

MEASUREMENTS OF HUMAN DEVELOPMENT SEVEN QUESTIONS

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Introduction

Human development in its different aspects is measured by various composite indices – the Human Development Index (HDI), the Gender-related Development Index (GDI), Gender Empowerment Measure (GEM) and the Human Poverty Index (HPI). The issue of measurement of human development through these four composite indices is best understood in terms of *seven* questions :

- What has been the motivation behind the construction of the HDI
- What is its analytical framework
- What are some critical technical issues with regard to the HDI
- What have been some of the refinements
- What are some of the by-products of the HDI
- What have been their impacts
- What is the way forward?

Objective answers to these seven questions would provide a comprehensive picture of on certain aspects of the composite indices – particularly the rationale behind their construction, the philosophy explaining the weights assigned to the variables included in them the exposition of some of the critical technical issues etc. Furthermore, such answers would also highlight the innovations and methodological refinements done to them, some of their important byproducts and last but not the least, their impacts. Since the HDI has always been termed as the crown jewel in the measurements of human development, the answers to the seven questions have mainly been provided in the context of that composite index. However, attempts have often been made to go beyond the HDI and to encompass, whenever necessary, other composite indices in human development as well.

- **What has been the motivation behind the construction of the HDI**

Let us begin with three observations. First, there has been and there still is no pretension on the part of the Human Development Report (HDR) Team that the HDI is a totally scientific, absolutely water-tight perfect measure of human development. Second, the HDR Team recognized quite early that the HDI, being a composite index, shares some of the well-known problems of associated with composite indices. The issue is if we can live fifty years with GNP per capita, which by the way is one of the greatest composite number in the world, why cannot we live at least a decade with the HDI. Third, there is a sound understanding among the members of the HDR Team that a concept is always larger than any of its proposed measure. A measure can never fully capture the richness, the depth and the breadth of any concept, in physical as well as in social science.

Given the perspectives of these three observations, there were three motivations for constructing the HDI :

- *Substantive motivation* : The substantive motivation for constructing the HDI can best be summarized in what Mahbubul Haq said to friend Amartya Sen in 1989 : *Give me a measure – a single measure – which is as vulgar as GNP per capita, but not as insensitive to broader aspects of human life.*
- *Statistical motivation* : The human development accounting by providing a set of comprehensive data can present a total picture of human development in any society. But one needs something to attract attention to this comprehensive framework and HDI is that something. *If the human development accounting is a house, then the HDI is the door. Do not mistake the door to be the house and please don't stop at the door, enter the house.*
- *Political motivation* : Ranking 174 countries on the HDI scale serves one important political purpose. Every country in the world has a favourite country to compare – for Norway, it does not matter where the rest of the world is, but where Sweden is. An Indian does not care that much for what happens in Latin America, but what happens in Pakistan. The HDI, by ranking 174 countries on the HDI League generates a healthy competition for every country to match or surpass the performance of its favourite country.

- **What is its analytical framework**

The analytical framework of the HDI can be discussed with respect to three issues related to the HDI : its focus, its criteria and its variables.

- *Focus* : The focus of the HDI is to measure average achievements in human development in a society. It builds on three basic dimensions of human life – a long and healthy life, knowledge and a decent standard of living. The HDI measures basic human capabilities in these dimensions.

Three issues can be raised with regard to its focus. First, does the concentration of the HDI on three basic dimensions of human life mean that other aspects of human life are unimportant. The answer is : no. It just means that the basic capabilities are essential for human well-being and when they are achieved, doors for other opportunities open. Aspects like human rights, participation, non-discrimination, even though are not captured in the HDI, are essential for human development. When significant levels of human development are achieved, as measured by the HDI, in three basic dimensions of human life, the doors for participation, ensuring security etc. open up for all people.

- *Criteria* : In constructing the HDI, five criteria were used as guiding principles :

- ✓ simplicity - The constructed index must be very simple. It should be easily interpreted and its basic message must be easily communicable to planners and policy makers
- ✓ universality – the index must have universal relevance. It should have applications both in developed as well as in developing countries. All the dimensions included in the HDI have universal application. For example, a long and lengthy life is valued both in rich and poor societies.
- ✓ Sufficient attraction – the constructed index must be sufficiently attractive.
- ✓ synthesis – the index should be a synthesis of the breadth of information provided by all the human development indicators and tables
- ✓ pluralism – the constructed index must reflect multidimensional aspect of human life. It should not be mono-centric, rather it should be pluralistic.

