

INDICATORS OF POVERTY: Cross Country Analysis

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ABSTRACT

This paper examines poverty indicators on a cross country basis, in order to identify the relative importance of the various indicators, the incidence of poverty in the major global sub-groupings, and to prescribe policies that would alleviate poverty. The controversy regarding the precise definition of poverty and its appropriate alleviation is identified. Although various definitions of the subject exist, the general consensus is that poverty is a state of human deprivation and helplessness where it becomes difficult to acquire the basic necessities for a healthy standard of living. Various measures of identifying poverty have also been applied, from the crude head-count measure to the indirect and more current measure of the Human Development Index (HDI). The HDI was applied as the basis of analysis in this paper and the resultant major findings are that the countries with high human development are also the rich ones with substantial investments in the development of human capital, and they also record the highest income levels. Policy measures are required for the gradual transformation of countries from the low, to the medium, and finally to the high human development category to ensure the elimination of the low category.

1. Introduction

THE ISSUE of poverty and poverty alleviation is not new to the economics of development. However, in recent years, the rate of research on poverty has increased in tempo. The precise definition of poverty has been a theoretical and policy problem. Although, the meaning of poverty is well known, the exact

description has been difficult. The definition often depends on the persuasion of the person analysing the subject. While economists would approach the subject from the point of view of want, need and effective demand; psychologists may look at it from the point of view of deprivation, esteem and ego. From whatever angle one looks at it, the fact remains that poverty is undesirable. It is an economic and social malaise, a ravaging phenomenon that must be tackled. Poverty has been defined by The World Bank (1980) as a condition of life so limited by malnutrition, disease, illiteracy, low life expectancy, and high infant mortality as to be beneath any rational definition of human decency. The level of human capital development is so low that the environment takes control of man instead of the reverse situation.

The debate on poverty is centred on how policy reforms in the developing countries have affected poverty. In Africa, for instance, the weak structural base of the economies has, over the years, been identified as a result of the external shocks that prevailed in the decade between the early 1980s and 1990s. In response to the adverse international economic environment, various African countries, as well as other countries elsewhere, have embarked on one form of economic reform or the other as recommended by the Bretton Woods institutions. However, the outcome of such reforms in Africa have been very dismal in comparison to the effect in other regions of the world. Gross domestic product per capita had stagnated, and declined in real terms by about 1 per cent a year between 1988 and 1992. Real per capita consumption fell in twenty-three out of forty-one sub-Saharan African countries during the same period (Demery and Squire, 1996).

Poverty is conventionally measured by the income or expenditure level that can sustain the barest minimum standard of living. However, poverty is determined by other factors which include, health, life expectancy and access to clean water (World Bank (1993: 12). This system of measuring poverty is an improvement on the traditional per capita income measure. The broad measure of standard of living incorporates the traditional per capita income with social indicators of well-being is defined in the United Nations human development index as life expectancy, infant mortality, nutrition, literacy and access to health facilities and safe drinking water. This broader measure of the standard of living is not easy to quantify. As a result, there is a tendency to resort to the income-based measure of poverty in spite of its inadequacies.

The basis for poverty measurement is the determination of a poverty line below which individuals or groups are assumed to be poor, once they are not able to finance the basic calorie intake and in a broader perspective, the basic necessities of life. When compared on a cross country basis, the poverty line is set through the purchasing power parity (PPP) between countries in respect of the

ability to purchase a standard basket of goods and services that would guarantee the minimum calorie intake for a normal life. The poverty line could be used in the measurement of poverty while keeping in mind the distribution of income below the poverty line. A wide dispersion of income below the poverty line should be a cause for policy action, because the depth and severity of poverty is more serious in such cases. The bottom line in poverty analysis is the determination of the extent of improvement or deterioration in the standard of living of those below the poverty line. Conversely, the reduction or increase in the cost of living index of the poor would determine the severity of poverty in a given country.

Early studies on conceptual issues in poverty analysis centred on the crude head-count measure of poverty. Arbitrary levels of average income or expenditure were fixed, below which poverty is assumed to be established. It was also assumed under this intuitive paradigm that poverty reduction is synonymous with increased production. The issues of income redistribution and skewness were of less importance. The recent literature recognizes the limits of an income-centred or commodity-centred concept of well-being and the importance of using multifaceted measures of poverty, including those of basic needs and human capabilities (Sen, 1987). The issue of growth with income redistribution has gradually become the centre of attention in the renewed debate on poverty and its alleviation. It has been established that in countries with high and persistent inequality, the trickle-down effects of even fairly even rates of growth have been so slow — that without remedial pro-poor policy actions, it will take an unconscionably long time before a sizeable dent is made in solving the backlog of problems arising from poverty. The rest of the paper is in four sections; section 2 reviews relevant theories and literature, while section 3 examines poverty indicators and analyses cross country trends in these indicators. Section 4 identifies policy implications and section 5 contains the summary and conclusions.

2. Review of Relevant Theories and Literature

The emphasis on poverty alleviation through increased output and enhanced income that existed in the past, has over the years been downplayed for the more critical basic needs satisfaction. The basic needs approach emphasizes the importance of separating generalized increases in income from the more significant attainment of the requirements for a permanent reduction of poverty — improvements in health, regular access to nutritional food, more education, and better and affordable shelter. The importance of the basic needs approach to economic growth and poverty alleviation hinges on the fact that the poor are neither producers nor direct income earners, and most importantly, they are

unable to finance their basic needs requirements. Such needs have to be financed through public expenditure before the beneficiaries are empowered through appropriate policies to generate enough income to enable them move above the poverty level and contribute to economic growth. The issue of basic needs concerns finding a solution to mass deprivation. This approach is necessary for the improvement of the income earning capacity of the poor, and also to ensure that public services reach the poor and that the flow of goods and services satisfy the needs of all household members.

Earlier schools of thought on economic development were based on the theory that with growth, poverty will be alleviated. The so called U-shaped Kuznets curve was based on income inequity at the take-off stage of economic growth. The basic needs approach is an attempt to address the income problem, with a heavy reliance on the trickle-down effect of economic growth to determine the poverty level of the society. The most significant attack on the income approach is that there are certain basic needs like education and health that cannot be efficiently provided without public sector support.

The measurement of poverty has been one of the controversial issues treated in the existent literature on poverty alleviation. The pioneer study undertaken by Sen (1976), has shown the progress that has evidently been made in developing indices that meet certain ethically accepted properties. The measurement of poverty and its conceptualization are strongly linked. If poverty is viewed as the problem of the poor alone, and as having nothing to do with the well-being of the non-poor, then the measurement of poverty is expected to be invariant with the status of the non-poor (see Sen, 1981). Similarly, the specific index chosen usually reflects the view of the researcher on a certain aspect of poverty. Sen's (1976) index of poverty is further considered below.

