



Snake Head Idol at Urusita Wawe (Cobra Symbol) Embilipitiya

Water is the lifeblood of a nation. Without it, there can be no future. Water flows through veins of rivers, tributaries and streams...nourishing crops, generating power, sustaining human life and nature, before plunging into the sea, to return again as rain.

March 22nd is World Water Day and this year's theme is "Water and Culture". Water has always been central to Sri Lankan culture. From the times of the ancient kings and their irrigation systems to the present day, water is precious. It is revered and feared as both a life-giver and a destroyer. This supplement explores the significance of water in the social, economic and agricultural practices of Sri Lanka and its value to all Sri Lankans as an integral part of life and a gift of nature.



Rainwater Harvesting in Mattala, Southern Sri Lanka

Women, poverty and water

Rural women are responsible for half of the world's food production and produce between 60 and 80 percent of the food in most developing countries (FAO 2004). It is likely that their contribution to food security is growing due to a process known as 'feminization of agriculture' where men go to the city in search of paid jobs leaving the women to do the farming and provide food for the family (Song 1999, FAO 1998).

But, overlooked and undervalued, women's contribution to food security is not reflected in ownership and access to services. Fewer than 10 percent of women farmers in India, Nepal and Thailand own land; women farmers in five African countries received less than 10 percent of credit provided to their male counterparts; and only 15 percent of the world's agricultural extension agents are women (FAO 2004). Traditionally, irrigation agencies have tended to exclude women from access to water-often implicitly, for example, by requiring land titles to obtain access to irrigation water (Koppen 2002). Explicitly targeting women farmers in water development schemes and giving them a voice in water management is an essential ingredient for the success of poverty alleviation programs.

Women also use irrigation water for domestic purposes, home gardens and cottage industries. Recognizing these multiple uses in water development and management would greatly benefit women.



Woman Farmer in Mattala Southern Sri Lanka

Sri Lanka's Water Heritage

The traditional concept of water makes it a sacred gift from the gods. Water purifies, not only in a natural sense but also in a ritualistic sense. Water gives life and is also a symbol of fertility. The water heritage of Sri Lanka, molded by generations of monks and men, kings and engineers has left behind a body of wisdom that future generations may profitably use in evolving an integrated approach to water resources management. The simple villager who built his well a few feet above the level of the paddy fields had a holistic approach to water because he knew that the water used in bathing should not be wasted: it should flow down to the paddy fields and should, on its way, water the plots of green vegetables. At the upper end of the well, he planted a kumbuk tree (*terminalia glabra*) which not only made the water cool and clean, but also added to the beauty of the environment.

An integral part of Sri Lanka's water heritage is the use and development of water resources in the Dry Zone which receives rain only for three months during the Northeast monsoon. The challenges it posed and the responses it generated resulted in a hydraulic civilization that has no parallels in world history. According to the renowned historian, Arnold Toynbee, "The technological know-how that formed the basis of this hydraulic civilization reflects the engineering skills of the ancient islanders. In the late eighties of the last century, when the Sri Lankan Government requested Canadian construction engineers to construct a new dam at Maduru Oya under the accelerated Mahaveli Program, they stumbled on an earth dam constructed by ancient Sinhalese engineers, a millennium ago, on the very site selected by the Canadians on the basis of modern mathematics and technology. The Government requested the Canadians to shift the dam axis of the new dam a few feet upstream so that the ancient dam could be preserved".

Water for domestic and agricultural purposes was not the only concern of ancient hydraulic engineers. Aesthetic purposes such as landscape gardening also attracted their attention. By the beginning of the Mediaeval Age, Sri Lanka had produced some of the most remarkable water gardens in Asia. The water gardens at Sigiriya, now declared a World Heritage Site and described by archaeologists as "one of the oldest landscaped gardens in the world" is, in the final analysis, a harmonious synthesis of hydraulic engineering, landscape gardening and aesthetic finesse.

Extract from a paper presented at the 2nd World Water Forum, the Hague, Netherlands (March 19th, 2000) by Professor J. B. Disanayaka, University of Colombo



Aerial View of the Sigiriya Water Garden

Water and 21st Century Culture

- ★ How much water do you "eat"? Traditionally, it takes 3,000 liters of water to grow 1 kilo of rice, and the average person in Asia consumes 58 kilos per year.
- ★ Diets based on meat from grain-fed cattle can deplete as much as 5,000 liters of water, per capita, per day, while vegetarian diets deplete less than half that amount of water.
- ★ Globally, some 3.4 million m³ of water is withdrawn every year for human use; 70% goes to agriculture, 10% for domestic use and 20% to industry.
- ★ Over 1.4 billion people live in river basins where high water use levels threaten freshwater ecosystems. Co-managing water for agriculture and the environment can minimize negative impacts.
- ★ Water tied up in the growing and manufacture of products traded internationally is called "virtual water" by economists. Virtual water trade is estimated at around a thousand cubic kilometres a year or the equivalent of 20 Nile rivers.

Bringing Past Cultural Knowledge and Practices To Improve How Water is Managed Today

People of different cultures conceptualize water in different ways. Ancient societies of Sri Lanka were hydraulic by nature and deeply rooted in Buddhist ideology. Under the "Rajakariya" (service to the king) system, communities contributed labor for the building of tanks. With the fall of ancient civilizations, the impact of colonialism, and change under democratic rule, welfare policies were introduced which brought massive changes to Sri Lanka's agrarian society and transformed it. Population growth and competition from different sectors have made water a more scarce resource today than it was in the past -- a situation further aggravated by pollution and changing weather patterns. It is important that people understand the scarce nature of water, and the cost involved in water resources development, distribution and maintenance, and learn from the way our ancestors valued water and contributed to the development and management of water resources.