➤ *Variables* : To represent the dimensions of human well-being included in the HDI, the following variables were chosen – *life expectancy at birth* for a long and lengthy life, *educational attainment* in terms of *adult literacy rate and combined gross enrollment ratio at primary, secondary and tertiary level* and GDP per capita (PPP\$) for a decent standard of living.

- **What are some critical technical issues with regard to the HDI**

➤ *Scaling* : In constructing the HDI, each variable is normalized through a process of scaling. In this process, for each variable, a maximum and a minimum value are selected and the difference between the maximum and the minimum value defines the scale. The normalized variable is constructed in the following way. First, the difference between the observed value and the minimum value is identified. This shows the path covered by the society in the selected variable. Second, this difference is shown as a proportion of the difference of the maximum value and the minimum value – a difference which represents the total path to be covered by every society in the variable in question.

Thus the normalized variable, which is a pure number, shows for a particular variable, the path covered by a society as a proportion of the path to be covered. Thus if a society for a particular variable remains at the minimum, the normalized value of the variable will be 0 and if it has attained the maximum value, the normalized value of the variable will be 1. Thus the scale is set for each variable between 0 and 1.

Scaling and the normalized value are required for two reasons. First, the variables included in the HDI have different units. Thus, life expectancy is in years, adult literacy rate is in percentages and the GDP per capita is in PPP\$. By normalization, one gets rid of units and derives pure numbers. Such transformation is needed for additive purposes while constructing a composite index. Second, scaling enables one to carry on comparisons as to how in each dimension countries have fared relatively and what are the unfinished paths.

- *Weighting* : In the composite index, the variables of life expectancy at birth, educational attainment and GDP per capita are given equal weights. They are given equal weights not because of simplicity, but because of the philosophical reasoning that all the dimensions included in the HDI are equally important and desirable in their own rights for building human capabilities. Furthermore, there is no assumption of substitution among those dimensions or the variables representing them. Therefore, such a question as what is the amount of income that can be given up to get an additional year of life is irrelevant in the HDI framework. If there were substitution among the dimensions or the variables, then equal weights would not have made sense. But the absence of any substitution makes the assumption of equal weights defensible. In the HDI, there is, however, an assumption of transformation – education is transformed into knowledge and enhances human capabilities, income is transformed into other dimensions of human development not captured in the HDI.
- *Treatment of income* : Income is a means to human development, not an end by itself. This dictates the way income enters into and is being treated in the HDI. Income enters into the HDI not in its own right, but as a proxy for all the dimensions not included in a long and healthy life and knowledge. The issue here is how income is transformed into enhancing human attainment in those areas.

There is also the notion that one does not need unlimited income for enhancing human development. Given how income is transformed, even with little income, a lot can be achieved in human development. This perspective and also the concern that income should not dictate the value of the HDI has led to *adjusting* income as it enters the HDI. Thus as income increases, its value is adjusted downwards through mathematical treatment before it enters into the HDI. Thus an extra dollar when the income is \$10,000 is not equally important as an input to human development as an extra dollar when the income is \$100.

- *Formula* : Once all the variables are normalized with all the necessary adjustments, a simple mean of them is taken, which is the HDI. The maximum value of the HDI is 1 and the minimum value is 0.

- **What have been some of the refinements**

From the outset of its introduction in 1990, the HDI caught the attention of academics, researchers, policy makers, and development activists. It was praised for its broader perspective of human well-being, yet it was seriously scrutinized in terms of its analytical framework, methodology, data etc. There have been several academic critiques of the index, reviewing its internal consistency, robustness, predictive power.¹ In academic journals, articles focusing on the index started to appear. Most of these articles were constructive criticism of the HDI and suggested different refinements to the methodology of the index. Policy makers were also interested in seeing whether in diverse situations the index can still be applied as useful policy guide. Development activists were concerned with more innovative use of the index for advocacy purposes.

