



WEEKLY EPIDEMIOLOGICAL REPORT

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Sharing Clean Water for Providing Opportunities for Health

International World Water Day is held annually on 22nd March as a means of focusing attention on the importance of fresh water and advocating for the sustainable management of fresh water resources.

An international day to celebrate fresh water was recommended at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. The United Nations General Assembly responded by designating 22 March 1993 as the first World Water Day. Since then, on this day of every year, the world water day is celebrated. Each year, it highlights a specific aspect of fresh water and one of various UN agencies involved in water issues takes the lead in promoting and coordinating international activities for World Day for Water. In 2009, the focus of World Water Day was on the transboundary waters: sharing water, sharing opportunities.

The transboundary theme has come to the fore as there are 263 transboundary river basins all over the world with over 45 percent of the land surface being covered by river basins that are shared by more than one country. Over 40 percent of the world's population resides within internationally shared river basins. Over 75 percent of all countries, 145 in total have within their boundaries shared river basins. And 33 nations have over 95 percent of their territory within international river basins. While most transboundary river basins are shared between just two countries, there are many river basins where this number is much higher. Nurturing the opportunities for cooperation in transboundary water management can help build mutual respect, understanding and trust among countries and promote peace, security and sustainable economic growth. There is an international water law which concerns the rights and obligations that exist, primarily between States, for the management of transboundary water resources. Such legal rules and principles are dedicated to prevent conflict and to promote cooperation of shared water resources.

As public health practitioners, water is important for us as it is linked to human health in multiple ways. The world water crisis will be one of the largest public health issues of our time. Nearly 1.1 billion people (roughly 20% of the world's population) lack access to safe drinking water. The lack of clean, safe drinking water is estimated to kill almost 4,500 children per day. In fact, out of the 2.2 million unsafe drinking water related deaths in 2004, 90% were children under the age of five. Water is essential for the treatment of diseases, something especially critical for children. This problem isn't confined to a particular region of the world. A third of the Earth's population lives in "water stressed" countries and that number is expected to rise dramatically over the next two decades. The crisis will be the worst in developing countries, especially in Sub-Saharan Africa and South Asia. The world water crisis is created by a confluence of factors including climate and geography, lack of water systems and infrastructure, and inadequate sanitation, that 2.6 billion people (40% of the world's population) lack access to. Some of these countries have additional problems, including high levels of arsenic and fluoride in drinking water.

Many women and young girls in rural areas in Sub-Saharan African and other parts of the world must trek as much as six miles everyday to retrieve water for their families. Due to this manual labour, such women and children are prevented from pursuing education, maintaining their households or earning additional income. Thus, the lack of clean water, coupled with the lack of basic sanitation and a dearth of hygiene education, is one of the largest obstacles to progress and development in these regions and across the world. The UN has prioritized water access among its [Millennium Development Goals](#) because it contributes to such widespread suffering, including increased poverty, high child mortality rates, depressed education levels, and political instability. Without question, the world water crisis condemns billions of people to a perpetual struggle to survive at the subsistence

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level, thus inspiring millions to engage and alleviate this problem.

Water fit for [human](#) consumption is called [drinking water](#) or [potable water](#). Water that is not potable can be made potable by filtration or distillation (heating it until it becomes water vapor, and then capturing the vapor without any of the impurities it leaves behind), or by other methods (chemical or heat treatment that kills bacteria). Sometimes the term [safe water](#) is applied to potable water of a lower quality threshold (i.e., it is used effectively for consumption in humans that have weak access to water cleaning processes, and does more good than harm). Water that is not fit for drinking but is not harmful for humans when used for swimming or bathing is called by various names other than potable or drinking water, and is sometimes called [safe water](#), or "safe for bathing". Chlorine is a skin and mucous membrane irritant that is used to make water safe for bathing or drinking. Its use is highly technical and is usually monitored by government regulations (typically 1 part per million (ppm) for drinking water, and 1–2 ppm of chlorine not yet reacted with impurities for bathing water).

This natural resource is becoming scarcer in certain places, and its availability is a major social and economic concern. Currently, about 1 billion people around the world routinely drink unhealthy water. Most countries accepted the goal of halving by 2015 the number of people worldwide who do not have access to safe water and [sanitation](#) during the [2003 G8 Evian summit](#). Even if this difficult goal is met, it will still leave more than an estimated half a billion people without access to safe drinking water and over 1 billion without access to adequate sanitation. Poor [water quality](#) and bad sanitation are deadly. Annually, some 5 million deaths are caused by polluted drinking water. The [World Health Organization](#) estimates that [safe water](#) could prevent 1.4 million child deaths from [diarrhea](#) each year. Water, however, is not a finite resource, but rather re-circulated as potable water in precipitation in quantities in many degrees of magnitude higher than that is used for human consumption. Therefore, it is the relatively small quantity of water in reserve in the earth (about 1% of our drinking [water supply](#), which is replenished in aquifers around every 1 to 10 years), that is a non-renewable resource, and it is, rather, the distribution of potable and irrigation water which is scarce, rather than the actual amount of it that exists on the earth.