An income distribution pattern, defined as, Y , of individual i in a given group such that:

$$(Y_1 \leq Y_2 \leq \dots \leq Y_q \leq Y_{(q+1)} \leq Y_n) \quad (1)$$

Where, Z is defined as the poverty line income, which is used to draw a line between individuals that are poor and those that are non-poor. In general, group poverty can be measured using alternative properties which are also able to capture the attributes of the poor. The earliest measure of poverty identified is the head count ratio which is defined as:

$$H = q/n \quad (2)$$

H defines the proportion of the people whose income level is below the poverty line, Z . This measure only tells us how many poor there are in the group, it does not tell us their level of poverty. This aspect of poverty is effectively captured by what is known as the income-gap ratio. It is defined as:

$$I = \frac{q}{\sum_{i=1}^q \frac{(Z-Y_i)}{Z}} \quad (3)$$

The poverty indices given by (2) and (3) have certain limitations in that they indicate only how many poor there are in a community and how much poverty exists. If used separately, these measures miss a significant amount of information that might be expected to capture poverty in full. If, in addition, one wishes to include the extent of deprivation amongst the poor, then, both H and I cease to be appropriate poverty indices. These limitations of H and I initiated further study by Sen (1976), which suggested a poverty measure given by:

$$S = H (I + (1 - I)G) \quad (4)$$

Where, G is the Gini coefficient of the income distribution among the poor. Thus, S includes information on the number of poor people, and the measure of absolute poverty that exists, as well as the measure of relative deprivation among the poor. Subsequent to Sen (1976), there has been an increase in literature pertaining to poverty measurement, these include indices that meet axioms commonly used in the measurement of income inequality. Hagenaars and van Praag (1985) provide a critical review of measures and their implications for the perception of poverty. Notable differences among indices emerged as an attempt was made to capture relative deprivation. Most of the indices introduced in the literature assign a monotonically increasing weight, dependant on the degree of deviation of an individual's income from the poverty line. This is inherently an extension of the debate concerning the specification of the social-welfare function to define an ethically acceptable measure of income inequality. The variants proposed in the literature can either be located in the Gini-type social welfare function or in a utilitarian one.

A poverty index that has generated an immense amount of interest and has been extensively applied in recent studies is one that belongs to a class of decomposable, sub-groups consistent poverty indices as suggested by Foster, Greer and Thorbecke (1984). The general form is given by:

$$P = \frac{q}{n} \sum_{i=1}^q \frac{(Z-y_i)}{Z}^\alpha \quad (5)$$

where: $\alpha \leq 0$

Decomposability of a poverty index implies that if there are ' n ' mutually exclusive groups of people, it is then possible to measure poverty in each sub-group and to compute the magnitude of poverty contributed by each sub-group to the total level of poverty. This property of a poverty index has been a major contributor to its popularity. If a value of 1 is assigned to α , then the *FGT* measure of poverty reduces to H and $H1$ measures of poverty discussed earlier. In terms of interpretation, H measures the incidence of poverty, $H1$ measures its intensity and the *FGT* for $\alpha = 2$ measures the severity of poverty (Ravallion, 1992).

A lot of studies have been done in poverty measurement, as well as on poverty and its adjustment in developing countries. Some authors have argued that adjustment programmes have resulted in the reduction of poverty (Ravallion and Huppi 1991; Squire (1991), while others have argued that adjustment has increased the poverty level amongst the poor and other vulnerable groups.

According to the World Bank (1990), poverty is the inability to attain a minimum standard of living and housing. The report maintained that whereas poverty is concerned with the absolute standard of living of a part of society, inequality refers to relative standards of living across the whole strata of society. Studies that measure poverty use household income and expenditures per capita as efficient yardsticks for the standard of living as long as these include home production. In measuring poverty, it is usual to define a standard of consumption (poverty line) which must be reached if a person is not to be deemed poor (Ali, 1992): The most common approach in defining an absolute poverty line is to estimate the cost of a bundle of goods that is estimated to ensure that basic consumption needs are met. Ravallion (1992) contended that basically the most important component of the basic needs poverty line is the food expenditure necessary to attain the recommended food energy intake. This is then augmented by a modest allowance for non-food goods. This definition of a poverty line consists of two major elements: the expenditure necessary to buy a minimum standard of nutrition and other basic necessities, and a further amount that varies from country to country reflecting the cost of participating in the everyday life of society. The cost of minimum adequate calorie intakes and other necessities can be calculated by looking at the prices of the food that make up the diet of the poor. Sen (1981) developed the entitlement approach to measure the average level of deprivation of the poor. This approach could be seen as concerned with the ability of people to command food, clothing and shelter through the legal means available in the society, including the use of production possibilities, trade opportunities, entitlement compared with the state or other methods of acquiring the relevant commodity bundle that satisfies the desired minimum standard of

living (Ali, 1992). The most important aspects of entitlement include exchange entitlement — the set of all alternative commodities bundles that can be acquired in exchange for what is owned. A person is deemed poor if the exchange entitlement set actually owned by him does not contain any feasible bundle which satisfies the required minimal standard of living. Also, if given ownership, the exchange entitlement can be shown to depend on earned income, asset income, prices of consumption goods, prices of producer goods, prices of inputs used and the government's social programmes and fiscal operations.

In understanding general poverty, it is necessary to look at both ownership structure and exchange entitlement, and the forces that lie behind them, since ownership depends on the economic class structure, as well as the modes of production in the economy. In line with the World Bank (1990) definition of poverty, several studies have explored the relationship between poverty and adjustment. This has taken the form of constructing poverty lines before and after adjustment.

Ravallion and Huppi (1991), used the methodologies proposed by Kanbur (1987) and Kakwani (1990) to analyse changes in the incidence of poverty during an adjustment period in Indonesia. Using household survey data for the period 1984 to 1987, they found that aggregate poverty in Indonesia had decreased for both rural and urban areas, according to the analysis of both income distribution and consumption. They further concluded that the sectoral decomposition of the change in aggregate poverty indicate that gains to the rural sector were very important, whereas gains to the urban sector population shifts from the rural to the urban sector, increases in average real consumption and improvement in overall equity contribute to poverty alleviation. They attributed Indonesia's success in poverty alleviation during an adjustment period to the fact that although government consumption was cut, programmes which were of greatest benefit to the poor were protected. In addition, because of the predominance of poverty in the rural areas, the gains to the rural farm sector were crucial, and therefore, policy adjustments that favour that sector were important. Lastly, Indonesia's economic history was said to have created favourable conditions for maintaining the country's success in reducing poverty during an adjustment period; provided that modest and equitable growth in private per capita consumption could be maintained.

