

Water for Life, Life of Water

measures through which we can utilize limited water resources in India as far as possible towards boosting development processes which inevitably require applications of adequate water.

### Water Productivity in Food Security

With more than 17.5% world's population, India's share in world's water sources is only about 4%. On the whole, India is a water-stressed country. Adding fuel to the water pollution prevailing almost throughout takes big toll annually. According to a recent report, as many as 37.7 million Indians fall ill annually due to lack of water sanitation with as many as 1.5 million children dying of diarrhea alone [4]. As many as 66 millions of people in India are compelled to drink water with excessive fluoride while another 10 million are cursed to be dependent of groundwater with excessive arsenic [4-6].

In a water stressed region or a country water productivity must be measured against access of populations to pure (uncontaminated and disease-germ free) water necessary to maintain human health and productivity in terms of output per individual per unit time to contribute to social/ national development. With tall toll of morbidity and mortality associated with polluted water, the water productivity would naturally be seen as dismally low. It can be enhanced by preventing and controlling water pollution implementing social, engineering, ecological, environmental and legal measures and ensuring supplies of pure and 'productive' water to our people.

Water is not a nutrient. But water is inevitable for nutrition. Digestion, absorption and assimilation of foods/ nutrients take place in the presence of water. All metabolic enzymes function only in aquatic medium. Food security of a society or nation inevitably requires the primacy of potable water security- availability and access of populations to pure water for drinking and sanitary purposes. Productivity of water in this respect also links with food security. In this case water productivity would be gauged as the amount of available and accessible water ensuring food security of the masses. Underlying precondition is that for the food security to be ascertained there should be no dearth of availability of and accessibility to healthy foods [7].

Criteria of water productivity for food production and for food security are to be adjudged. In case of agriculture minimum possible water pronounced in potential production will be indicative of high productivity. However, digestion, absorption and assimilation of foods/nutrients cannot be compromised or ensured by 'minimum possible' water. Water productivity pronounced in food security is the water use or the 'minimum water maximum food production' in agriculture, that is, in creating availability of food. Second and more pertinent part of food security, i.e., digestion, absorption and assimilation of food, embraces no criterion like 'minimum water; maximum digestion, absorption and assimilation of food' or 'water use in nutrition'.

Water productivity necessary for ensuring food and nutrition security of a society or nation would emanate from the water management systems, water policy, infrastructure, and natural factors. Our water related security aspects are challenged by increased chances of environmental pollution. Preventing water sources from getting polluted and unhealthy rather than depolluting it by means of a variety of chemicals and physical measures must be the primacy of our water related management systems and national water policy [8].

### Third Pole of the Earth

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Most of the water sources on Earth have been polluted to a certain degree. Only the Himalayan waters (and some sources in the other mountains and highlands of the Earth) are regarded to be pure sources of potable water. Hindu Kush-Himalayas (HKH) extending into the boundaries of the eight Asian nations - Afghanistan, Pakistan, India, China, Nepal, Bhutan, Bangladesh and Myanmar - are the largest storehouse of fresh water in the lower latitudes and as such serve as important 'water towers' for more than 500 million people.

highest, the youngest and the most fragile mountains of the HKH provide origin to major river systems, viz., the Indus, the Ganga, the Yarlung-Tsangpo, the Brahmaputra, the Nu Salween, the Yangtze, and the Mekong. HKH Mountains are also called as the 'Third Pole', for they contain the largest mass of ice and snow outside the Earth's Polar Regions. It is a permanent snowline above 5000 m. Some of the glaciers in the Region are longest outside the poles of the Earth [9].

Himalayan mountains' water productivity must be gauged in terms of the amount of snowfall to maintain cryosphere (glaciers-laden environment) and water per unit time (say annually) in perennial (snow-fed) streams to be used for all purposes in their basins before they eventually drain into Indian Ocean.

To keep the 'Third Pole' of the Earth preserved through assured conservation of the water resource is one the greatest changes for our contemporary world. HKH Mountains are the common fragile natural resource. For the conservation of the waters of this Region, the entire world needs to extend help and support. As the mountain ecosystems have enormous bearing on the Earth's systems, their special care, regeneration and conservation of their pristine resources would fetch happiness, peace and prosperity to the larger parts of the world.

Agenda 21, Chapter 13 of the United Nations underlines the

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