Responding to such diverse requirements needed constant refinements of the index – both in terms of methodology as well as search for better data. Needless to say, the Human Development Report Office (HDRO) responded to this challenge quite effectively, leading the research in the area of refining the index and also looking for more robust data. Nobel laureate Amartya Sen, one of the architects of the HDI, along with Professor Sudhir Anand led this effort on behalf of the HDRO.² As a result, the index underwent a series of analytical and methodological refinements.

When the HDI was first introduced in the Human Development Report 1990, it had the following five characteristics. First, the HDI was constructed from a deprivational perspective. The composite of average deprivation was identified first going through deprivations in each variable and then the HDI was represented as 1 minus composite average deprivation. It reflected a round about way of deriving the HDI. Second, in the educational attainment component, there was only one variable – adult literacy rate. Third, in terms of discounting income, income, irrespective of levels, was logged. Fourth, for each variable, the maximum and minimum were observed ones. Fifth, the HDI was constructed only for 130 countries.³

Over the years with better understanding of issues, academic reactions, policy responses, demands from development activists, the HDI has undergone a series of methodological refinements. The major refinements are the following :

- *Direct calculation of the HDI* : Starting from 1991, the HDI began to be calculated directly to avoid the round about way and also to give it a positive spin. That tradition still continues.
- *Educational attainment variable* : In the HDR 1991, mean years of schooling was added as a second component to adult literacy to form the variable for

¹ Raworth (1998)

² Anand and Sen (1994 and 1998)

³ UNDP (1990)

educational attainment. A second variable was included to have a sense of educational attainment of people not covered by adult literacy. Adult literacy was given two-thirds weight and mean years of schooling one-third weight, as adult literacy is more representative of stock variable for attainment. But the mean years of schooling were constructed in a fuzzy way and some of the data do not seem to be reflecting the reality. Therefore, in 1995, it was replaced by combined gross enrolment at primary, secondary and tertiary level.

- *Maxima and minima* : Till 1994, in normalizing variables, observed maxima and minima were used. It created to serious problem. First, there was no way of knowing whether the changes in the HDI value of a country are because of its improved performance or because of changing the goal posts. Second, since the observed maxima and minima change from year to year, representing changes in goal posts themselves, any meaningful inter-temporal comparison was not possible.

To deal with these issues, in 1994, fixed maxima and minima were introduced. These were no longer observed, but rather based on the trends of the variables, and their probable values in next 25 years.⁴ Fixing the maxima and minima for variables made it possible to carry out meaningful trend analysis of the HDI.

- *Treatment of income* : Even though in 1990, income was logged in the HDI, for the next eight years, income above a cut-off point was adjusted drastically using a highly regressive formulation. Three observations are pertinent to this adjustment. First, the cut-off point was the average world income on the assumption that every person as a member of the global community should have at least this level of income for building basic capabilities. Second, the adjustment was so drastic that \$35,000 (above the \$5,000 cut-off point) is reduced to \$321 by this adjustment. Third, this formulation punishes middle income countries unduly.

In order to rectify all these, the formulation of logging income all through was again introduced in 1999. The advantages of this approach are it is not as drastic as the other one and it does not unduly penalizes middle income countries as the asymptote starts quite late.⁵

It is necessary to mention that along with these methodological refinements, there were also attempts to generate more reliable, consistent and robust data over time. In this area also, the HDRO played a leading role. It voiced the need for better and relevant data in different for a, it interacted with various UN agencies and international organizations to demand the production of such data and it impressed on the national statistical offices to generate them. It should be stressed at this point that the National Human Development Reports (NHDRs) played a major role in becoming a good depository for

⁴ UNDP (1994)

⁵ Anand and Sen (1998)

innovative and disaggregated data at the country level. Without improvements in data the methodological refinements in HDI could not have been tested.

In order to be credible to its users and also to have a productive discussion on all the changes, all the methodological changes as well changes in data series or sources should be properly and timely documented. In recent times, the HDRs and the HDRO have been quite careful in providing such documentation, enhancing the transparency of the exercise. This has led to very constructive debates on the index and the data providing useful guidance to future work on it.

