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Why Water is Not a Renewable Resource? -A Study of its Impact on Human Life

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ABSTRACT *By 2050 or so, the human population is expected to pass nine billion. Those billions will be seeking food, water and other resources on a planet where humans are already shaping climate and the web of life.Agriculture, as the single largest user of freshwater on a global basis and as a major cause of degradation of surface and groundwater resources through erosion and chemical runoff, has cause to be concerned about the global implications of water quality. The associated agro food-processing industry is also a significant source of organic pollution in most countries."Eutrophication" is the enrichment of surface waters with plant nutrients.*

Introduction

Clean water is perhaps the planet's most precious resource, and, with the increasing effects of global climate change, for many regions across the globe, our ability to have enough high-quality H_20 on hand could likely to change in the near future. Being water conscious helps reduce strain on municipal treatment systems and ensures there's enough to go around.

Human population and global warming

By 2050 or so, the human population is expected to pass nine billion. Those billions will be seeking food, water and other resources on a planet where humans are already shaping climate and the web of life. A modeling study found that global warming and demographic shifts toward Sun Belt cities will likely contribute equally to greatly increased exposure of people to extreme heat later this century. The projections are tallied in annual person-days of exposure to extreme heat, comparing the period 1971–2000 to the period 2041–2070. Person-days are calculated by multiplying the number of days when the temperature is expected to hit at least 95 degrees by the number of people who are projected to live in the areas where extreme heat is occurring. A valuable study published this week in Nature Climate Change projects that exposure to extreme heat in the United States is likely to rise enormously by midcentury, driven equally by demographic shifts boosting Sun Belt populations and projected changes in heat waves in a warming climate.

Water is not a renewable resource.

By shifting away from bottled water, we can reduce global greenhouse gas emissions (from shipping), the energy required to produce (petroleum-derived) plastic, and the volume of waste trucked to our landfills (from empty bottles). Three trillion gallons of water, along with $18 **Water quality as a global issue**

Agriculture, as the single largest user of freshwater on a global basis and as a major cause of degradation of surface and groundwater resources through erosion and chemical runoff, has cause to be concerned about the global implications of water quality. The associated agro food-processing industry is also a significant source of organic pollution in most countries. Aquaculture is now recognized as a major problem in freshwater, estuarine and coastal environments, leading to eutrophication and ecosystem damage. The principal environmental and public health dimensions of the global freshwater quality problem are highlighted below:

- Five million people die annually from water-borne diseases.
- Ecosystem dysfunction and loss of biodiversity.
- Contamination of marine ecosystems from land-based activities.
- Contamination of groundwater resources.
- Global contamination by persistent organic pollutants.

Experts predict that, because pollution can no longer be remedied by dilution (i.e. the flow regime is fully utilized) in many countries, freshwater quality will become the principal limitation for sustainable development in these countries early in the next century. This "crisis" is predicted to have the following global dimensions:

- Decline in sustainable food resources (e.g. freshwater and coastal fisheries) due to pollution.
- Cumulative effect of poor water resource management decisions because of inadequate water quality data in many countries.
- Many countries can no longer manage pollution by dilution, leading to higher levels of aquatic pollution.
- Escalating cost of remediation and potential loss of "creditworthiness".

The real and potential loss of development opportunity because of diversion of funds for remediation of water pollution has been noted by many countries. At the 1994 Expert Meeting on Water Quantity and Quality Management convened by the Economic and Social Commission for Asia and the Pacific (ESCAP), Asian representatives approved a declaration which called for national and international action to assess loss of economic opportunity due to water pollution and to determine the potential economic impacts of the "looming water crisis". Interestingly, the concern of the delegates to the ESCAP meeting was to demonstrate the economic rather than simply the environmental impacts of water pollution on sustainable development. Creditworthiness (Matthews, 1993) is of concern insofar as lending institutions now look at the cost of remediation relative to the economic gains.

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There is concern that if the cost of remediation exceeds economic benefits, development projects may no longer be creditworthy. Sustainable agriculture will, inevitably, be required to factor into its water resource planning the larger issues of sustainable economic development across economic sectors. This comprehensive approach to management of water resources has been highlighted in the World Bank's (1993) policy on water resource development.billion, could be saved each year if every household invested in water-saving appliances.

Effects of Eutrophication

"Eutrophication" is the enrichment of surface waters with plant nutrients. While eutrophication occurs naturally, it is normally associated with anthropogenic sources of nutrients. The "trophic status" of lakes is the central concept in lake management. It describes the relationship between nutrient status of a lake and the growth of organic matter in the lake. Eutrophication is the process of change from one trophic state to a higher trophic state by the addition of nutrient. Agriculture is a major factor in eutrophication of surface waters.

The most complete global study of eutrophication was the Organization for Economic Cooperation and Development (OECD) Cooperative Programme on Eutrophication carried out in the 1970s in eighteen countries (Vollenweider et al., 1980).