However, studies by Ali (1992), Kakwani (1990) and Killick (1995) obtained contrary findings. Ali (1992) attempted to establish the relationship between structural adjustment programmes and poverty creation in Sudan. He contends that there is increasing evidence that a negative relationship does not exist between the two despite attempts by the World Bank to underplay the causation between poverty and adjustment through research findings. Using household

survey data for the periods, 1968, 1978, and 1986, he used a modified version of Kanbur (1987) and Kakwani (1990) to investigate the impact of adjustment policies on poverty. He found that, during the period 1978-1986, poverty increased at fairly high rates which he attributes to the 'colossal undermining of the entitlements of the poor'. This is brought about as a result of trying to get prices right, resulting in the deepening and widening of poverty. He concluded that, in the context of adjustment policies, poverty alleviation is perhaps an impossibility, given that the implementation of poverty sensitive macroeconomic policies have been consistently sabotaged by uncooperative international organizations.

Ali (1995), however, extends the same methodology employed by Ali (1992) to investigate the challenge of poverty alleviation in sub-Saharan Africa. He notes that information is lacking on the causation between structural adjustment and poverty on one hand, and the effect of economic growth on poverty on the other. He shows that estimates reported in the study do not exactly reflect the incidence, depth and the behaviour of poverty; and thus the effort required on the policy front to alleviate poverty. His results show that poverty in sub-Saharan Africa is a very serious problem as evidenced by the extremely low per capita incomes of the poor; that the majority of Africans are in poverty; and that the lot of the poor have worsened over time. He contended that the observed levels of poverty in the region are incremental to the secular levels. Therefore a medium-term objective of any credible poverty alleviation policy should enable the region to regain its 1970 secular poverty levels. Such a strategy may, or may not be consistent with the currently dominant policy orientation of macroeconomic stabilization and adjustment.

Kakwani (1990), developed a methodology to measure separately the impact of changes in average income and income inequality on poverty. He applied this methodology to provide a link between structural adjustment policies and poverty in the context of the adjustment experience of Côte d'Ivoire, using living measurements survey data. The results showed poverty to be highly sensitive to economic growth and to decrease faster than the economic growth rate provided the growth process does not lead to an increase in income inequality. He also found that the core poor are considerably more affected by the changes in income inequality than by changes in mean income and that changing the terms of trade in favour of agriculture reduced poverty in the initial phase of adjustment. However, during the final phase of the adjustment period, (1986-1990), the poor bore the substantial cost of adjustment, as total poverty increased at an annual rate of 3.63 per cent. He also showed that with the same poverty budget, targeting can reduce the total poverty by more than 8 per cent compared with 10 per cent when there is no targeting.

Killick (1995) argues that in spite of the many data and methodological problems, there are a few simple generalizations about the effects of the adjustment programme on poverty. For instance, poverty groups, especially the urban working poor, are often harmed by adjustment programmes, but there has been a tendency to over-emphasize the outcome. The living standards of the poor can be eroded by the measures which raise the prices of consumer goods and services — devaluation, deregulations of prices and reductions in government subsidies for food and other items. Increases in indirect taxes introduced to reduce budget deficits are passed on in higher final prices, although the extent to which this affects the poor depends critically on the items on which taxes are increased. He cited studies that have found conflicting results. For instance, Indonesia and Malaysia exemplify adjustment accompanied by continued reductions in poverty. In Morocco, existing evidence indicates a beneficial effect on rural poverty and a worsening for many of the urban poor. In Tanzania, adjustment measures are claimed to have had the effect of narrowing the urban-rural income gap, with the urban poor bearing much of the burden. He concluded that to the extent that adjustment is associated with a worsening in poverty, this may be due to selection biases, motivated by a concern for the welfare of the vulnerable. In the long run, adjustment is essential for poverty eradication.

Demery and Squire (1996) examined the relationship between macroeconomic adjustment and poverty in several African countries. They used results of previous studies to illustrate the relationship between poverty and growth on one hand and between poverty and inequality on the other hand. Their results indicate that changes in inequality and changes in mean income (economic growth) have worked in opposite directions in creating poverty. For almost all countries, the effects of changes in economic growth are negative, while the effect of changes in inequality on poverty is positive. They contend that the poor as a whole may benefit from growth despite worsening inequality, but the bottom decile may see their incomes decline. It is also possible that changes in inequality protect the bottom decile when mean income is declining. They conclude that their analyses provide the most convincing evidence to date that economic reform is consistent with a decline in overall poverty and that a failure to reform is associated with increased poverty at the rate of population growth. They found a generally rising poverty incidence in both Latin America and Africa but a generally falling incidence in Asia.

Addison and Demery (1987) in their review of programmes that have tried to help the poor under structural adjustment, argued that adjustment policies adversely affect the poor through reduction in real incomes and consumption as well as their influence on the distribution of incomes. They identified five broad approaches to assisting the poor namely: (a) raising their returns on assets;

(b) improving their employment opportunities; (c) ensuring their access to education; (d) ensuring term access; and (e) supplementing their resources with transfers.

The first four seek to improve the primary claims of the poor, while the last improves their secondary claims. They pointed out that, 'the advantage of a strategy that seeks to alleviate poverty by improving primary claims is that it can be broadly consistent with the objectives of structural adjustment', otherwise conflicts may arise. They conclude that the problems of the poor are likely to be exacerbated if measures to deal with the underlying causes of economic imbalances are postponed or if too much reliance is placed on further extension of trade and price controls. In addition, income distribution will inevitably change during adjustment.

Several studies have attempted to link adjustment, poverty and growth in developing countries. This is often done by regressing poverty on changes in mean income and comparing results for periods before and after adjustment. Ravallion and Datt (1996) assessed the importance of the sectoral composition of economic growth to India's poor. They used three measures to relate economic growth to poverty; (i) the mean consumption per person as estimated by the national sample survey organization data, (ii) the mean consumption per person as estimated by the national accounts; population census; and (iii) the mean income per person (from national accounts and census).