- **What are some of the by-products of the HDI**

Even though the HDI, within a few years after its introduction, was widely appreciated as a major policy instrument and a useful policy tool, it was recognized early on that it is a measure of average achievements in human development. It can neither reflect *distributional aspect of development*, particularly the issue of inequality, nor can it measure *deprivational aspect of development*.

Over the years, attempts were made to rectify the situation. First, in 1995, composite indices were constructed to account for gender inequalities in human development. Second, in 1997, a composite index was proposed and constructed for measuring the multi-dimensionality of poverty. Third, these composite indices were disaggregated in terms of regions, states, provinces, by gender, races or ethnic groups, along the rural-urban divide.

Gender-related Development Index and Gender Empowerment Measure

A Gender-related development Index (GDI) and a Gender Empowerment Measure (GEM) emerged in 1995 to take into account gender inequality in achievement of basic capabilities (GDI) and gender inequality in opportunities in economic and political areas (GEM).

The GDI measures achievements in the same dimensions and the variables as the HDI does, but takes into account inequality in achievements between women and men. The greater the gender disparity in human development, the lower is a country's GDI compared to its HDI. The GDI is simply the HDI, or adjusted downwards, for gender inequality. The GEM indicates whether women are able to actively participate in economic and political life. It focuses on participation, measuring gender inequality in key areas of economic and political participation and decision-making. It thus differs from the GDI, an indicator of gender inequality in basic capabilities.

Both the GDI and the GEM have served useful purposes :

- The GDI, through its construction, incorporates the degree gender inequality aversion of the concerned society and as such reflects social choices in this regard.
- Both the GDI and the GEM have been used extensively by women's groups, feminist activists and civil society movements as a useful advocacy tool. They have been used in the Fourth World Conference of Women in Beijing in 1995.
- Policy makers have found them extremely relevant for formulating policies and programmes with pro-women biases.

Human Poverty Index (HPI)

In 1997, a composite measure for multi-dimensional poverty – the Human Poverty Index (HPI) - was introduced. The idea was first, to look at human development from a deprivational aspect and second, to assess how the benefits of human development – as measured by the average achievements represented by the HDI - are distributed. People sometimes argue that (1-HDI) is a measure of deprivation, which is not correct. It basically measures shortfalls in average achievements, but it cannot reflect the above two issues. The HPI was constructed both for developing countries (HPI-1) in 1997 and for industrial countries (HPI-2) in 1998.

The HPI measures deprivations in basic human development in the same dimensions as the HDI plus the aspect of participation or social inclusion. For HPI-1, the deprivation in long and healthy life is measured by percentage of people born today, but are not expected to survive to age 40, deprivation in knowledge by adult illiteracy rate, and deprivation in economic provisioning by the percentage of people lacking access to health services and safe water and percentage of children under five who are malnourished. Two observations may be pertinent. First, for economic provisioning in developing countries, public provisioning may be more important than private income. At the same time, more than four-fifths of private income is spent on food. Thus in developing countries, lack of access to health services and safe water and the level of malnutrition capture deprivation in economic provisioning more practically and meaningfully than other indicators. Second, the absence of a suitable indicator and lack of data prevent the HPI-1 from reflecting deprivation in social inclusion in developing countries.

For the HPI-2, the deprivation in long and healthy life is measured by the percentage of people born today, but are not expected to survive age 60, deprivation in knowledge by percentage of adults functionally illiterate, deprivation in economic provisioning by income poverty incidence (as private income is the most important source of economic provisioning in developed countries) and deprivation in social inclusion by long-term unemployment.

The HPIs have served a number of purposes :

- However imperfect, they provided a single measure of the multidimensionality of poverty. They have also established that if income is not the sum total of human lives, lack of it cannot be that sum total of human deprivation either. They have been effective in showing the distribution of the average achievements of human development, as reflected in the HDI.
- They provided recognition to the fact that poverty is not only a southern phenomenon, it is very much a northern problem as well.
- HPI-2 enabled us to differentiate the human development situation among countries whose average achievements in human development are extremely close. A high human development does not automatically imply low levels of human deprivation.

