



Town is Rahimatpur, in Western India. Population is about 25000. The date is 22nd March-World Water Day. It is being annually celebrated there by the school children. TERRE Policy Centre and Choundeshwari Education Institute mentor them. On that day, early in the morning school-girls in their traditional attire trek to the source of a rivulet, about 2 kms from the town.



## Export of Water: Virtually!

Down stream people of Rahimatpur fetched their water for years in the past, till water started coming to the town from the taps. On 22nd March, the girls then bring that water in clean and shining brass and copper pots, and pay respect by pledging not to use water wastefully. I find it innovative way to celebrate World Water Day.

It gives the real answer to the question 'from where the water comes to our home'? The most common answer is 'from the tap'. That response shows total disregard to the value of ecosystem that provides us the water-an essential ingredient for the life on the Earth.

The question:'to where does the water go from our home?' is equally interesting. Obvious response -'to the sewage'. That is quite short-sited.

UNESCO has come up with a term called 'water footprint' and catalogued it for the products and countries. It is defined as the total volume of freshwater used to produce the goods and services consumed by the individual or community or business or nation. For example, to produce one kg of beef requires 1860 liters of water, to produce one kg chicken requires 470 liters of water and to produce on kg of potato or one kg of onion requires just 30 liters of water. So when a country exports beef, it virtually exports water.

When India exports onions to Middle East it virtually exports water. Thus Middle East's water footprint is imported from India. About 65% of Japan's total water footprint comes

from outside the country. The water from one country goes to other countries, not through the rivers that cross national borders but through international trade. Water is virtually exported.

Policy makers disregard the use of water while accounting for the exports and imports. Experts have found out that 19 percent of the global water footprint comes from products that are exported.

The United States is easily the largest exporter as well as importer and is the country with largest 'virtual water trade deficit'. USA is followed by China, India, and Brazil. Water prices in most places do not reflect the scarcity of the resources. Neither does international trade. Can we use such analysis of water footprints to slow down the excess consumption domestically and also the exports of the products that use water unsustainably? Appreciating the source and end of water is thus so crucial to ensure sustainable practices. Girl students of Rahimatpur have at least made the beginning.



**Rajendra Shende**

Chairman TERRE,  
former Director UNEP

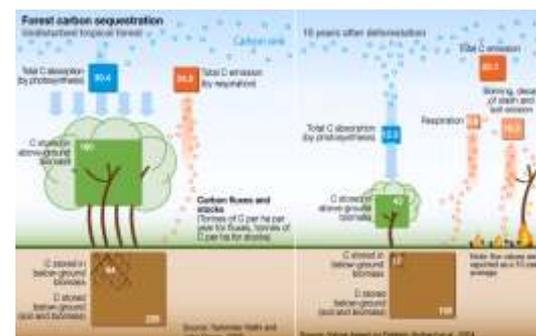
## Forest Carbon Sequestration

Converting land for biofuel production can cause biodiversity impacts in the short-term, but such conversion also aects the future resilience of natural ecosystems. In an extreme case, complete deforestation reduces the ability of forestland to regenerate and absorb carbon in the future.

Credit: GRID-Arendal

Further read-

[http://www.grida.no/graphicslib/detail/forest-carbon-sequestration\\_06bd#](http://www.grida.no/graphicslib/detail/forest-carbon-sequestration_06bd#)