The elasticities of poverty measures with respect to these measures of economic growth were estimated by regressing the difference of the log poverty measure against the first difference of log mean consumption (or income). Their result showed that national poverty measures responded to all three measures of economic growth. They concluded that the relative effect of growth within and between each sector reinforced the importance of rural economic growth to national poverty reduction in India. Both the urban and rural poor gained from the rural sector growth while urban growth had adverse distributional effects within urban areas, which militated against the gains to the urban poor. Urban growth had no discernable impact on rural poverty. To reduce poverty in India it is essential to foster conditions for growth in the rural economy.

Ravallion and Datt (1995) used 20 household surveys for rural India for the years 1958-1990 to measure the impact of growth on poverty. They regressed poverty measures against mean consumption in order to test whether the poor shared in growth. Their results indicate that measures of absolute rural poverty responded elastically to changes in mean consumption. Agricultural growth had no discernable impact on the share of total consumption of the poor. For the rural poor, they attributed the long-term gains from growth to higher average farm yields, which benefited poor people both directly and through higher real

agricultural wages. Both the non-poor and the poorest also benefited from the higher yields. Ravallion and Datt (1991) showed how changes in poverty measures can be decomposed into growth and distributional effects. The growth component of a change in the poverty measure is defined as the change in poverty due to a change in mean income, while holding the Lorenz curve constant. The redistribution component is the change in poverty due to changes in the Lorenze curve while keeping mean income constant. They illustrated the decomposition with a comparative analysis of Brazil and India for the 1980s. Their results indicate that distributional shifts have aided poverty alleviation in India at a given mean consumption, while they have hindered it in Brazil. Growth and distributional effects on poverty were quite uneven over time in both countries, while the effects of instances of negative growth were notable. Chen, Datt and Ravallion (1993) assessed the developing countries' progress in reducing absolute consumption poverty during 1981-1991, using data on household consumption and per capita income for 40 countries. They applied dominance tests to the distributions after adjustment, to purchasing power parity. They found the incidence of aggregate poverty static while the number of poor increased.

Kakwani (1990) examined the relationship between poverty and economic growth using living standards survey data from Côte d'Ivoire. He argued that the relationship between change in poverty and economic growth has not been thoroughly investigated, but evidence reveals that countries with a high concentration of the poor have also experienced lower growth rates. He investigated the impact of economic growth on poverty empirically through separately measuring the impact of changes in average income and income inequality on poverty. He used elasticities of various poverty measures of the impact of growth on poverty when the distribution of income does not change. His results showed that poverty is highly sensitive to economic growth and should decrease faster than the economic growth rate, provided the growth process does not lead to an increase in income inequality. If inequality deteriorates during the course of a country's economic growth, then poverty may even increase because the poverty measures were found to be considerably more elastic for changes in inequality.

Bourguignon (1991) developed and used an applied optimal growth framework to evaluate the efficiency cost of poverty-reducing redistribution policies with Venezuelan data. Assuming the progressivity of the transfer system and its marginal efficiency costs, he showed that in an economy on a steady - growth path, poverty can be substantially reduced at a rather low efficiency cost. For an economy which has suffered a strong adverse shock and is entering an adjustment period, however, immediate redistribution would be optimal only in a society with an almost infinite aversion to inequality and a low initial level of

poverty. He argues that any economy has to determine the amount of present and future resources to devote to alleviating poverty knowing that the resulting resource allocation may slow the pace of structural adjustment and reduce attainable growth. Redistribution of income from the non-poor to the poor is seen to be likely to reduce domestic savings, which reduces investment and therefore growth. Redistribution that achieves less poverty and lower savings in the present, therefore, implies less income and thus more poverty in the future. His results further indicated that when redistribution is affected by asset transfers, the poor gain less in the short run. Their income even declines slightly when the entire transfers are in the form of assets because of the assumed complementarity between private and public investment. The complementarity increase in public investment lightens the government budget constraint, thus increasing the taxation borne by the poor. But the poor gain in the long run because of an acceleration in growth.

3. Poverty Indicators and Cross Country Analysis

3.1 Poverty indicators

Poverty indicators are usually applied to aid the decision making process on poverty alleviation strategies. The major indices reflecting the extent of poverty in a given country (poverty indicators), when appropriately tracked and analyzed help shape public policy for the overall benefit of an economy. They quantify the consequences of poverty as defined by low income or lack of adequate public services — such as high child mortality rates (World Bank, 1993: 21). Poverty indicators are broadly categorized into two — income indicators which track the earning opportunities of the poor, and social indicators which relate to the provision of social services. The income indicators include, GDP per capita, unskilled wage rate, availability of goods and services, the general price level and rural terms of trade. On the other hand, the social indicators include share of public expenditure for basic social services in GDP, primary school enrolment, infant mortality, child morbidity, life expectancy, malnutrition and maternal mortality. Basically, poverty indicators reflect an eclectic construct of a framework incorporating the traditional per capita income model, the basic needs approach and the social indicators which are now popularly referred to as the human development index (HDI). Analysis under this framework has both quantitative and qualitative aspects. The HDI is an improvement on the traditional per capita income indicator. The basis of the HDI is that human development goes beyond the improvement in income to the wider terrain of the choices open to an individual. The HDI (UNDP, 1995) contains three indicators; life expectancy, educational attainment — representing knowledge, and real GDP

(in purchasing power parity dollars) – representing a decent standard of living. The HDI reflects the extent to which a people have been empowered to attain the three basic indicators. The HDI emphasizes the four essential components of human development, productivity, equity, sustainability and empowerment. Essentially, a non-discriminating environment should be created for enabling increased productivity on a sustainable basis, while the people must be involved in all decisions that affect their lives.

The HDI assigns a two-thirds weight to life expectancy at birth and educational attainment, one-third weight to primary, secondary and tertiary enrolment, while income is adjusted on a purchasing power parity basis, with the definition of a threshold regarded as adequate for a reasonable and decent standard of living. According to the Human Development Report (1995), the three basic HDI indicators are reduced to a common standard on a scale between 0 and 1. Actual attainment is compared with a defined goal, and the distance between the two indicates the extent of human development and the effort required to attain the optimum level. The HDI is unique in that it brings out vividly the inadequacies in the development process. The positive relationship between high per capita income and an improvement in people's welfare may not always hold. It is possible for the HDI to be high whilst there is a low per capita income while the opposite is also true. The ideal thing is for a high per capita income to be reflected in a relatively higher level of human development.

3.2 Cross country analysis of poverty indicators

The HDI is the basic framework adopted in this paper for the cross country analysis of trends in poverty indicators. The composite index, the HDI, is an appropriate indication of the trickle down effect of economic growth on the people, especially the poor. It indirectly measures the degree of deprivation present or absent in a given society. As a result of the common basis for its computation, the HDI serves as the best proxy for comparing meaningfully the enhancement of human capital and human development on a cross country basis.