Disaggregation of Composite Indices – Mirrors to Societies

Disaggregation of all the composite indices has provided a mirror to societies to see the real picture prevailing. The composite indices have been disaggregated in terms of regions, states or provinces, races, ethnic groups, rural-urban divide etc. In a number of cases, these exercises have been carried out by individual researchers, in other cases, studies have been commissioned by the HDRO.⁶ But in majority of instances, such exercises have been spearheaded by the National Human Development Reports (NHDRs). All these exercises have highlighted disparities in human achievements or deprivations across races, ethnic groups, regions, states and provinces etc.

Three observations on the disaggregated composite indices are pertinent. First, disparities in human development are not exclusive to developing countries. There are serious human development disparities in the developed world as well. Second, in many countries, disaggregation of human development composite indices and indicators has been carried out at the district level (Venezuela) and at the municipal level (Brazil). These have provided new insights for local level policies and programmes. Third, in many countries, disaggregation of composite human development indices has had important impacts on policy dialogues and decisions.

• **What have been their impacts**

When the HDI was first introduced in 1990, its proponents did not have the slightest idea that it would go this far – having impacted policy decisions in significant ways, being used as a major advocacy tool, becoming focus of serious academic inquiries. Over the years, the HDI has achieved a lot, but its five major distinctive achievements are :

- It has alluded that income is not the sum total of human life and thus per capita income cannot be the measure of human-well-being. This perspective

⁶ Two earliest individual research work in this area are Akder (1990) and Shiva Kumar (1990). For studies commissioned by the HDRO, please see UNDP (1994).

has changed the way development is looked at and analyzed and today development is viewed broader than economic growth. As a result, development with a human face has no longer remained rhetoric; rather the new paradigm has had implications for policies, resource allocations and institution building.

Thus macroeconomic policies of various developing countries in Asia, Africa and Latin America started to explicitly take various issues of human development into consideration. Policy makers in these countries have moved away from growth-centric perspective of development and have begun to concentrate on broader dimensions of human well-being. In many parts of the world, new and emerging development concerns have started to dominate the development dialogue. Thus in countries like Botswana and South Africa, the implications of HIV/AIDS for development became a serious issue. In March 2001 the President of Botswana made a decision to provide free access to ARV drugs for the 17% of the country's population with HIV/AIDS. The erosion of basic social services in Eastern Europe and the CIS has been dominating the policy dialogues in that region. And the human impact of the East Asian crisis drew the attention of policy makers in the 1990s.

The focus of development on basic human concerns has also changed the ways resources are allocated. In Egypt, with the publication of its first NHDR, when Upper Egypt was found to be lagging behind the Cairo region in every areas of human development, it led to a serious policy discussion between the Governors of 17 provinces in the country on the issue of resource allocation. And it changed the entire resource allocation pattern, with more funds now going to Upper Egypt.

It has led to asking questions and identifying reasons for shortfalls in human development. In the Philippines with the publication of its 1997 NHDRs, the issue of allocating a threshold amount for basic social services at the level of local governments was identified as a crucial factor for development. So there was a presidential directive requiring all local governments to devote at least 20% of domestic revenue to human development priorities.

At the global level, issues are now being explored as to whether bilateral aid can be allocated on the basis of HDI, or the core funds of multilateral agencies can be based on the index and so on.

In many countries, with the HDI at the centre stage, new institutions have evolved to move forward the agenda for human development. In Bolivia, a new ministry for human development was established to give proper priority to human development.

- The HDI has started a desirable healthy competition among countries to surpass its neighbours or favourite competitors in rankings. With the publication of each year's HDR, the first thing that draws attention of different quarters is the ranking of a relevant country vis-a-vis the ranking of its favourite neighbour. Thus In Norway, people look out for its ranking as compared to that of Sweden. In India, its relative ranking vis-à-vis that of Pakistan is what matters most. Such competition force the policy makers to review as to why their country is lagging behind its favourite neighbour and induces them to undertake policies to overcome the relevant shortcomings. It implies a thorough examination of its development strategies, a review of its priorities and an assessment of its resource allocation patterns and guiding each of these toward basic human concerns.
- It has served as an instrument of public communication with a strong advocacy role and it has contributed significantly to policy debates and dialogues. Therefore, NGOs and institutions of civil society in different countries have used it for highlighting their demands and pressing the governments on various issues. The regional disparities as shown by the disaggregated HDI in the Brazilian NHDRs have prompted institutions of civil society in that country to highlight the issue of inequality in that country and demand measures to reduce it. Brazil is now constructing HDI at the state, district and municipal level. Such exercises have been carried out in countries like Venezuela, Poland, Bulgaria, India etc.