In the developing world, 90% of all [waste water](#) still goes untreated into local rivers and streams. Some 50 countries, with roughly a third of the world's population, also suffer from medium or high water stress, and 17 of these extract more water annually than is recharged through their natural water cycles. The strain not only affects surface freshwater bodies like rivers and lakes, but it also degrades ground water resources.

Sri Lanka is in a state of epidemiological transition with decreasing incidence of communicable diseases and rising amounts of cases of non communicable diseases. However certain communicable diseases have remained in the same high incidence over decades and constitute a major burden to the health sector. Among those, water borne diseases, diarrheal disease constitute leading problems. Over the past years the case fatality of diarrheal disease has come down mainly owing to the easy access to hospital care, proper case management, awareness of the disease among public leading to early care seeking behaviour and use of oral rehydration therapy at the community level. Though the case fatality has come down over the years, the morbidity has remained more or less the same and is unlikely to reach a satisfactory level even in near future with epidemics of water borne diseases

rising up time to time especially during rainy seasons. Recent epidemics of viral hepatitis in Gampola, Mawanella, Badulla, Eheliyagoda testify the above conclusion. Another upcoming problem is the water scarcity in certain areas in Sri Lanka. Since water is one of the basic needs in human life, this problem needs especial attention as well as possible immediate solutions. Comprehending the importance of the issue with its close links with diseases, in 2008 the Epidemiology Unit conducted an onsite inspection in four selected regions namely, Horrowpattana in the Anuradhapura district, Battalagunduwa in the Puttalam district, Nuwara Eliya and Haputale in the Badulla district. Onsite inspection highlighted many water related problems prevailing in these areas.

High fluoride content in the water found in Horowpothana was a major health issue which made the water unsuitable for drinking purposes for the people living in the area. The public health authority has explained the unsuitability of drinking water from the wells. However there have been no other alternative sources of drinking water provided to them. So while complying with instructions of the regional health personnel, in order to fulfill their basic needs, they consume water from streams, tanks which might possibly be contaminated. These populations expose themselves to the risk of water borne diseases.

Battalangunduwa, on the other hand, being a small island in Kalpitya is facing the problem of scarcity of water. People living in Battalangunduwa have to dig a hole each time they need water and not more than 8 pots can be taken for the daily uses from such a hole on the beach. After about 8 pots of water has been taken from the same dig, water becomes salty and the hole becomes unusable thereafter.

Estate population in Nuwara Eliya and Haputale encounter many an issue related to access to safe drinking water. Upstream catchment areas are not protected. The water that is accessible to people is highly contaminated both by animal and human faeces. Chlorination is either not done or it is inadequate. At the consumer level, people are not used to drinking boiled, cool water. However, they do boil water for bathing purposes as the water tends to be cold. This behaviour can easily be converted to drinking as well because people habitually boil water daily. Inspections have revealed that water tends to get contaminated at the level of household water storage. Another highlighted issue in estate population was insanitary disposal of excreta. People are not using toilets even if they have been provided with toilets. Further, they use human excreta as fertilizer. All these circumstances lead to contamination of water especially during rainy seasons giving rise to outbreaks of diarrheal diseases. All these factors plus reluctance to use chlorinated water at household level, non practice of drinking boiled cool water despite the fact that people are aware about the risk if they do not do so lead water borne diseases to remain a major public health problem in Sri Lanka in the near future too.

References ;

<http://www.worldwaterday.net>
<http://www.unwater.org/worldwaterday/flashindex.html>
http://www.en.wikipedia.org/wiki/world_day_for_water
<http://www.unesco.org/water/water-celebrations/>
http://www.unwater.org/world_waterday/flashindex.html

This article was compiled by Dr. Upekha Seneviratne, the Research assistant, Epidemiology Unit.

