing maternal and infant mortality. However, considering its natural wealth and human resources, the Arab region has accomplished less than expected in terms of human development. Huge social inequalities and health inequities exist inter and intra Arab countries. In most Arab countries, a large percentage of populations, especially in rural areas, are deprived of access to health facilities. Consequently, many women still die during pregnancy and labor,

yielding unacceptable levels of maternal and infant mortality. However, the problem is seen to be more complex, going beyond geography and technical accessibility to health care, it compasses, among others, levels of literacy, low social and economic status of women, qualification of health staff, general behaviors and interactions between patients and medical personnel (including corruption).

31.8 Human Capital and Economic

Appleton and Teal Study the components of human capital and contributors to human welfare. Health and education are both components of human capital and contributors to human welfare. One Index of human welfare, which incorporates income, education and health, shows that Africa's level of 'human development' is the lowest of any region in the world. In this study compared Africa with South Asia. While Africa's level of human development is lower than that of South Asia, its per capita income is higher. Africa's poor economic performance has been most marked in its growth rate which has been half that of South Asia. As Africa has found since 1980, slow economic growth severely limits the ability of governments and households to fund further investments in health and education. Low investments in human capital may impinge on already low growth rates of income. Such Interrelations might be thought to imply a vicious circle of development, but this should not be overstated.

Poor countries have considerable discretion over how much to invest in health and education. Since Independence, Africa has achieved a rapid growth of some aspects of human capital - particularly in the expansion of education - despite starting from a low level of income. The expansion of the human Capital stock has not been matched by a commensurate rise in physical capital. The result has been low growth of incomes and low returns to the educational investment.

This study provides an overview of Africa's achievements in the formation of human capital, and its impact on economic growth and welfare. Human capital, economic growth and welfare are closely interrelated. The concept of human development centers around the notion that human welfare depends on various Dimensions, many of which are not well captured by conventional measures of economic income.

The Conclusion of this study .Africa has made large strides in raising literacy and school enrolments and improving health. However, in the case of both education and health these gains are lower than those in other developing Countries.

The percentage of the population over 15 which had completed primary school in 1990 was 25 per cent in Africa as compared with 32 per cent in South Asia. At the secondary level the gap is larger with only 4 per cent of the population over 15 having completed secondary school. The comparable figure for South Asia is 10 per cent, for East Asia it is 50 per cent. Life expectancy on the continent is 8 years below that in South Asia. Within the overall average for Africa there is great diversity. The health and education of people in some African countries is far lower than would be expected from their income. The nature and extent of this diversity is examined.

Human capital is only one factor in accounting for differences in growth rates across countries. While low starting levels of human capital may have hindered Africa's economic growth, its poor Performance cannot be attributed to a lack of subsequent investment in human capital. A more important proximate cause is the low level of investment in physical capital. Low rates of investment in physical Capital have implications for the rates of return on human capital, particularly education.

The conventional Wisdom that the rates of return to education are very high is shown not to have held in the context of many African labour markets in the 1980s and 1990s. If human and physical capital is complements then the policy problem is enabling them both to grow rapidly. Returns to human capital investment depend on the success of policies in promoting the growth of physical capital. There is evidence from micro studies that the income returns to education reflect the effects of education in raising productivity.

These effects have been observed for both industry and agriculture. For industry it is the secondary level which is important while for agriculture it is primary education.

3.2-Methodology for estimating an interaction between economic development and health development.

The studies discussed above used observational techniques as an other social sciences .the non availability of data is one of the main limitations on the use of observational techniques. Apart from non-availability of data, most of prospective studies have been done at the national level some studies used international data on national health expenditure and health status.

Studies, concerned with the macro level using broad indicators of health status mostly, used regression analysis. Two-variable regression using ordinary least –squares have often been used. In some cases researchers have used multiple regression and its more sophististicated approaches especially, when income, sociological factors and health are taken into account together, multiple regression analysis is used.

Anand and Ravallion (1993) proposed a model based on the following basic hypothesis: in addition to economic growth, the allocation of resources is also vital for the determination of health status. There are two types of allocation mechanism.

First: the intersect oral allocation or allocation of economic resources between the public and private sector, and more specifically, the degree of provision of social services.

Second: the inter household allocation of economic resources, or the income distribution, also matters. Based on the above, the Anand and Ravallion model is reflected in the following equation:

$Y=f(X1, X2, X3)$ where

Y= health status

X1=GNP per capita

X2=public expenditure on social services

X3=poverty indicators.

The data covered 22 selected developing countries between 1985-1990. They have obtained the following results: GNP per capita has the wrong sign and is not statistically significant. The (health status indicator used is different between desirable life expectancy(80 years) and actual life expectancy and their expected sign associated with the GNP per capita was positive. Poverty variable is measured as proportion of people consuming less than $1.the coefficients associated with POV and public expenditure on social services has the expected positive sign and are statically significant.

Carrine and Politi (1996) re estimated this equation, but utilizing larger data set and two of the three explanatory variables. The finding from this analysis support the hypothesis that made by Anad and Ravallion.

Taubman and Rosen (1982) have developed a model in order to measure the level of healthiness associated with age and other socio-economic factors. The health variables used in this study ask an individual to compare his health with other of the same age and with himself at the time of prior survey. The health status variable in level from has four possible responses: health better than others (the same age), same –as-others, and worse –than-others, deceased. The data source was unusual in that it followed people over time, and thus had indicators of time change in health status:

$$.\Delta H = H_t +_1 - H_t = f(H_t, X, t)$$

Where H_t is the level of health at time t, X is vector of personal characteristics in order to determine level of the health they used questionnaire. The usual cross-sectional study measures only the changes in health associated with age. But this model used to estimate the differences in healthiness.

A major problem is multicollinearity in health and socioeconomic factors analysis .also the use of proxies as a result of non –availability of data exclusion of important variables creates significant difficulties for reliability of regression analysis results.

Chenikovsky (1977) estimated food intake as a function of income, family size, education, region of country and other demographical variables. All these independent variables are probably related to each other, and the effect of any one of them on food intake would not possible to isolate with regression analysis.