


Chapter 23

Water Management: A Key to Sustainable Development

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ABSTRACT

The world faces an unprecedented crisis in water resources management, with profound implications for global food security, protection of human health, and maintenance of all ecosystems on Earth. Large uncertainties still plague quantitative assessments of climate change impacts and water resource management, but what is known for certain is that the climate is changing and that it will have an effect on water resources. Therefore, increased efforts will be needed to plan and manage water supplies in the future through increased monitoring and understanding of the interrelationships between population size, climate change, and water availability. The focus of water management is gradually shifting from developing new water sources to using existing water sources more effectively and efficiently. The world needs policy change in water management. Respect for water resources and their value is the starting point of deliberations. Governments have the essential water management function: to protect and allocate water resources to allow both individual and collective interests to benefit from water. Societies must also lead in understanding, provisioning for mitigating the impact of disasters, ranging from extreme droughts to unprecedented floods, caused by climate change and poor management of water and land. Public funds will likely remain the main source of water sectoral funding. It is up to governments to invest wisely to enhance the crucial role that water has for social and economic development in a country. Integrated water resource management strategy is accepted as a global model for achieving the objective of a sustainable water management system.

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INTRODUCTION

The problems of water form part of the broader challenges of sustainable development. Water is more than a sector or commodity. Water is life. Access to safe drinking water is a basic human need, essential for health and also for human dignity. Without water, there would be no food, no rain fed or irrigated agriculture. Water sustains economic productivity, human livelihoods and the integrity of the world's ecosystem. Equitable and efficient water management can go a long way to ensure that the entire world's people are free from hunger and suffer less from disease and the impact of natural disasters. Good water management improves human and national security and if properly managed, water as a renewable resource can fuel sustainable development. Water is an economic and social good, and should be allocated first to satisfy basic human needs. Providing water security is a key dimension of poverty reduction. Water should be equitably and sustainably allocated, firstly to basic human needs and then to the functioning of ecosystems and then comes to different economic uses including food security.

Issues of water allocation lead to all sorts of conflicts between major stakeholder groups such as the poor need drinking water for survival and for their livelihoods; farmers want water for irrigation; industry for production; and the urban elites claim water for basic as well as luxury consumption. Water uses and water rights, therefore, touch on power issues in the society which can only effectively be negotiated by the Government. The strong role of the nation states in water policies does not rule out. More participation of the poor should be given in decision-making regarding water. The national policy on water should be made in a decentralized platform with the consideration of local needs. In fact the Local Governments, community based organizations and private sector should be the key players in local management and the provision of local services (Hilderling. A, 2004).

Improved water management at the national and local levels including freshwater supply, sanitation and wastewater treatment requires huge sums of money. It is estimated that to reach the internationally agreed target of safe drinking water in 2030 we will have to provide new access to water for 300,000 people each day (Bittner. A, 2012). For a similar target insanitation, an extra 390, 000 people per day will have to be provided with new services. This adds up to investments in the water sector of 180 billion dollars per year. But only around \$80 billion are invested at present leaving a gap of some 100 billion dollars a year. So, all sources of funding like public revenue, water tariff, external assistance and private investment must be strengthened. But this raises a number of sensitive issues. Traditionally, water, like fresh air, was regarded as a gift of nature which is a common good and therefore, should not be paid for. For this reason, there is still strong resistance to the introduction of users' fees. It will take time until people in traditional societies understand that while water itself may be free, the provision of water, the infrastructure needed for its distribution, and the cost of water treatment are services which need to be financed and must be covered by water charges.

Importance of Water in Development Strategies

Water resources must now be recognized as a major determining factor for socio-economic development (UNCSD, 2013). During the period when human demands on water were low and when hydrological cycle behaviour and the climate were thought to be fairly predictable, water was the last thing to be considered in the development decision-making process, if was considered at all. In the past, hydrologists and water managers tended to concentrate on gathering scientific knowledge about the hydrological cycle,

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