

# Water, Environment and Poverty— Challenges for Africa

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## **I. Some key points**

THE 20TH Century, and indeed, our age has been described in various way as the age of break through in science and technology; the age of genetic engineering; the jet age; and of course to add to the list, the age of population explosion. One can also rightly describe our age as the age of environmental degradation, for never in the history of mankind has our mother earth been so mismanaged and abused like this age has witnessed. Interestingly, however, and as if to balance the equation, never in the history of mankind has there been so much environmental awareness and institutional framework at global, regional, national and local levels to address the problems of our planet. In this context, therefore, mankind is not only a destroyer of his earth habitation, but also a rebuildier of the earth.

The topics viz. water, environment and poverty, are inter-related issues. Water as a substance is part and parcel of the environment. Our physical environment is made up of water, air and land. In talking about the environment, therefore, one is essentially talking about these three components. However, emphasis is on water as one important component of the environment. Poverty in this context deals with all the negative consequences upon human beings of water mismanagement and environmental degradation

caused by irrational human activities.

Fifty years ago, the global environment was relatively stable. The earth's water resource which were used to satisfy various human- needs domestic, agricultural, industrial and recreational—was unpolluted and readily available. Water, and indeed the environment were taken for granted. Today, the story is different. All over the world, from the developed to the developing nations, there is water crises and environmental degradation staring peoples, governments and policy makers in the face. While the developed world is contending with pollution of water resources, the developing nations, particularly in Africa, face severe drought and desertification leading to environmental degradation and mass poverty. This trend is likely to intensify during the coming decades, unless urgent steps are taken to apply measures at all levels to mitigate these problems.

At this juncture, highlighting on some of the factors responsible for mass poverty and environmental degradation are essential. First and foremost among them is the rapid increase in human population. The world's population today is estimated to be somewhere around 6 billion. By the year 2050, this number is likely to double and reach 10.64 billion. The developing nations, including Africa will contribute nearly 87 per cent of the 9.29 billion. It is certain that population growth leads to pressure on the available finite resources upon which humans depend.

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This tendency leads to strain on water resources, environmental destruction and mass poverty. Ironically, according to available statistics, out of a population of some 4 billion in 114 developing countries, more than 2.5 billion live in rural areas, and of these approximately 1 billion live below the poverty line: 633 million in Asia; 204 million in Africa and 76 million in Latin America and the Carribean. Although some progress has been made by several developing countries in reducing the percentage of the rural population below nationally defined poverty lines, the absolute number of the rural poor has increased.

Associated with increased population are the impacts of human activities on water and the environment. The actions of man have had serious consequences on the environment since the last fifty years. Industrial activities, rapid urbanization and mineral exploitation are some of the ways man impacts on the environment. The net effects of all these is release of industrial wastes, water pollution, forest depletion, drought desertification, and climate change. The Sahel Region of Africa has experienced ecological refugees in the past, and the trend is likely to continue into the future. These are people driven out of their cultural homes as a result of harsh ecological conditions. Consequently, they are rendered poor as refugees in neighbouring countries. They are forced to live in squalor under sanitary conditions. Experience shows that the rural poor who have no access to portable water supply are the ones that suffer from water related ailments such as cholera, river blindness, bilharzia, etc.

## **II. How can we create a safe environment for better health ?**

This is an era of growing environmental concern. Since the late 1950s the world population has tremendously increased at the extent that in the 80's it had actually more than doubled. And at the same time, the world

economic activities have increased several times. This trend led to accelerating urbanization, exhaustion of water resources and rampant diseases which characterized many developing countries and the situation has been deteriorating. The African countries have been hit especially hard.

As a result, the major focus has been on environment and it includes those aspects that have a direct impact on most developing countries such as soil conservation, aridity and deforestation. These aspects are important, but however within the household environment more people suffer and die from disease transmission caused by poor water supply and sanitation than almost any other cause. It is for this reason that as a matter of importance the household environment should be dealt with firstly and secondly the community environment and lastly the water resources as a whole.