## Cleaner Cook stoves for better health, climatic and economic benefits

After 3 decades of organized efforts, the widespread use of improved, smokeless and energy-efficient cooking stoves still remains distant dream. One of the oldest and technologically most simple cooking methods ever developed by civilization continues with its perennially archaic status quo for billions of its users, mostly poor. Consequently, health and social impacts continue to impact the underprivileged. Women and children are the most suffered section of the society due to local and indoor pollution. The small emissions from each of the millions of cooking stoves now form into what is known as "Atmospheric Brown Cloud (ABC)". It is a layer of air pollutants containing micro- particulate matters emanating from incomplete combustion. Such mass of soot or dust formed travels in the atmosphere like a cloud and absorb as well as scatter incoming solar radiation, leading to climate change, global warming and other impacts. The changing world scenario that includes rising population and drastic degradation of the ecosystems has renewed the demand for much needed transformation of technology of cooking stoves. The paper, developed by the authors at TERRE Policy centre, who themselves were the users of various types of cooking stoves in their childhood and who have interacted with the present users, technology suppliers and decision makers, assesses the situation in respect of the cooking stoves, identifies the barriers-many of which are overlooked by zealous technocrats- and makes recommendation to overcome those barriers.

### Challenges

1. More studies are needed to quantify the benefits of different stove and fuel combinations, in both the laboratory and in the field. In addition, a major challenge is designing high-performing stoves that can be made affordable, that meet users' broader energy needs, and that women



want to use.

2. Research is needed to further define how clean stoves and fuels need to provide real benefits for health, climate, and the environment.

3. Research is needed to understand the technological improvements, as well as of the benefits of switching from minimally processed solid fuels to cleaner gaseous, liquid, pelletized, and renewable fuels, including the impacts and efficiency of fuel production.

4. A more integrated understanding of the interplay between socio-cultural, economic, and technological factors is essential for sustaining intervention efforts.

5. Development and adoption of voluntary industry consensus standards is required to provide transparency to governments, donors, investors, and others regarding the potential benefits of different solutions and to develop certification procedures, performance benchmarks, and meaningful test infrastructure for the global cookstove market.

### Opportunities for transformational Change

1. In September 2010, U.S. Secretary of State Hillary Clinton, along with several leading international public figures and private companies, launched the Global Alliance for Clean Cookstoves, a public- private partnership to catalyze a thriving global market for clean cooking solutions.

2. Many countries have also expanded or begun to develop ambitious national programs to tackle this issue. In 2009, India announced a National Biomass Cookstove Initiative addressing technology, standards, testing, research, and commercial dissemination.

3. The Climate and Clean Air Coalition (CCAC) to Reduce Short-Lived Climate Pollutants ([www.unep.org/ccac/](http://www.unep.org/ccac/)) was launched in February 2012 by Bangladesh, Canada, Ghana, Mexico, Sweden, the United States, and the United Nations Environment Programme, with the aim of slowing the rate of climate change within the first half of this century while also protecting public health and the environment.

4. Emerging innovations in the cookstove sector are making clean cooking solutions more affordable and promoting sustained adoption.

5. Carbon financing, though facing an uncertain future, offers an opportunity to lower the price of clean stoves and fuels as they reduce carbon dioxide and methane emissions.

Transforming how half of the world's population cooks their food and heats their homes requires a comprehensive global approach that includes sustained investment, understanding consumer demand, technology development and supply, and research, as well as coordinated institutional support from national and international bodies and adequate policies to foster market development. The potential benefits to women, children, communities, and the world are enormous.



**Moreshwar Hude**

Project Leader,  
TERRE Policy Centre





## From the Editor's desk : Water Apah

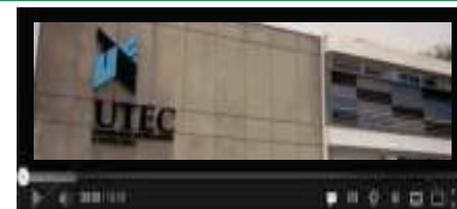
Water is one of the five great elements among air, water, fire, earth, and ether. Water is also intermediate between all pervasive air and localized earth. In ancient days there was nothing whatsoever on the Earth in the beginning. It was covered only by Death (Hiranyagarbha), or Hunger, for hunger is death. Water is Arka. What was there (like) forth on the water was solidified and became this earth.

