

The Human Development Report and the Global Water Crisis: where does Sri Lanka stand?

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This article is the second in a series of articles by centre for Poverty Analysis (CEPA) exploring various dimensions of poverty in Sri Lanka

The 2006 Human Development Report (HDR), released in Cape Town South Africa on the 9th of November 2006, was launched at the end of the same month in Sri Lanka. The HDR has been published by the United Nations Development Programme (UNDP) every year since 1990, and complements conventional measures of economic development which use GDP growth by using a composite index of human development (HDI) that looks beyond GDP to a broader definition of development. The index uses three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and enrolment at the primary, secondary and tertiary level) and having a decent standard of living (measured by purchasing power parity (PPP) income). The HDI for Sri Lanka is 0.755, which gives Sri Lanka a rank of 93rd out of 177 countries with data to calculate the HDI (UNDP 2006).

While the HDI measures the average progress of a country in human development, the Human Poverty Index for developing countries (HPI-1) focuses on the proportion of people below a threshold level in the same dimensions of human development as the human development index - living a long and healthy life, having access to education, and a decent standard of living. The HPI-1 measures severe deprivation in health by the proportion of people who are not expected to survive age 40. Education is measured by the adult illiteracy rate, a decent standard of living is measured by the unweighted average of people without access to an improved water source and the proportion of children under age 5 who are underweight for their age. By looking beyond income deprivation, the HPI-1 represents a multi-dimensional alternative to conventional poverty measures. The HPI-1 value for Sri Lanka, 17.7, ranks it 38th among 102 developing countries for which the index has been calculated (UNDP 2006).

Two other measures included in the Human Development Report look at the gender dimensions of human development. The gender-related development index (GDI) introduced in the HDR of 1995, captures inequalities in achievement between women and men, on the same dimensions as the HDI. It is simply

the HDI adjusted downward for gender inequality. The greater the gender disparity, the lower is the country's GDI relative to its HDI. Sri Lanka's GDI value is 99.2% of its HDI value. Out of the 136 countries with both HDI and GDI values, 77 countries have a better ratio than Sri Lanka's (UNDP 2006).

The second gender related measure is GEM, or the Gender Empowerment Measure which reveals whether women take an active part in economic and political life. It tracks the share of seats in parliament held by women; of female legislators, senior officials and managers; and of female professional and technical workers as well as the gender disparity in earned income which reflects economic independence. Sri Lanka ranks 69th out of 75 countries in the GEM, with a value of 0.372 (UNDP 2006).

Overall, Sri Lanka fares well on the HDI, reflecting a long history of state investment in education and health. Its gender indicators are, however, a matter for concern.

The global water crisis: Sri Lankan dimensions

In addition to the HDI, the Human Development Report focuses on a selected theme each year. This year the theme is water, and the report is entitled **Beyond Scarcity: power, poverty and the global water crisis**. The report puts forward the idea that millions of the world's people lack access to safe water not because of scarcity, but because they are locked out by poverty, inequality and government failures. These are the problems that need to be tackled if the global water crisis is to be averted or resolved. The report points to unsafe water and inadequate sanitation as two of the great drivers of world poverty and inequality. Sri Lanka is not a country where water is scarce, and overall water and sanitation indicators are relatively good. However, this does not exempt us from some of the challenges that are articulated in this report, particularly the two themes which are used in this report, power and poverty. The report discusses the water crisis in reference to two main areas where water is essential, life and livelihoods.

Water for life – focuses on delivering clean water, removing waste water and providing sanitation

Water for livelihoods – focuses on water as a productive resource and the challenges of managing this resource equitably and efficiently.

This article uses the report as a springboard to a more detailed look at the water situation in Sri Lanka which reveals a patchy and uneven reality which is not reflected in the national statistics.

Water for Life

Sources suggest that around 70-75% of Sri Lankan households have access to a safe source of water and 85-90% have access to sanitation facilities (Imbulana et al. 2006).

Disaggregated further (using data from the Consumer Finance Survey 2003/04) we find that in the Uva, Sabaragamuwa, Central, Eastern and Northern provinces (excluding Kilinochchi, Mannar and Mullaitivu districts) between 8 and 16% of households were not using safe sources of water at the time of the survey. If we relate this to poverty data, we can see that in the 100 poorest divisional secretariat (DS) divisions (as defined by the Head Count Index), the percentage of households not using a safe drinking water source ranged from 4.5% in Lunugamvehera (Hambantota District) to 71.8% in Deraniyagala (Kegalle District). (Department of Census and Statistics 2006).

In the poorest 10 DS divisions the percentage of households not using a safe source of drinking water from 11.9% to 46.3% (Table 1).