The analysis of HDI for 1992, published by the UNDP in 1995 (table1), showed that the USA was the second best, after Canada, in the empowerment of the populace through human development and the trickle down of the gains from economic development. The HDI ranking was, however, lower than the GDP per capita ranking, showing that with a relatively higher income, the HDI could not move in consonance. Among the 22 countries selected for comparison, USA and UK, two group of seven (G7) industrialized countries fell in the 2nd and 18th slots on the HDI ranking. The case of the UK is particularly interesting, with a relatively higher HDI than real per capita GDP. This is an indication that with a relatively lower income, the UK was able to ensure that its citizens

attained the threshold of the basic requirements of life expectancy, education and real income that guarantee a decent standard of living. Mexico, Malaysia and Brazil were the only industrializing countries among the first 100 on the HDI ranking.

Algeria and Jamaica were developing countries among the first 100 on the HDI ranking, while Indonesia was the 104th country. China, the 111th country on the HDI ranking had a higher HDI rank than the real GDP per capita rank, indicating that although in relative terms, income per capita was lower, China was able to attain a high level of the basic requirements for a decent and reasonable standard of life. Nigeria, with a human development index by 0.406 was the 141st on the HDI ranking. However, the HDI rank was lower than the real per capita GDP rank, indicating that the relatively high income could not be applied for the attainment of the basic requirements of decent living. This is in sharp contrast to the situation in India, the 134th country on the HDI rank. Indian's HDI rank was also higher than the real GDP per capita, reflecting the fact that India has been able to apply the fall-out of economic growth to improve the choices available to the citizens, especially empowering them for self-actualization. Ethiopia, the lowest on the HDI for the 22 countries used in the analysis ranked 171st; with a HDI of 0.227, a real GDP per capita of \$330 and life expectancy of 47.5. Ethiopia was clearly the poorest country on the list on an aggregate basis. However, the adult literacy level of 32.7 per cent was high compared with Burkina Faso's 17.4 per cent.

The profile of human development for developing countries between 1988 and 1993 indicate that Mexico, one of the countries in the sample ranked 53rd on the HDI with Ethiopia maintaining the 171st position. Fifteen countries had life expectancy at birth of above 50 years, health services access above 50 per cent of the population and adult literacy above 40 per cent. Côte d'Ivoire, Senegal, Benin, Uganda, Guinea, Burkina Faso and Ethiopia had lower access to health facilities and adult literacy levels during the same period. Nigeria, which fell in the first group, had life expectancy of 50.4 years, health services access to about 66 per cent of the population and an adult literacy level of 52.5 per cent. For all developing countries, life expectancy averaged 63.2 years in 1992, access to health facilities for an average 79 per cent of the population between 1985 and 1993 and adult literacy level of 68.4 per cent in 1992. The performance of sub-Saharan Africa was below the average for developing countries with an average life expectancy of 51.3 years in 1992, access to health facilities for 56 per cent of the population in 1988-1994 and an adult literacy level of 54.4 per cent in 1992.

In the 1995 Human Development Report, the UNDP showed that between 1988 and 1993 an average of 200 million people in sub-Saharan Africa had no

access to health services, 270 million people were without access to safe water and about 290 million people were without access to good sanitation. In addition, about 140 million adults were illiterate with a female component of about 80 million. Malnourished children were about 25,970,000 and about 4,050,000 children were dying before the age of 5. This represents a pathetic human deprivation profile for sub-Saharan Africa, notwithstanding the fact that the sub-region performed relatively better than the average for the developing countries as a group. A disaggregation into individual countries showed that Jamaica and Saudi Arabia performed better on access to health services as only 0.2 million and 0.5 million of the population of the respective countries had no access to health services. The worst performer was India with 132.7 million people without access to health services. Pakistan with 58.2 million people was the next to India while Nigeria with 34.7 million people without access to health services was fourth, following Indonesia with 37.7 million people. India was consistently worse off on all grounds. The poor performance is partly explained by India's large population. Nigeria's performance was relatively better than the average for sub-Saharan Africa. About 65.4 million people had no access to safe water, another 66.4 million were without access to good sanitation and an illiterate adult population of 24.9 per cent. The female proportion of the population that was illiterate in 1992 was 15.5 per cent. About 7,480,000 children were malnourished, while about 140,000 children died before the age of 5. Although the data on the profile of human deprivation would suggest the extent of human development, the fact remains that in most of the countries the relative performance was influenced more by population size than other considerations. There are few exceptions, but the trend reflected lower levels of deprivation for the smaller countries in the sample.

Trends in human development as published by the UNDP showed that between 1960 and 1992 the major indicators of human development improved generally for all developing countries and sub-Saharan Africa. Life expectancy at birth improved from 46.3 years in 1960 to 63.2 years in 1992 for all developing countries. The infant mortality rate for 1000 live births declined from 149 to 70 during the same period. The real per capita GDP increased from \$925 to \$2595 during the review period. For sub-Saharan Africa, the average life expectancy at birth was 40.1 years in 1960 and 51.3 years in 1992. The infant mortality rate per 1000 live births dropped from 165 in 1960 to 97 in 1992. In addition, the real per capita income rose from \$934 to \$1346 during the same period. All the countries covered recorded improved performance on the major indicators in 1992, compared with 1960. For instance, for Nigeria, life expectancy at birth rose from 39.5 years in 1960 to 50.4 years in 1992. Infant mortality rate per 1000 live births dropped from 165 to 82 during the same

period. In addition, the adult literacy rate rose from 25 per cent in 1970 to 53 per cent in 1992. However, the real GDP per capita increased marginally from \$1133 in 1960 to \$1560 in 1992. This is in sharp contrast with the trend established for Mexico, Brazil and Saudi Arabia, where more than twofold increases in real GDP per capita were recorded. Nigeria's low life expectancy at birth is an indication of the low human development efforts and is a major factor in the low ranking of Nigeria on the HDI scale. The relatively slow growth in real per capita GDP on a purchasing power parity basis is also another factor contributing to the poor human development record of Nigeria.