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Table 1: Vaccine-preventable Diseases & AFP

23rd – 29th May 2009 (22nd Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	01	00	00	00	00	01	00	34	41	-17.1%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	00	02	00	01	03	01	62	54	+14.9%
Tetanus	00	01	00	00	00	00	00	00	00	01	00	13	15	-13.3%
Whooping Cough	00	00	00	00	00	01	00	00	00	01	01	26	18	+44.4%
Tuberculosis	225	18	55	32	21	07	31	23	190	467	146	4075	3677	+10.8%

Table 2: Newly Introduced Notifiable Disease

23rd – 29th May 2009 (22nd Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	10	05	13	57	07	09	18	06	13	137	91	8594	2577	+233.4%
Meningitis	05 CB=5	02 KD=2	03 GL=1 MT=2	00	03 BT=3	03 KR=1 PU=2	01 AP=1	01 BD=1 MO=1	03 KG=3	22	26	441	684	-35.5%
Mumps	05	03	03	00	12	03	10	07	06	33	30	820	1086	-20.9%
Leishmaniasis	00	00	12 HB=9 MT=3	00	00	00	02 AP=2	00	01 RT=1	15	Not available*	414	Not available*	-

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 DPDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matala, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Table 3: Laboratory Surveillance of Dengue Fever

23rd – 29th May 2009 (22nd Week)

Samples	Number tested	Number positive	Serotypes *				
			D1	D2	D3	D4	Negative
Number for current week	00	00	00	00	00	00	00
Total number to date in 2009	53	10	03	03	04	00	00

Sources: Genetic Laboratory, Asiri Surgical Hospital

* Not all positives are subjected to serotyping.
 NA= Not Available.

Table 4: Selected notifiable diseases reported by Medical Officers of Health

23rd - 29th May 2009 (22nd Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	158	1242	4	81	0	5	5	86	1	32	32	251	0	4	4	34	0	3	100
Gampaha	194	914	1	75	1	12	1	24	0	9	9	134	0	3	2	33	0	2	80
Kalutara	52	351	7	133	0	4	0	32	0	11	6	99	0	1	1	8	0	2	92
Kandy	217	1229	4	161	0	3	0	16	1	53	6	102	5	75	3	24	0	0	84
Matale	40	332	4	50	0	2	2	18	0	5	10	210	0	2	0	6	0	2	100
Nuwara Eliya	1	47	28	224	0	0	5	92	0	28	0	20	3	33	0	28	0	0	100
Galle	21	21	6	88	1	9	0	1	0	12	2	85	0	2	0	6	0	3	84
Hambantota	35	353	1	40	0	6	1	4	0	5	3	44	1	35	0	8	0	0	73
Matara	65	372	0	143	0	2	0	4	0	15	6	81	4	67	1	11	0	0	100
Jaffna	0	8	0	57	0	3	0	98	0	26	0	0	0	111	0	29	0	2	0
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mannar	0	4	2	32	0	1	4	60	0	4	0	0	0	0	7	30	0	1	75
Vavuniya	0	6	30	529	0	2	0	21	0	2	0	2	0	0	190	903	0	0	25
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Batticaloa	6	297	10	142	0	10	0	5	0	39	0	7	0	1	0	5	0	1	64
Ampara	16	65	1	28	0	0	0	5	0	5	0	8	0	0	0	4	0	0	71
Trincomalee	11	194	3	45	0	2	0	3	0	0	0	8	1	7	0	5	0	1	80
Kurunegala	78	634	3	77	0	5	1	31	1	5	1	49	1	44	0	31	0	4	95
Puttalam	15	115	3	59	0	7	4	49	0	0	1	43	1	26	0	6	0	1	67
Anuradhapura	13	233	2	49	0	3	0	3	0	2	2	69	0	26	0	10	0	1	84
Polonnaruwa	7	47	1	17	0	2	0	13	0	6	0	40	0	0	2	6	0	0	86
Badulla	6	59	7	118	0	2	0	23	0	18	4	43	1	41	3	100	0	1	80
Monaragala	4	24	0	23	0	0	1	10	0	7	0	10	0	36	0	23	0	1	91
Ratnapura	77	385	5	281	0	15	1	32	0	4	6	68	1	18	0	9	0	1	78
Kegalle	118	986	5	67	0	4	1	18	0	6	3	73	1	14	2	77	0	2	82
Kalmunai	1	100	0	60	0	1	0	5	0	1	0	2	1	2	0	7	0	0	69
SRI LANKA	1135	8087	127	2581	2	100	26	654	3	295	91	1448	20	548	215	1403	0	28	79

Source: Weekly Returns of Communicable Diseases (WRCD).

*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

**Timely refers to returns received on or before 30th May, 2009 Total number of returns received =311. Number of reporting units data provided for the current week: 246

A = Cases reported during the current week. B = Cumulative cases for the year.

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