

HRD COMMUNIQUÉ

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Water Scarcity and Poverty

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when water is scarce, women must spend long hours every day carrying water for household use.

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editor's note

Dear readers

We are pleased to share with you the new issue of HRD **Communiqué**. The theme is water scarcity and its impact on poverty, as this is emerging as one of the most crucial issues in international discussions and conferences concerned with sustainable development. The importance of water as a resource cannot be over-emphasized. Water has nourished civilizations for thousands of years, and does so today. The best-known examples of rivers that have fostered great civilizations are the Nile in Northern Africa, the Tigris and Euphrates in Mesopotamia (present-day Iraq), the Yellow River in China and the Indus River in Pakistan.

Fresh water is a finite resource. It is imperative for sustainable development, bio-diversity and the existence of eco-systems. The availability of fresh water is necessary for economic growth, social stability, people's health and poverty eradication. Yet more than one billion people lack access to safe drinking water. According to the World Health Organization (WHO) millions of people, most of them children, die from water-related diseases every year. The need therefore is to build the capacities of communities and local and national governments, to make them more effective water managers. More support must be given to local capacity-building institutions in order to engage all segments of the global community in making and keeping long-term commitments to alleviate the water crisis.

Because water makes the difference between life and death, the urgency involved in addressing water-related issues is extreme. There are some emerging solutions that indicate a hopeful future, but they require that individuals, communities, governments, policy makers, international institutions, and the private sector make substantial and effective contributions to address the water crisis.

This edition of **Communiqué** uses graphic clips, articles and case studies on water issues, in an attempt to enlighten our readers about water issues and problems.

I would like to thank our readers for their critique of our previous issues. We hope you will let us know what you think, and add your voice to the debate on this important issue. We look forward to hearing from you: your feedback will let us know if you need more info on the issue and will help us decide if we should dedicate another issue to this very important theme.



water and poverty

(written by: Nafeesa Mushtaq)

What is water scarcity?

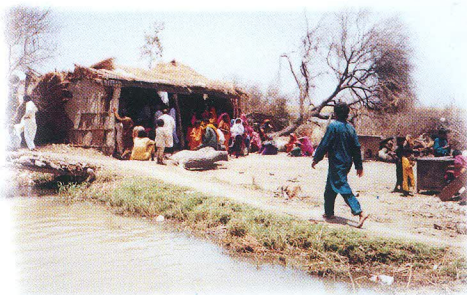
Scarcity is the condition of inadequacy. The term identifies the gap between availability and demand. In this context the term refers to the inadequacy of water supplies to satisfy normal human requirements. This is the simplest possible description of the term water scarcity. There are degrees of scarcity and scarcity can have different effects: scarcity may be absolute, seasonal, temporary, cyclical, and so on.

Different terms such as water scarcity, water shortage and water stress, are used to describe specific aspects of water-related problems. Gaps between supply and demand can occur at any level of supply, depending on demand and other circumstances. Water shortage, on the other hand, is the condition where there is an absolute shortage of water or where the available water resources are insufficient to meet minimum requirements. Thus the terms scarcity and shortage are not synonymous. An imbalance between demand and availability results in water stress, leading to disputes among users of a common source. This imbalance usually results in crop failure or decreased yields and hence food insecurity.

The importance of water

Water is the greatest gift of nature. It is a natural resource of great value. All living organisms depend on water for their very existence. Without water, life on earth would be impossible. Water is the determining factor in a nation's prosperity, progress and development. But water scarcity is capable of causing human and environmental disasters, which present a grim and potentially devastating scenario. The magnitude of the role that water plays in a region cannot be over-stated. It is predicted, for example that, "the next war in the Middle East will be fought over water".

It is commonly acknowledged that less than one percent of the earth's water supply consists of fresh water readily available for human usage. Another 3 percent is fresh water locked up in polar ice while the remainder is seawater. Although the oceans are inexhaustible sources of water, the salt component makes it unusable for drinking and irrigation. There are some



modern techniques being developed for the desalination of water, which would convert this inexhaustible supply into a usable resource, but these are extremely expensive.