According to Rig-Veda the water as a part of human environment occurs in five forms:

1. Rain Water (Divya)
2. Natural Springs (Sravanti)
3. Wells and canals (Khanitrimah)
4. Lakes (Svayamjah)
5. Rivers (Samudrarthah)

There are some other classifications also in the Taittiriya Aranyak, Yajurveda and Atharva Veda as drinking water, medicinal water, stable water etc. Chandogya Upanishad describes about qualities of water. "The water is the source of joy for living a healthy life. It is the immediate cause of all organic beings such as vegetations, insects, worms, birds, animals, men etc. Even the mountains, the Earth, the atmosphere and heavenly bodies are water concretized. "The cycle of water is

described - From ocean waters reach to sky and from sky come back to earth. Rainwater is glorified. The rain cloud is depicted as Parjanya god. The fight between Indra and Vritra is celebrated. This story is explained in many ways in Rig-Veda. According to one view it is a fight for waters. Indra is called Apsu-jit or conquering the waters, while Vritra is encompassing them. Vritra holds the rain and covers waters and thus being faulty is killed by Indra through his weapon called Vajra i.e. thunderbolt. The Indra-Vritra fight represents natural phenomenon going on in the aerial space. By the efforts of Indra all the seven rivers flow. The flow of water should not be stopped and that is desired by humanity. The significance of water for life was well known to Vedic seers. They mention Waters are nectars. Waters are source of all plants and giver of good health. Waters destroy diseases of all sorts. Waters are for purification. It seems that the later developed cultural tradition of pilgrimage on the river-banks is based on the theory of purification from water. The ancient Indians knowing water as a vital element for life were very particular to maintain it pure and free from any kind of pollution. The Manusmriti stresses on many instances to keep water clean. The Padma Purana condemns water pollution forcefully saying, "The person who pollutes waters of ponds, wells or lakes goes to hell".



This is nothing less than a revolution generation of water from nothing but thin air (and of course the most innovative advertising technique ever!). UTECH designed a billboard that can convert atmospheric humidity into drinking water through reverse osmosis in Lima, Peru where water shortage is one of the biggest problems.

[Http://www.youtube.com/watch?v=FW](http://www.youtube.com/watch?v=FW)

### Interesting Videos

**70** Water for irrigation and food production constitutes one of the greatest pressures on freshwater resources. Agriculture accounts for ~70% of global freshwater withdrawals (up to 90% in some fast-growing economies).

Source: <http://www.unwater.org/>

### Number of the Month

“Very interesting the article of Raj on "Investments in Renewable energy are investment in freedom from carbon-shackles".”

Mr. Nelson Sabogal, UNEP

### Feedback from the reader

What is the water footprint of 1 kg of onions?

- 100 litres
- 25 litres
- 30 litres
- 50 litres



### Answer for the last quiz

We received a few replies, but none was correct. A badger is considered a risk to cattle because It may transmit bovine tuberculosis.

If you know the answer, send in your entry to us at : [info@terrepolicycentre.com](mailto:info@terrepolicycentre.com)

### Quick Question





**Climate change: the poor will suffer most**



Pensioners left on their own during a heatwave in industrialised countries. Single mothers in rural areas. Workers who spend most of their days outdoors. Slum dwellers in the megacities of the developing world.

[Http://www.theguardian.com/environment/2014/mar/31/climate-change-poor-suffer-most-un-report](http://www.theguardian.com/environment/2014/mar/31/climate-change-poor-suffer-most-un-report)



**The rich West is ruining our planet**



The storms that have battered parts of the UK this year and left hundreds of people facing the misery of flooded homes and ruined land have again brought questions about the impact of climate change to the forefront of the public consciousness. And this week the whole question has been put into still sharper focus...

[Http://www.telegraph.co.uk/earth/environment/10730701/The-rich-West-is-ruining-our-planet.html](http://www.telegraph.co.uk/earth/environment/10730701/The-rich-West-is-ruining-our-planet.html)

**Can a Zen-like approach help countries with floods?**



More than 20,000 crops from more than 100 nations have arrived at a "Doomsday vault" in the Arctic Circle. The latest delivery coincides with the sixth anniversary of the frozen depository in Svalbard, which now houses more than 800,000 samples.