The Human Development Report for 1995 showed that in 1992, out of a total of 174 countries for which HDI calculations were computed, 63 were in the high human development category, 64 in the medium category and 47 in the low category. The proportion of the world's population living in the three categories were 30 per cent, 39 per cent and 31 per cent, respectively. The corresponding figures in 1960 were 16 per cent, 11 per cent and 73 per cent, respectively. Thus, the proportion of the World's population living in the high human development category almost doubled during the period under review. The high human development index category is led by Canada with Brazil at the bottom on the 63rd position. Kazakhstan on the 64th position led the medium human development category with Cameroun at the bottom. The low human development category was led by Pakistan at the 128th position with Nigeria in the last position. The average HDI for the high human development category was 0.888, while that for the medium human development category was 0.632 and that for the low human development category was 0.403. For all developing countries an average HDI of 0.570 was recorded in 1992. For the least developed countries, 0.337 was recorded, while sub-Saharan Africa recorded 0.389. The world average was 0.759 and industrial countries average was 0.916. It follows from the figures that while the average for sub-Saharan Africa was lower than that for developing countries as a group, the average for the industrialized countries was higher than the world's average. The reason for this is that the relatively low performance of the developing countries, who are incidentally in the low human development category, reduced the world average below the figure of the industrialized countries.

The relatively low HDI for sub-Saharan Africa, when compared with the average for the developing countries as a group, is attributable to the preponderant share of sub-Saharan Africa in the low human development category. Nigeria, the 34th poorest country in the World in 1992, occupied the 141st rank on the HDI scale and was the 14th on the low human development category. The high human development category can be regarded as rich, the medium human development category as relatively poor, while the low

human development category are absolutely poor. Life expectancy at birth, adult literacy, combined first, second and third level gross enrolment ratio and real GDP per capita (PPP \$) averaged 72.9 years, 95.8 per cent, 76.0 per cent and \$13,605 in 1992, for the high human development category, respectively. The comparable figures for the medium human development category were 66.8 years, 79.3 per cent, 59 per cent and \$2631, respectively while for the low human development category comparative figures were 55.8 years, 48.3 per cent, 45 per cent and \$1299. The data for the three categories showed that life expectancy at birth was higher for the high human development category and lower for the low human development category. Thus, as human development progresses, the average life span increases. The other indicators, adult literacy — combined first, second and third level gross enrolment — and real GDP per capita exhibited the same trend, indicating that the literacy level, gross enrolment and real income increase as human development progresses, or as the poverty level is reduced.

4. Policy Implications and Recommendations

The poor performance of the low human development countries will continue to impact negatively on the global HDI, dragging down the world average index below that of the industrialized countries. With the reduction in the poverty level globally, the enhancement of human development for the poor countries and their movement into the medium human development category, the disparity between the world average HDI and the industrialized countries average would narrow. This is why the phenomenon of poverty must be tackled, as it constitutes a major problem for the global community. As long as a disproportionately low share of the world's population is in the high human development category, 30 per cent in 1992, with about an equal number in the low category, the problem of poverty will continue to loom large. Although considerable progress has been made on the basis of the 1960 data, a lot more needs to be done to eradicate the low category and gradually move the world's population towards the high human development category. Essentially, concerted efforts are required to eradicate absolute poverty and eventually reduce the disparities inherent in unequal access to the essentials of good and healthy living.

The inability of governments to adopt policies for an effective trickle down of the gains of economic growth to the common people was clearly depicted by the data for 1992 which showed that, whereas the HDI for the industrial countries was 1.6 times higher than that for the developing countries, the real GDP per capita (PPP dollar) was 6 times higher. Thus, the benefit of economic growth was not fully reflected in the well-being of the people. The wide disparity between the HDI and real GDP per capita is a problem in the drive towards the

global eradication of poverty. Enough resources are either not being made available for enhancing human development or, where resources are deployed, they are inefficiently managed.

In the light of the above, policies are required to eradicate absolute poverty by ensuring the reduction in the human development categories to two from three. In other words, the low human development category should be developed to qualify for the medium human development category. This can be achieved through increased access to health and educational facilities, made possible by enhanced budgetary allocations. This requires concerted efforts by the international community and individual countries. Although efforts have been made in the past by the Bretton Woods Institutions to ensure the transfer of real resources to the developing countries, especially the debt distressed ones, such resources have not flowed enough to substantially alleviate the poverty prevalent in these countries and thereafter set them on the path of sustained economic growth. On the contrary, there has been a net outflow of resources from the developing countries as a group. The international fora is certainly the best avenue for eradicating absolute poverty and moving the world towards the highest level of human development. This is why the Bretton Woods Institutions and the Group of Seven industrialized countries (G7) should be in the forefront in the global efforts at poverty alleviation and eradication. More resources should be transferred from the rich countries of the North to the poor countries of the South to ensure that the basic necessities of life are available and affordable, and that human capabilities are enhanced for self actualization. The provision of health, social and educational facilities in the right proportion and an improved life expectancy at birth would ensure that a high level of HDI is attained and that absolute poverty is eradicated.

To complement the international effort at poverty alleviation, national governments must design appropriate policy measures which are focussed on man as the most crucial determinant of economic growth and development. Thus, policies towards human capital development are required to enable man take advantage of and control his environment. With enhanced human capital, incomes of the majority of the people would improve and they will be in a position to acquire basic health, educational and social facilities. The surest way to achieve this is to invest substantially in education and adapt appropriate technology that takes into account local peculiarities. When labour, especially that offered by the poor, is appropriately remunerated and adequate access to basic amenities is assured, it is possible for the poor to grow out of poverty. In specific terms, primary and tertiary education should be provided and made compulsory for all children up to the age of 16. Where such children cannot proceed to secondary schools, the state should provide them with artisan training. Primary and

preventive health care should be provided by the state, while the real incomes of workers should be enhanced through appropriate macroeconomic policies. This comprehensive approach would enable the poor to have unfettered access to the basic necessities of good living even without state support.

Sound macroeconomic policies are required to form the basis for sustained economic growth and eventual reduction in poverty levels. Fiscal, monetary, exchange rate and real sector policies should ensure internal and external balance. In the absence of macroeconomic stability, internal and external balance cannot be guaranteed and economic growth cannot be sustained, leading to the perpetuation of the poverty syndrome. Within the ideal macroeconomic environment, financial policies should ensure increasing real incomes, if poverty is to be significantly reduced.

On a short-term basis, public policy should be targeted directly at the poor. Such policies would entail the institution of programmes on food subsidy, affordable micro credit schemes and the enhancement of incomes in the agricultural sector, where most of the poor are engaged. For effectiveness, such programmes should be devoid of excessive bureaucracy. In the case of Nigeria, efforts have been made in the past to directly target the poor with alleviation measures. However, some of the schemes have not yielded the best results due to faulty implementation. The disturbing aspect of Nigeria's poverty alleviation efforts is the absence of a permanent and comprehensive framework. Although Nigeria realized the need for human development as far back as the early 1970s, when scholarships were offered to eligible Nigerians to travel abroad for technological education, such efforts were not sustained. The current efforts at poverty alleviation are ad-hoc and politically volatile.