Causes of water scarcity

The causes of water scarcity are varied. Most often, a combination of natural and human factors is responsible. One cause of water scarcity is unpredictable changes in natural weather patterns, such as El Nino. Water pollution caused by discharging household, agricultural and industrial waste is a major factor in reducing the amount of usable water. Large scale deforestation, leading to lower humidity levels, also results in water scarcity. Increasing demand from consumers affects the supply of water, ultimately resulting in 'water stress' situations. Basic economic theories predict that a vital commodity such as water, which is offered free or at a low price, will inevitably become "scarce" in the sense that demand will outstrip supply at the prevailing price.

Two billion people – one third of the world's population – presently experience severe water scarcity. The majority of these people reside in the semi-arid regions of Asia and in sub-Saharan Africa. If things do not improve – if we do not learn to treat water as an irreplaceable resource – even more people will experience water scarcity.

Other factors causing water scarce situations are:

- Population growth
- Food production
- Land use
- Waste and leakage

snapshot

- What is water scarcity?
- The importance of water
- Causes of water scarcity
- Effects on the eco-system
- Effects on poverty
- Effects on agriculture
- Effects on health
- Protecting available water resources
- conclusion

- Water quality
- Poverty and economic policy

Effects on the eco-system

In the world's arid and semiarid regions the overexploitation of groundwater has reached the point where eco-systems, human and animal health, and food security are threatened. Our natural environment will suffer the worst effects, in the loss of wild life species, as natural habitats vanish due to water scarcity.

Effects on poverty

Without water security a poverty eradication programme cannot be effective. Water issues are increasingly acknowledged as critically important factors in poverty eradication programmes. Economic poverty and water scarcity are two sides of the same coin.

In the last 40 years there have been many technological advances in water harvesting and delivery systems, from tube wells to mega-dams. These water harvesting and delivery technologies are instrumental in ensuring an abundant food supply and in reducing poverty.

Irrigation has played a major role historically in poverty alleviation by providing food security and protection against famine. Livelihoods in rural areas depend on properly functioning irrigation systems. The growing scarcity of, and competition for, water however, stands as a major impediment to advances in poverty alleviation. Food production will almost inevitably be adversely affected in the world's semiarid regions, which include two of Asia's major breadbaskets, the Punjab and the North China Plain. Between the 1960s and the 1990s real food grain prices fell by approximately 50 percent. This decline was principally but not





entirely due to the impact of the 'Green Revolution' in the developing countries. The benefits of lower food grain prices to the poor are self-evident. 60% of the money spent on food by people living below the poverty line in Asia is apportioned for cereals, which provide as much as 70% of total nutrients.

Water scarcity is caused by a combination of factors: changing climate, the quality of water-harvesting infrastructures, water-management policies, pricing mechanisms, and so on. The poor are the most severely affected by water scarcity, since they are least able to respond to the need for alternative water supplies, and because they pay a disproportionate amount of their income for water.

Effects on agriculture

Scarce water supplies will keep dwindling unless better irrigation techniques and public water saving programs are introduced. Pakistan's food security is heavily dependent on water security. Since agriculture consumes approximately 80 percent of the total demand, Pakistan's agri-based economy has been severely damaged as a result of the current water shortage.

Effects on health

The quality of water is as important as quantity in terms of its impact on human health. Water scarcity almost invariably leads to declining water quality. When the poor are forced to drink polluted water their health is compromised, as they fall prey to epidemics of typhoid, cholera, gastro-enteric diseases and skin diseases as well as life-threatening problems like hepatitis and renal malfunction.