Equitable Distribution of Water and Land

Socio-cultural practices in small tank systems in Sri Lanka were not limited to the maximum use of available water resources alone. They were designed to guarantee equity over water and land resources. Traditional village irrigation systems in the North Central Province had three irrigation tracts: Ihala Bage (upper part), Meda Bage (middle part) and Pahala Bage (Lower part.) Each farmer was allocated a plot in each of these tracts and in water short seasons they cultivated the upper tract while when water was abundant they cultivated crops in all three tracts. Unfortunately, today, with land fragmentation and the sale of land it has become difficult to share water and land resources equitably in many small irrigation systems in the country.



Semanala Wawe Reservoir (Mulgama - Balangoda Division)

Multiple Water Use

The technical design of village tank systems shows that our ancestors were well aware of the concept of multiple water use. The tanks were constructed in such a way that water could be used for cultivation, domestic purposes, livestock and for the environment. Examples for equity in water distribution can be drawn from the small tank systems where cultural practices not only bring economic benefit but promote social harmony.

Domestic Water Supply

There were cultural practices related to domestic water and water supply in the past. Wells known as "Pinlida" (well providing water at no cost) were constructed in a community or private land for the supply of domestic water. Because of "quality" and "quantity" related problems, it was not possible to construct wells in every homestead. The "Pinlida" solved these problems. They were maintained by water users and there were norms developed for the use of this water. This included restricted use of water in the well for drinking purposes alone. There was a social norm that all people in the community should have equal access to good quality water available in the village. The norms and practices associated with "Pinlida" can be used for many domestic water supply schemes at village level even today.



Most women are responsible for supplying water for their families

Water-Related Rituals

Village communities celebrated festivals and practiced water rituals connected with planting and harvesting of crops as well as religious observances, some of which are practiced even today. During the Sinhala and Tamil New Year, in April, village housewives put salt and coins into their well and in return draw out a pot full of water. Water related rituals can build social harmony. They strengthen ties in villages where a sense of community may be in decline. These rituals can be a source of inspiration for water managers trying to promote community solidarity and cohesiveness.

The above information was taken from a paper presented by IWMI as part of a case study on the Ruhuna Basins of Sri Lanka for the World Water Assessment Programme.

Reference: Relevance of Cultural Knowledge and Practices for Efficient Water Management in Today's Context, Jinapla, K and P.G. Somaratne, 2002.

4th World Water Forum

Better Water Management for Food and the Environment

The 4th World Water Forum held in Mexico from the 16th to 22nd March, brought together a range of stakeholders from around the world to address key issues connected to the water-food-environment nexus and promote actions that can contribute to overcoming these challenges. IWMI together with a range of partners produced a publication titled "Beyond More Crop per Drop" which presents specific recommendations that have potential net benefits for society.

These are :

- Increasing "blue water" productivity to get the most out of renewable water resources. (Blue water is rainfall that runs off into rivers and recharges aquifers. It accounts for 40% of all rainfall).
- Increasing "green water" productivity by making the most of soil moisture through rainwater harvesting and supplemental and micro-irrigation. (Green water is rainfall that does not reach rivers or aquifers but replenishes soil moisture and evaporates from the soil or is transpired by plants. It accounts for 60% of all rainfall and is often overlooked by water managers).
- Increasing access to water resources through investment in water resources development, crucial to achieving the Millennium Development Goals
- Balancing water for food and other ecosystem services through sustainable use of agricultural water and securing water for the needs of the environment
- Investing in water security to aid poverty alleviation by targeting poor areas with pro-poor and gender equitable interventions.

For more information visit - www.iwmi.org



A serious commitment, a focused approach and the obligation to set an example for others to emulate, drive the Brandix Corporate Social Responsibility initiatives. The Company is focused on managing its business processes in a manner that produces an overall positive impact on society with its CSR initiatives aligned not only to enhance the competitiveness of the business but also to maximize the value of wealth creation for society.

The theme, 'Water is Life' is a long term and ongoing commitment focusing on increasing the availability of water and provision of safe drinking water to those most in need. This unique single theme ensures a focused direction of pooled resources resulting in synergy and greater impact to the communities in which they operate, is sustainable over a period of years and is a priority area at the national level as well as at a global standpoint. With both the incidence and severity of drought increasing in frequency and scale, the lack of water has become our greatest national crisis. Brandix is committed to reverse the figures through a concerted effort in providing water to as many needy communities as possible.



About IWMI

IWMI is an international non-profit research organization, based in Sri Lanka, with offices in Africa and Asia. Our mission is to improve the management of water and land resources in developing countries, for food security, livelihoods and nature. We are one of 15 research centers supported by the Consultative Group on International Agricultural Research (CGIAR), based in Washington D.C. Our vision is to be a world-class knowledge center on water, food and environment by the year 2008.

In Sri Lanka, IWMI works extensively in the Ruhuna Basin which is one of IWMI's four benchmark basins. Other benchmark basins are the Olifants Basin in Africa, the Rechna Doab in Pakistan and the Krishna Basin in India. Benchmark basins are "field laboratories" where IWMI's research is tested and evaluated. In the Ruhuna Basin, IWMI works with local partners and NGOs to improve land and water management practices that will sustain the environment, improve health and livelihoods for rural communities.