5. Summary and Conclusion

Poverty is usually defined from the perspective of the person looking at the subject. However, it is generally agreed that poverty is an undesirable economic and social malaise that could reduce the rate of economic growth and development. A very simple definition by the World Bank (1980) is that poverty is a condition of life so limited by malnutrition, disease, illiteracy, low life expectancy and high infant mortality as to be beneath any rational definition of human decency.

The measurement of poverty has also been controversial. However, it has been agreed that the measurement should be somewhat related to its conceptualization. The human development index (an indirect measure) has been developed from the crude head count measure of poverty and the poverty line measure. The HDI is an improvement on the per capita income measure and the basic needs approach to poverty alleviation.

Most of the developing countries are in the low human development category, while most of the Organization for Economic Cooperation and Development (OECD) countries led by the Group of Seven (G7) countries make up the high human development category. The data for the three categories show that life expectancy at birth was higher for the high human development category and lower for the low human development category, implying that as human development progresses, the average life span increases. The other indicators, adult literacy, combined first, second and third level gross enrolment and real GDP per capital exhibited the same trend.

The policy implications are that absolute poverty would persist as long as concerted efforts are not made to empower countries in the low human development category to gradually move into the medium human development category and thereby eliminate this poverty ravaged category. In addition, as long as a disproportionately low share of the world's population is in the high human development category, the problem of poverty will continue to loom large.

The inability of governments to adopt policies for the effective trickle down of the gains of economic growth to the common people is a major global problem, although it is more serious for developing economies. To alleviate the poverty crisis, efforts should continue to be made at the international fora for the transfer of real resources from the developed to the developing economies to enhance global growth and development. In addition, the low human development countries need adequate empowerment to move them out of poverty. Such empowerment or enhanced human development would be in the form of improved access to education, health services and better quality of life leading to an improvement in the average life span from birth. The development of human capital would enable man to be in control of his environment, give him access to the necessities of life and enable him to participate in the decision affecting his well being. Other policies include, a sound macroeconomic framework with adequate room for sustained economic growth and poverty alleviation. Although ad-hoc or short term measures targeted directly at the poor can be put in place, they are usually not effective in ensuring the long term objectives of poverty alleviation.

Table 1. Human Development Index

Countries	Life expectancy at birth 1992	Adult literacy rate % 1992	Combined 1st, 2nd & 3rd level gross enrolment rate (%) 1992	Real GDP per capita (PPP\$) 1992	Adjusted real GDP per capita	Life expectancy index	Educational index	GDP index	Human Dev't index 1992	Real GDP per capita (PPP\$) rank Minus HDI rank (a)	HDI rank
USA	76.0	99.0	95	23,760	5,374	0.85	0.98	0.99	0.937	-1	2
United Kingdom	76.2	99.0	85	14,990	5,314	0.84	0.94	0.97	0.919	9	18
Mexico	70.8	88.6	65	7,300	5,213	0.76	0.81	0.96	0.842	-6	53
Malaysia	70.8	81.5	60	7,790	5,223	0.76	0.74	0.96	0.822	-14	59
Brazil	66.3	81.9	70	5,240	5,142	0.69	0.78	0.94	0.804	1	63
Saudi Arabia	69.7	60.6	52	9,880	5,258	0.75	0.58	0.96	0.762	-43	76
Algeria	67.1	57.4	66	4,870	4,870	0.70	0.60	0.89	0.732	-15	85
Jamaica	73.6	83.7	65	3,200	3,200	0.81	0.77	0.58	0.721	8	88
South Africa	62.9	80.6	76	3,799	3,799	0.63	0.79	0.69	0.705	-15	95
Indonesia	62.7	82.5	60	2,950	2,950	0.63	0.75	0.53	0.637	-5	104
China	68.5	79.3	55	1,950	1,950	0.73	0.71	0.35	0.594	12	111
Pakistan	61.5	35.7	25	2,890	2,890	0.61	0.32	0.52	0.483	-28	128
India	60.4	49.9	55	1,230	1,230	0.59	0.52	0.21	0.439	7	134
Nigeria	50.4	52.5	51	1,560	1,560	0.42	0.52	0.27	0.406	-6	141
Sudan	53.0	42.7	31	1,620	1,620	0.47	0.39	0.28	0.379	-10	144
Côte d'Ivoire	51.0	36.6	39	1,710	1,710	0.43	0.37	0.30	0.369	-15	145
Senegal	49.3	30.5	31	1,750	1,750	0.41	0.31	0.31	0.340	-25	152
Benin	47.6	32.9	34	1,630	1,630	0.38	0.33	0.29	0.332	-22	155
Uganda	44.9	58.6	37	860	860	0.33	0.51	0.14	0.329	-4	158
Guinea	44.5	33.0	22	592	592	0.33	0.29	0.09	0.237	2	168
Burkina Faso	47.4	17.4	19	810	810	0.37	0.18	0.13	0.228	-10	169
Ethiopia	47.5	32.7	14	330	330	0.38	0.26	0.04	0.227	3	171

(a) A positive figure shows that the HDI rank is better than the real GDP per capita (PPP\$) rank; a negative shows the opposite.
Source: *Human Development Index*, United Nations Development Program 1995.

Table 2. Profile of Human Development (developing countries)