Protecting available water resources

Water supplies should be conserved and water purity should be preserved. Not a drop of water should be wasted and better provision must be made to store water. Many ingenious proposals have been made for overcoming water scarcity. For instance, education and publicity campaigns can help in sensitizing the public to the need for water conservation. This will also help to persuade people to change their attitude towards the way they use water. Extension services should be made efficient to educate farmers in more effective

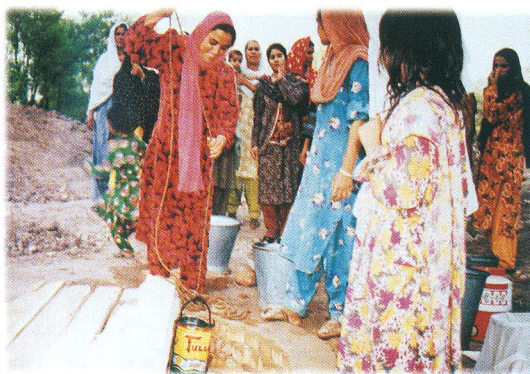
management of land and water resources.

Reducing water pollution can also save existing water sources. Some contaminants are extremely dangerous and should be banned. Use of some common pollutants, such as detergents, should be controlled through public awareness and enlightened legislation. The agricultural sector must produce more food with less water. New crops and varieties of existing crops that require less water should be made widely available. The option of saline irrigation must be given serious thought. Groundwater extraction should be regularized through legislation and effective implementation of policies. Not all water needs to be treated to the standard required for drinking purposes. Moreover, fresh water should not be used where it is not necessary. Many personal, domestic, industrial and civic uses could be met through non-potable water. Some other solutions are:

- Capturing and storing all surface water
- Minimizing household water use
- Detecting and repairing all household leaks
- Long distance conveyance and inter-basin transfers
- Dual quality water standards
- Desalination
- Institutional and legal changes
- Reforms for pricing and delivering water
- Establishing quotas
- Recycling all water used in industry
- Towing icebergs and melting them close to urban areas

Conclusion

Our mission must be to preserve, enhance and restore the quality of water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.



NGOs, farmers' organizations and professional organizations like International Water Management Institute (IWMI) should be engaged for better results. To achieve long-term sustainable water development it is essential that the population be sensitized

about appropriate environmental and social issues. This will require communication, information, education, and public participation. Institutional understanding and capacities need to be developed for the effective implementation of water policies, programs, and projects, which in turn will require a determined effort to institute an effective and meaningful communication program with the people whose lives will be affected by these activities. We all, as the inhabitants of planet earth, should make every effort to preserve all water resources in order to protect future generations from famine and drought.

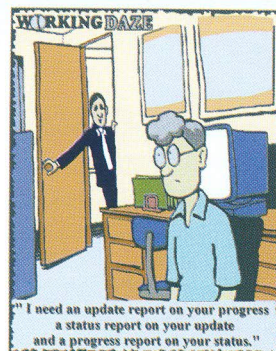
Sources:

1. *Water Scarcity and Poverty* by Randolph Barker, Barbara van Koppen, and Tushaar Shah
2. *On Water Scarcity in Israel*
3. *Modern Solutions to an Ancient Problem* by Vald Dorjets
4. www.thewaterpage.com
5. www.dawn.com
6. www.worldwater.org

Some interesting water facts

- Water is the most common substance found on Earth.
- The only water we will ever have is what we have now.
- In a 100 year period, a water molecule spends 98 years in the ocean, 20 months as ice, about 2 weeks in lakes and rivers, and less than a week in the atmosphere.
- Each day the sun evaporates 1,000,000,000,000 (a trillion) tons of water.
- Water is the only substance on Earth naturally found in the three true element forms: solid, liquid, and gas.
- 80% of the Earth's surface is water.
- 97% of the Earth's water is in the oceans and seas.
- 66 % of your body is water.
- Bones are 25% water.
- Human blood is 83% water.
- A person can survive without food for more than 30 days, but less than a week without water.

Source: www.cityofdurand.com



Efficient Reporting

Source: [@egroups.com](http://humoronline)