The HDI has also been used as a strong advocacy tool at different international and global events. In 1995, at the Fourth World Conference on Women in Beijing, disaggregated HDI in terms of gender has been used by NGOs to highlight the disparities women face both in terms of capability building, but more so in the area of opportunities. At the Habitat Conference in Istanbul in 1996, the differences in rural and urban HDI in many countries have been emphasized by various institutions of civil society to highlight the disparities in housing.

- The HDI has led to various exercises for monitoring and evaluation and also for generation of more systematic and reliable data. At the global level, whether in the area of monitoring Millennium Development Goals or the UN-wide Common Country Assessment (CCA) Framework, the HDI has been used to provide contextual information. In Kuwait, the Ministry of Planning, with the help of the HDI, has started to monitor human development and incorporate it in its indicators for strategic planning. The HDI has also led to mobilization of new and more systematic data both at the global and national level.
- It has resulted in serious academic research and empirical studies on the issue of theoretical refinements and statistical sophistication of the HDI. The academic research not only concentrated on a substantive review of the index

– its consistency, statistical properties, its robustness, its predictive power, but also suggested various refinements in its present form. Some of the research has also concentrated on the issue of including other dimensions of human development in the index. Yet some others reviewed the possibility of using other innovative indicators to represent the dimensions represented in the HDI. In fact, a number of NHDRs and sub-national HDRs (e.g. the HDR of Madhya Pradesh in India) experimented with indicators more relevant to the Madhya Pradesh context to reflect the dimensions of the HDI.

More than dozen graduate dissertations have been done and scholars have written academic articles on various aspects of the HDI in different academic journals.⁷

Some of the studies have also specifically assessed the data issues and how those can be improved.

But while one appreciates what the HDI has achieved, it is equally important to have a clear idea as to what HDI is *not*. It would help in not misusing or abusing the index. While the HDI should not be denied the recognition that it deserves, but at the same time it should not be used to highlight things that it does not stand for, nor should it be criticized or undermined for the things that it does not or cannot claim to capture. The HDI is none of the following :

- The HDI is *not* a perfect index, which fully captures the concept of human development. In fact, any concept is broader than its proposed measurement, because the measurement cannot fully reflect the concept. Thus there is no pretension that HDI fully and perfectly captures the whole of human development.
- The HDI does *not* take into account every aspect of human development. It focuses on three dimensions of basic capabilities – a long and healthy life, knowledge and a decent standard of living. But the HDI in no way undermines the fact that other aspects of human life, such as participation, political freedom, human security, are equally important. But the rationale for concentrating on three basic dimensions of human lives is that if these three basic capabilities are achieved they would open up opportunities in other dimensions of human lives valued by people.
- The HDI does *not* provide a comprehensive picture of human development in any situation as it is just a summary measure. Nor can it be substituted for all the rich information that is contained in the HDRs in various tables on human development indicators. When the HDI is supplemented with this rich information, only then one get a fuller assessment of human development situation in any society.