Countries	Life expectancy 1992	Health services (%) 1985-93	Safe water (%) 1988-93	Sanitation (%) 1988-93	Daily calorie supply per capita 1992	Adult literacy rate (%) 1992	Combined 1st,2nd & 3rd level gross enrolment rate (%) 1992	Daily newspapers (copies) per 100 people 1992	Televisions per 100 people 1992	Real GDP per capita (PPP\$) 1992	GNP per capita (US\$) 1992	HDI rank
Mexico	70.8	78	84	50	3,181	88.6	65	12	15	7,300	3,510	53
Malaysia	70.8	-	78	94	2,884	81.5	60	12	15	7,790	2,830	59
Brazil	66.3	-	87	72	2,824	81.9	70	6	21	5,240	2,810	63
Saudi Arabia	69.7	97	95	86	2,751	60.6	52	5	27	9,880	7,780	76
Algeria	67.1	88	68	79	2,897	57.4	66	4	8	4,870	1,850	85
Jamaica	73.6	90	100	89	2,607	83.7	65	7	13	3,200	1,390	88
South Africa	62.9	-	-	-	2,705	80.6	76	3	10	3,799	2,830	95
Indonesia	62.7	80	51	44	2,755	82.5	60	2	6	2,950	680	104
China	68.5	90	69	16	2,729	79.3	55	-	3	1,950	480	111
Pakistan	61.5	55	68	38	2,316	35.7	25	1	2	2,890	420	128
India	60.4	85	79	27	2,395	49.9	55	3	4	1,230	310	134
Nigeria	50.4	66	36	35	2,125	52.5	51	2	3	1,560	330	141
Sudan	53.0	51	48	75	2,202	42.7	31	2	8	1,620	-	144
Côte d'Ivoire	51.0	30	76	60	2,491	36.6	39	1	6	1,710	680	145
Senegal	49.3	40	48	55	2,265	30.5	31	1	4	1,750	780	152
Benin	47.6	18	51	34	2,532	32.9	34	-	1	1,630	410	155
Uganda	44.9	49	31	57	2,162	58.6	37	-	1	860	180	158
Guinea	44.5	80	55	21	2,390	33.0	22	-	1	592	490	168
Burkina Faso	47.4	49	56	25	2,387	17.4	19	-	1	810	310	169
Ethiopia	47.5	46	25	19	1,610	32.7	14	-	-	330	110	171
All developing countries	63.2	79	69	36	2,546	68.4	54	-	6	2,595	982	-
Sub-Saharan Africa	51.3	56	43	36	2,096	54.4	41	-	-	1,346	559	-

Source: UNDP, 1995

Table 3. Profile of Human Deprivation

Countries	Refugees by country of asylum 1992 ('000)	Population without access to:			Illiterate adults aged 15 and above 1992 (m)	Illiterate females aged 15 and above 1992 (m)	Children not in primary school 1992 ('000)	Malnourish- ed children under 5 1992 ('000)	Children dying before age 5 1992 ('000)
		Health services 1985-1993 (m)	Safe water 1988-1993 (m)	Sanitation 1988-1993 (m)					
Mexico	361	-	-	-	5.9	3.7	-	1,585	78
Malaysia	10	-	4.1	1.1	2.0	1.4	-	459	9
Brazil	5	-	20.0	43.1	17.6	9.1	3,215	1,250	233
Saudi Arabia	29	0.5	0.8	2.4	3.7	1.9	952	309	-
Algeria	219	3.1	8.4	5.5	6.2	4.0	534	470	59
Jamaica	-	0.2	-	0.3	0.3	0.1	-	20	1
South Africa	0	-	-	-	4.4	2.3	-	-	84
Indonesia	16	37.7	92.5	105.7	20.6	14.1	516	8,660	565
Pakistan	1,629	58.2	41.4	80.2	43.8	25.2	-	3,725	687
Nigeria	5	34.7	65.4	66.4	24.9	15.5	-	7,480	975
Sudan	726	12.7	13.5	6.5	7.8	4.7	-	1,525	140
Côte d'Ivoire	174	9.0	3.1	5.1	3.9	2.2	963	297	72
Senegal	72	4.6	4.0	3.5	2.8	1.6	626	259	39
Benin	-	4.0	2.4	3.3	1.7	1.0	366	212	33
Uganda	196	9.8	13.3	8.3	3.8	2.5	-	896	167
Guinea	479	1.2	2.8	4.8	2.1	1.2	693	268	67
Burkina Faso	6	4.8	4.2	7.1	4.1	2.3	980	444	74
Ethiopia	432	27.2	37.7	40.8	17.3	9.9	5,660	3,810	509
India	258	132.7	187.7	645.6	271.8	169.9	-	69,345	3,102
All developing countries	-	-	1,290T	-	860T	550T	-	174,530T	12,350T
Sub-Saharan Africa	4,410T	200T	270T	290T	140T	80T	-	25,970T	4050

Source: UNDP, 1995.

Table 4. Trends in Human Development

Countries	Life expectancy at birth (years)		Infant mortality ratio (per 1000 live births)		Population with access to safe water (%)		Underweight children under age 5 (%)		Adult literacy rate (%)		Enrolment ratio for all levels (age 6-23) (%)		Real GDP per capita (PPP\$)	
	1960	1992	1960	1992	1975-80	1988-93	1975	1990	1970	1992	1980	1990	1960	1992
Algeria	47.0	67.1	168	55	77	68	23	12	25	57	52	60	1,676	4,870
Mexico	57.1	70.8	92	36	62	84	19	14	74	89	68	62	2,870	7,300
Malaysia	53.9	70.8	73	13	-	-	31	18	60	82	54	58	1,783	7,790
Brazil	54.7	66.3	116	58	62	87	18	7	66	82	54	60	1,404	5,240
Saudi Arabia	44.4	69.7	170	29	64	95	25	13	9	61	36	50	7,612	9,880
Jamaica	62.8	73.6	63	14	86	100	14	7	97	84	67	61	1,829	3,200
South Africa	49.0	62.9	89	53	-	-	-	-	-	-	-	-	2,984	3,799
Indonesia	41.2	62.7	139	58	11	51	51	38	54	82	51	58	490	2,950
China	47.1	68.5	150	44	-	-	26	21	-	-	50	43	723	1,950
India	44.0	60.4	165	82	-	-	71	63	34	50	40	50	617	1,230
Nigeria	39.5	50.4	190	84	-	-	30	35	25	53	50	37	1,133	1,560
Sudan	38.7	53.0	170	78	-	-	36	34	17	43	25	27	975	1,620
Côte d'Ivoire	39.6	55.6	156	108	-	-	84	66	24	36	30	32	621	1,230
Senegal	37.3	49.3	172	68	36	48	19	20	12	31	24	30	1,136	1,750
Benin	35.0	47.6	185	86	34	51	34	24	16	33	34	30	1,075	1,630
Uganda	43.0	44.9	133	115	35	31	28	26	41	59	25	41	371	860
Guinea	33.6	44.5	202	134	14	55	28	24	14	33	21	19	444	592
Burkina Faso	36.2	47.4	205	130	25	56	34	27	8	17	8	17	290	810
Ethiopia	36.0	47.5	175	119	8	25	45	40	-	-	16	17	262	330
All developing countries	46.3	63.2	149	70	-	69	40	34	-	68	46	50	925	2,595
Sub-Saharan Africa	40.1	51.3	165	97	-	43	31	30	27	54	39	36	934	1,346

Source: UNDP, 1995.

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