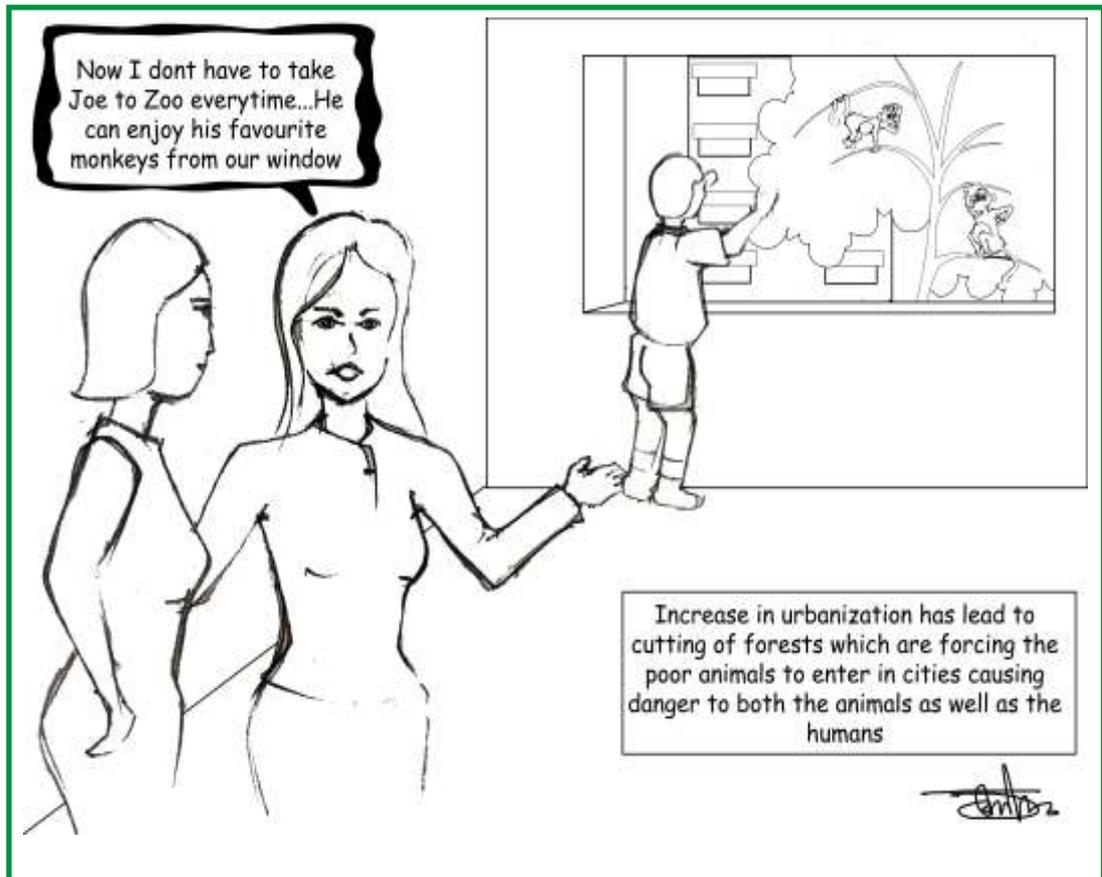
[Http://www.bbc.com/news/science-environment-26781620](http://www.bbc.com/news/science-environment-26781620)

**Pictures: World's Iconic Buildings Go Dark for "Earth Hour"**



The bright green lights that typically illuminate the Petronas Towers in Kuala Lumpur—the tallest twin buildings in the world—were turned off on Saturday for Earth Hour, an annual event aimed at raising awareness about energy consumption.

[Http://news.nationalgeographic.com/news/2014/03/140330-earth-hour-2014-photographs-wwf-energy-consumption-climate-change-science/](http://news.nationalgeographic.com/news/2014/03/140330-earth-hour-2014-photographs-wwf-energy-consumption-climate-change-science/)



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