⁷ Raworth (1998)

- **What is the way forward**

Nearly a decade after its introduction, the HDI has established itself as a major measure of development. Its advocacy role, its importance for policy guidance and its potential for inducing further research are well recognized by now. But to continue to play a constructive and provocative role in all these areas in future, it has to look forward and be subjected to constant scrutiny, refinements and innovation. In coming years, it has to address the following issues :

- *Keeping it simple.* The HDI is a measure of average achievements in basic human development. Its universality, advocacy value and policy relevance derives from the fact that it is simple. It should be kept simple. In this regard, two basic points may be useful. First, there are certain aspects of human lives and well being where qualitative assessments may be more meaningful. Such areas may cover human rights, culture, political freedom etc. Experiences with the Human Freedom Index in 1991 and the Political Freedom Index in 1992 have clearly shown that quantitative assessments based on too much subjective judgement may be misleading, and unproductive. Every aspect of human life cannot be and should be given a number, particularly that number represents a total subjective valuation. Second, Even in the area of quantitative indicators, renewed attempts should be made to explore new possibilities in such areas as environment, sustainability, and governance. The idea is not to reflect all these in the HDI, because that would overburden the HDI and destroy its simplicity and predictive power. For example, in earlier years, attempts were made to *Green the HDI*, but it was soon found that such a measure cannot be universal as there is no common set of environmental indicators which may capture the realities of both developed and developing countries.
- *Refining the educational attainment variable :* Over the years, various ways were explored to refine the educational attainment variable. There were serious methodological and data problems with mean years of schooling; combined gross primary, secondary and tertiary enrolment ratios have been viewed by many as not so meaningful. There is also the issue of combining a stock variable (adult literacy) and a flow variable (combined enrolment ratio). Suggestions have been made to come up with such variables as *years of school expectancy*. But to construct data for years of schooling, one would need data on age-specific net enrolment ratio, which does not exist.
- *Short-term changes in human development :* The HDI is composed of stock variables and thus cannot capture the short-run changes in human development in a country. It is also not very sensitive to policy changes and as such may frustrate the policy makers. The Human Development Report Office is engaged in collaboration with a number of UNDP Country Offices to come up with short-term progress indicators that will reflect perspectives of average achievements, deprivation and inequalities. These indicators would be more sensitive to policy changes and would also be able to monitor short-term progress. A proposed structure of such perspectives has been presented in the Human Development Report 2000.

- *More innovative indicators* : The value and relevance of the HDI is enhanced if the rest of the human development accounting is strengthened. Since the HDR in 1990, there have been continuous searches for relevant and meaningful indicators on various aspects of human development, constant experiments to provide them a policy twist, innovative approaches to present them in user-friendly ways. All these were guided by the three considerations.

First, human development is broader than the composite indices and as Prof. Sen observes, “*In contrast with the coarse index of HDI, the rest of the Human Development Reports contains, in extensive collections of tables, a wealth of information on a variety of social, economic and political features that influence the nature and quality of human life*”.⁸

Second, policy twists to basic human development indicators can guide the policy-makers. Thus for example, a traditional indicator like military expenditure as a percentage of GDP may be of little policy guide. This is because just looking at such figures there is no way of determining whether military expenditure at 5% of GDP is worse than 2% of GDP. If the GDP in the first case is \$100, while in the second case, it is \$10,000, then in absolute terms, more resources are spent on military in the second case, then at the first. But the point is that the percentage figures do not convey that information. On the other hand, if military expenditure is shown as a ratio of expenditures on health and education, immediately, it can show the misplacement of priorities in terms of resource allocation and can be a guide to policy-makers.

Third, if the users of the human development indicators do not find the presentation of data attractive, then the purpose of using them for advocacy, policy dialogues and social debates will be lost.

- *New, improved, robust and reliable data* : Whatever innovative indicators and indices are proposed for monitoring human development, one cannot go far if reliable, consistent, robust and timely series of data are not available. Today, economic data are more readily available, but not social data. More up-to-date data are available at the country level, but not internationally standardized data at the global level. Sometimes snapshot information may be obtained, but not panel data to consistent time series. In every case, as secondary users of global data, the HDI is always constrained.

But over the years, serious efforts have, however, resulted in three things. First, more national data have been made available to respective UN agencies and international organizations in a more timely fashion – thus reducing the lag between the availability of data at the national and the international level. Second, newer search are being carried out at the national levels for more social data, more disaggregated data and more innovative data. National HDRs have played a role in this respect. And

⁸ UNDP (1999)

third, there is now more emphasis on building the statistical capability at the country level and the international community is supporting that process.