Table 1: Households not using safe drinking water in the poorest 10 DS Divisions

District	DS Division	%
Monaragala	Siyambalanduwa	46.3
Badulla	Rideemaliyadda	31.5
Badulla	Meegahakivula	22.0
Badulla	Kandaketiya	35.9
Puttalam	Kalpitiya	11.9
Puttalam	Mundel	19.1
Monaragala	Madulla	20.8
Puttalam	Vanathavilluwa	31.0
Rathnapura	Elapatha	44.5
Rathnapura	Weligepola	37.9

Source: Department of Census and Statistics, 2006

Geographically disaggregated data on sanitation from the Consumer Finance Survey (2005) shows that sanitation was poorest in the estate sector, and also in the Northern (excluding Kilinochchi, Mannar and Mullaitivu districts) and Eastern Provinces. The DCS data (2006) looks at households that are 'not using toilets exclusively' as a measure of provision of sanitation. In the poorest DS divisions this ranges from 9.3% of the households in Thanamalvila (Moneragala district) to 44.3% of the households in Kalpitiya (Puttalam district). In the poorest 10 DS divisions, the percentage of households not using toilets exclusively ranged from 12.1% to 44.3% (Table 2).

Table 2 Households not using toilets exclusively in the 10 poorest districts

District	DS Division	%
Monaragala	Siyambalanduwa	23.6
Badulla	Rideemaliyadda	15.8
Badulla	Meegahakivula	19.7
Badulla	Kandaketiya	19.2
Puttalam	Kalpitiya	40.3
Puttalam	Mundel	40.6
Monaragala	Madulla	15.3
Puttalam	Vanathavilluwa	44.2
Rathnapura	Elapatha	17.3
Rathnapura	Weligepola	12.1

Source: Department of Census and Statistics, 2006

The statistics quoted above illustrate a number of salient features: first, there can be wide differences in access to safe water and sanitation in geographically disaggregated locations (such differences would also be apparent if we disaggregated the information in terms of household income). However, it is also important to consider the specific context of the problem; for example, not using toilets may be less of a health hazard in a low population density village setting than it is in a high density underserved settlement in Colombo. Second, access to safe water and adequate sanitation is not directly related with the incidence of income poverty. More must be done to unpack and understand the relationship. Third, the numbers do indicate unequivocally that in the poorest areas, access to clean drinking water and sanitation is not as good as the national statistics might suggest. These examples point to the importance of going beyond the aggregate data and finding out which groups we need to be particularly concerned about in terms of water for life.

The disaggregated statistics also point to the fact that plantation households stand out as a group which merits concern. This is

corroborated by information on the incidence of diarrhoea among children, which is highest in the estates, and which is often a result of unclean water sources (Table 3). Lack of access to clean water and diarrhoea could also contribute to the high degree of malnutrition in Sri Lanka.

Table 3: Prevalence of diarrhoeal diseases among children according to the sector

Sector	Children with diarrhoea in the past (%)		Number of children surveyed
	24 hours	2 weeks	
Colombo Metropolitan	2.5	5.4	355
Other Urban	4.1	4.9	243
Rural	2.3	2.3	1923
Estate	4.7	6.7	239

Source: Department of Census and Statistics, 2006

Another group that the (limited) statistics show are particularly vulnerable are people living in areas of conflict in the Northern and Eastern provinces, some of whom have been made more vulnerable by the tsunami.

Some of CEPA's research has also shown that communities in the underserved settlements in urban areas who may not necessarily be income/consumption poor, but who suffer from low levels of service provision, are among those with low levels of access to safe water and adequate hygiene. CEPA's work with underserved settlements in Colombo in 2004, showed that these communities highly valued private access to water and to toilets, to the extent that they were ready to pay for them because the disadvantages of the common facilities were so great (Gunetilleke et al. 2004).

A fourth group that is also particularly vulnerable includes those who are internally displaced – from the conflict, the tsunami and other natural disasters, and from development induced displacement activity (Abdul Cader, 2005). It is vital to plan for adequate sanitation and access to clean water as a prerequisite in resettlement plans.

However, providing access to clean water means going beyond simply counting households with piped water or wells, to asking questions about the quality of the water that is being provided.

Water quality in Sri Lanka is being affected in a number of ways; in urban areas pollution of water sources is largely the result of inadequate facilities for the disposal of domestic and industrial waste, resulting in the contamination of water sources. Often authorities use low lying areas as waste dumps which contribute to the reduction of flood retention areas and the pollution of surface water. Inadequate waste disposal in the underserved settlements of Colombo, where a large proportion of Colombo's population lives, results in

considerable untreated faecal matter flowing into the Kelani Ganga (Imbulana et al, 2006). The same is true in Kandy, where untreated waste water is diverted into the Mahaweli, and in other towns where solid waste disposal is a growing problem.

In rural areas, pollution of water sources occurs mainly because of agrochemicals. This type of pollution has been noted in the Kotmale tank, in the Kandy and Nuwara Eliya lakes and in many of the tanks in the Anuradhapura

and Polonnaruwa districts.

Another factor is increasing salinity – which can arise through excessive sand mining of the rivers. There is some concern that with the Kelani Ganga this could affect Colombo's water supply. Salinity was also a consequence of the tsunami and has affected several drinking water sources in the affected areas.