Impacts of Eutrophication

- Infilling and clogging of irrigation canals with aquatic weeds (water hyacinth is a problem of introduction, not necessarily of eutrophication).
- Loss of recreational use of water due to slime, weed infestation, and noxious odour from decaying algae.
- Impediments to navigation due to dense weed growth.
- Economic loss due to change in fish species, fish kills, etc.
- Increase in production and biomass of phytoplankton, attached algae, and macrophytes.
- Increasing operating expenses of public water supplies, including taste and odour problems, especially during periods of algal blooms.
- Deoxygenation of water, especially after collapse of algal blooms, usually resulting in fish kills.
- Shift in habitat characteristics due to change in assemblage of aquatic plants.
- Replacement of desirable fish (e.g. salmonids in western countries) by less desirable species.
- Production of toxins by certain algae.

Pesticide Abuse and of Environmental and Public Health Impacts

- Testing and approval of spraying apparatus.
- Limitations on aerial spraying.
- Environmental tax on pesticides.
- Promote the use of mechanical and biological alternatives to pesticides.
- Reduction in use of pesticides (by up to 50% in some countries).
- Bans on certain active ingredients.
- Revised pesticide registration criteria.
- Training and licensing of individuals that apply pesticides.
- Reduction of dose and improved scheduling of pesticide application to more effectively meet crop needs and to reduce preventative spraying.

Integrated national water quality management

The need for integrated water resources management has been widely accepted as a necessary national policy goal (ICWE, 1992; United Nations, 1992, World Bank, 1993; FAO 1994c). From the agriculturist's perspective, only an integrated approach permits the evaluation of the role of agriculture in a national water resource management programme, and protects against disjointed, inefficient and inequitable policy decisions for water quality remediation. The disastrous environmental situation in many Eastern European countries as well as in some rapidly industrializing countries provides ample evidence for the types of policy actions that need to be taken to deal cost-effectively with the role of agriculture within the larger framework of water quality management.

Economic analysis of cost of water pollution attributed to agriculture

Because agricultural water pollution is of a non-point source nature, the quantification of pollutants and their impacts is more difficult than for point sources. However, the world's ever-increasing demand for dwindling supplies of good-quality freshwater requires that countries adopt a holistic approach to water resource management. Pollution control is now so expensive that decisions on resource management priorities should be guided by knowledge of the cost of water pollution to the various economic sectors. That cost is in two parts: the first is the direct cost (e.g. treatment) of meeting minimum water quality standards required for various uses; the second is the cost of lost economic opportunity because of inadequate water quality.

REFERENCE Abbott, M.B., Bathurst, J.C., Cunge, J.A., O'Connell, P.E. and Rasmussen, J. 1986. An introduction to the European Hydrological System - Système Hydrologique Européen "SHE". J. Hydrol. 87: 45-77. | Ackefors, H. and Enell, M. 1992. Pollution loads derived from aquaculture: land-based and water-based systems. In: Workshop on Fish Farm Effluents and their Control in EC Countries. Published by the Department of Fishery Biology, Institute for Marine Science at the Christian-Albrechts-University of Kiel, Germany, pp. 3-4. | Andreoli, C.V. 1993. The influence of agriculture on water quality. In: Prevention of Water Pollution by Agriculture and Related Activities. Proceedings of the FAO Expert Consultation, Santiago, Chile, 20-23 Oct. 1992. Water Report 1. FAO, Rome pp. 53-65. Thiyagaraj,V 2015. Is greener products are more humane? An environmental health perspective.Pariperx- Indian Journal of Applied Research. | Thiyagaraj,V 2015. A new approach to scale water management by agricultural roots.International Journal of Research in Commerce, IT, Engineering & Social Science,Vol.2,issue.5,Page1-4. | | Thiyagaraj,V 2015,Does Tree-free paper can make a greener world? A contemporary study.International Journal of Scientific Research. | Vollenweider, R.A. et al. 1980. Conclusions of the OECD Cooperative Programme on Eutrophication. In UNESCO Nature and Resources 16(3). | Young, R.A. et al. 1986. Agricultural Nonpoint Source Pollution Model: A Watershed Analysis Tool. USDA-ARS, Morris, MN. | Books | An Inconvenient Truth by Al Gore | Natural Capitalism by Paul Hawken, Amory Lovins, and L. Hunter Lovins | The Ecology of Commerce by Paul Hawken | Silent Spring by Rachel Carson | Unbowed: A Memior by Wangari Maathai | Garbage Land: On the Secret Trail of Trash by Elizabeth Royte | Biomimicry: Innovation Inspired by Nature by Janine Benyus | Consumer Reports, | Environmental Health Perspectives, | Raintree Nutrition, | Repotrs & Web sites | Ecoaffect.com | Environmental Protection Agency (EPA),and | EPA Water and EPA Recycling,Worldwatch Institute, | Energy Information Administration, | Ready, Set, Green,Earth911.org, | The Telegraph, | Treehuggers.com | Yahoo! News. |