But much more needed to be done. Otherwise one cannot do a number of desired refinements. For example, if one wants to have years of school expectancy as an indicator for educational attainment in the HDI, one cannot do it just because there is not age group specific net enrolment ratio within the primary school age group. If there were gender disaggregated income data, one could have constructed a more meaningful GDI and GEM. The absence of any reliable data on the issue of access to health services has forced the estimate of HPI-1 to rely on the other two variables included in economic provisioning. Non-availability of data has restricted the estimates of GDI, GEM and HPI-1 to less than 100 countries.

International organizations, working closely with country statistical offices and interacting within themselves can build networks for initiating new surveys, data collecting mechanisms, putting a framework for reliable and standardized data and publishing them regularly.

Conclusions

The HDI as a more meaningful measure of development is now quite well-established. Its value, importance and relevance are also recognized. Does it mean that its imperfections are to be overlooked? Of course, not. It shares the shortcomings of other composite indices. But the point is that the GDP is also a major composite indicator. If we can live with GDP for nearly 50 years, the HDI, which is only 12 years old, deserves a chance.

All the human development composite indices and indicators including the HDI are in the process of evolution. With regard to the HDI, as has been pointed out, refinements have been made over the years both with regard to methodological issues as well as statistical sophistication.

Monitoring human development is important for assessment, policy making and enhancing lives of millions. The present state of art in monitoring is evolving slowly but surely. Research is going on – both within the Human Development Report Office and in academic and research institutions. We have advanced quite a lot, but we have miles to go.

References

Akder, Halis. 1990. "Turkey: Country Profile – Human Development Indices for All Turkish Provinces". Middle Eastern Technical University. Department of Economics. Ankara: UNDP. Mimeographed.

Anand, Sudhir and Amartya Sen. 1994. Human Development Index : Methodology and Measurement. Working Paper 12. Human Development Report Office. UNDP. New York

-----, 1995. Gender Inequality in Human Development : Theories and Measurements. Working Paper 19. Human Development Report Office. UNDP. New York.

-----, 1997. "Concepts of Human Development and Poverty : A Multidimensional Perspective". in *Human Development Papers 1997*. Human Development Report Office. UNDP. New York.

-----, 1998. The Income Component of the Human Development Index. (mimeo). Human Development Report Office. UNDP. New York.

Fukuda-Parr, Sakiko. 1999a. "Human Development Indicators as benchmarks in Measuring Progress in Economic, Social and Cultural Rights". Processed. Human Development Report Office. UNDP. New York.

----- 1999b. "In Search of Indicators of Culture and Development : Review of Progress and Proposals for Next Steps. Paper Prepared for the World Cultural Report 1999. New York.

Haq, Mahbulul. 1990. "Human Development Paradigm". (mimeo). Human Development Report Office. UNDP. New York

Jahan, Selim 1999a. "Gender Equality Indices in the Human Development Reports : Concepts, Measurements and Impacts" in Stone Leroy and others (eds.)_Gender Equality Indicators : Public Concerns and Public Policies. Statistics Canada. Ottawa. January.

----- 1999b. "Measurement of Human Development : Evolution of Indices and Indicators". Paper Presented at the First Global Forum on Human Development. New York. July.

----- 2000. "Measurements of Human Development : Seven Questions". Presentation at the First Human Development Course at Oxford University. U.K. September.

----- 2001. "Indicators at Work around the World : The Human Development Index". Keynote Speech at the National Conference on Sustainable Development Indicators, organized by the Round Table on the Environment and the Economy (NRTEE) in Ottawa, Canada, 27 March, 2001.

Raworth, Kate. 1998. "Academic Critique of the Human Development Index". (mimeo). Human Development Report Office. UNDP. New York

Sen, Amartya . 1998. "Mahbul Ul Haq : The Courage and Creativity of His Ideas". Speech at the Memorial Meeting for Mahbul Ul Haq at the United Nations. New York, 15 October.

Shiva Kumar, A.K. 1990. The UNDP's Human Development Index : A UNDP. 1990. Human Development Report 1990. Oxford University Press. New York.

-----, 1994. Human Development Report 1994. Oxford University Press. New York.

-----, 1999. Human Development Report 1999. Oxford University Press. New York.