Groundwater quality can be affected through the presence of excessive agrochemicals in the soil. A United Nations Environment Programme study has estimated that about 40% of the tubewells constructed in the last decade of the 20th century have been abandoned due to contamination from iron, manganese and fluorides. In the Jaffna peninsular where 20% of the groundwater is used for domestic consumption, nitrate contamination is very high. There is also significant contamination in the peninsular from pit latrines (Imbulana et al, 2006).

Decreasing quality of surface and ground water means that households need to invest time and/or money in accessing cleaner sources – with trade offs against quantities used.³ It is a particular issue for women and girl children who often have the responsibility of water collection.

In terms of Water for Life, it is important for us in Sri Lanka to:

- look beyond the aggregate statistics and identify those groups that are being excluded from the provision of clean water, and sanitation.
- look at the potential threats to the provision of clean water, and see how these can be mitigated. This is what the HDR defines as 'water security' i.e. 'ensuring that every person has reliable access to

enough safe water at an affordable price to lead a healthy, dignified and productive life, while maintaining the ecological systems that provide water and also depend on water" (UNDP, 2006a: 14)

Water for livelihoods

The second strand in the Human Development Report focuses on water for livelihoods. Water plays a very significant role in the livelihoods of Sri Lankan people, as a resource for agriculture and fisheries, as a source of power and energy for households and for industry. A great deal has already been written on these aspects, and this paper highlights just one: the equitable management of water resources, particularly the management of competing uses. Being poor means having limited access to resources, and in the competition for use of water it is inevitably the poor, and people with less power and less voice that miss out.

Traditionally Sri Lanka had a system for managing its irrigation water from its network of small tanks, practice of which has been lost over the decades. There is a government commitment to rehabilitate the tank network, but it remains to be seen whether the system will be as viable in the present context, and whether it would make sense to institute the traditional systems of water management.

Water conflicts

In recent times, failure to manage water resources has resulted in conflicts over water emerging in different forms. Only recently we witnessed the conflict between the LTTE and the Government of Sri Lanka over the Mavil Aru sluice gates – where water for livelihoods was used as a bargaining chip between the two protagonists of the 'ethnic conflict'.

Before this Sri Lanka also experienced a water conflict in Lunugamwehera in the Southern Province, when the Lunugamwehera irrigation scheme failed to bring about the promised benefits, and water became even more scarce during the period of drought. Water users at the top end of the channel illegally diverted the flow of water, depriving those further downstream.

These are very political and highly publicised conflicts. More localised and not so highly publicised conflicts also exist in the competition for ground water and in which the poor and

less powerful lose out. These include, but are not limited to the following:

- In the North Western Province, the growth of large diameter dug wells (agro-wells) for growing high value cash crops has put significant stress on the availability of ground water and could, in the view of some experts, lead to long term desertification in the NWP and in the Northern Province.
- In the Chilaw area in Puttlam district, activities such as shrimp aquaculture are drawing large amounts of fresh water from deep tube wells adversely affecting shallower wells and causing conflict with the domestic water supply.
- Currently, CEPA's work with resettlement sites from the Southern Transport Development Project indicates that the destruction of rubber plantation areas and inappropriate building practices, could lead to water-related conflicts between those displaced and resettled and their host communities, as dug wells dry up during the dry season, or there are landslides during the rainy season from the cleared areas into the host households' lands.
- Industrial pollution of the Lunawa lagoon has affected aquatic life in the lagoon and the livelihood of families that fished in the lagoon (Imbulana et al, 2006).

Water related risk

Another related issue that needs to be discussed in the context of poverty and water is the need to manage water-related risks. The tsunami should provide us with lessons on the importance of disaster management. In Sri Lanka, water related natural hazards such as landslides, floods and droughts have been occurring regularly, affecting mostly the most vulnerable. Poor people do not have the capacity to deal with such shocks, and continuous exposure to natural disasters could leave them in chronic poverty over a period of time.

Conclusion

This brief overview indicates that despite good aggregate indicators on human development and on access to safe water and sanitation, there are many challenges yet to be met in Sri Lanka. From the perspective of poverty research, there is a need to explore the links between poverty and water in greater detail in order to understand

them better. There appears to be a great deal of evidence lurking outside the public domain which should be made public.

The Government of Sri Lanka has already set itself some clear targets; the challenge must be to develop the infrastructure and the management and financing systems to achieve these targets, balancing equity and efficiency.

This article is based on a keynote speech given by Priyanthi Fernando, Executive Director CEPA, on 27th November at the launch of the 2006 HDR in Sri Lanka.

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² The 2006 HRD can be accessed at <http://hdr.undp.org/hdr2006/report.cfm>

³ Current levels of water consumption in Sri Lanka are: 26 litres on average in the dry zone areas, and 35 litres on average in the wet zone. Both rates of consumption are well above the WHO minimum of 20 litres. However, as with other data, the disaggregated consumption would be more revealing (Imbulana et al, 2006). ■