*(a) The household—little is known about it and the environment in which it lives.*

Water supply and sanitation have their greatest impact on the environment at the household level. Yet sometime, we surprisingly tend to know little about the family and the environment in which it lives. Too often the overall needs of communities are considered rather than individuals or families without an understanding of what motivates the family to upgrade these services. Projects are invariably designed without a basic knowledge of people's preferences, the reasons why people may want improvements or what they are willing to contribute for them.

The very fact that so little is known about the household and how it is managed means that efforts at integration of water supply improvements, sanitation and hygiene education have often been unsuccessful. Hygiene education is not known for its success and only recently have delivery mechanisms been identified that are

replicable and sustainable. Yet there are examples of longer term success: School based programmes particularly have had a significant impact. Primary school children are the largest most impressionable and attentive audience in the world. Curricula in any school invariably include health subjects but teacher training requires upgrading with improved teaching materials and methods focusing on hygiene and the environment.

*b) The Community: Improvements in Water and Sanitation are a proven way of improving the living conditions of the poor.*

Traditional rural societies evolved over centuries and the social structures within rural communities have resulted in the environment within the community being in balance. The environmental situation in cities, where most residents are migrants, is very different. There, the social structure is fragmented and communities are seldom able to prevent severe deterioration of their environment. Even when water and sanitation improvements are introduced, the impact is reduced because due to a lack of community spirit, the communities seldom respond by implementing follow up actions. Piped water is supplied into homes but drainage is not provided to take away the wastewater and even when drainage is provided, solid waste collection being clogged by garbage.

The environmental situation in most urban areas of African countries is static, and is deteriorating. Common place sights in many urban areas are unpaved roads and dirt tracks flooded by wastewater, large wastewater ponds at low points, piles of refuse acting as breeding sites for vermin, open canals filled with black anaerobic water and sludge, and barefooted children playing on the roads amidst the muck, traffic and refuse. In such a scenario, improvements to water and sanitation are a feasible practical proven way of improving the living environment of

the poor.

### **III. Major benefits of water supply and sanitation in development**

The benefits of improvements in water supply and environmental sanitation to health and social and economic development are a result of many different interaction factors. Health benefits are both direct and indirect. Thus disposal and hygiene projects combining water supply, excreta disposal and hygiene education can be expected to reduce mortality by an even greater extent.

Apart from relieving the human suffering and misery, the prevention of diarrhoeal diseases, other infections and parasites infections improves the nutritional status, especially of infants and children, the most vulnerable members of society. Another contribution to improved nutrition is the use of surplus and waste water in small-scale irrigation for local food production, including family garden plots.

Opportunities for women and children are reducing the back-breaking drudgery and decreasing the energy and time spent hauling water over long distances. This reduces its effects on their health and improves the quality of their lives, enabling them to pursue activities such as education, income generation and family care.

Water supply and sanitation improvements have an impact on productivity, as adequate safe water and proper sanitary facilities stimulate the development of productive activities providing employment and increased income for the community.

In terms of environmental protection, adequately designed, maintained and used water supply and sanitation installation and practices contribute to improved water resource and urban environment.

#### IV. Efforts to supply safe drinking water

Adequate supply of drinking water of appropriate quality within easy reach is vital for all development efforts. For an overwhelming majority of the population in the developing countries, this basic precondition for development and human dignity is far from satisfied. Apart from the tedious and time-consuming work connected with drawing water from sources far away, the situation is characterised by human sufferings in terms of poor health. Although there are numerous diseases which are water-related, diarrhoeal diseases are the most serious which to a large extent can be reduced by improved household water supply. It is estimated that millions of children under five years of age in Africa suffer from diarrhoeal illnesses every year and that four and a half million children under five years of age die every year in diarrhoeal diseases alone.

The water consumption varies enormously in different parts of Africa depending upon climate, cultural and social habits etc. Regarding the quantities of water consumed at home, available studies reveal that it may vary from 3–4 litres per capita and day in areas with extremely arid conditions to 600 litres per capita and day in some industrialised countries. In general the people in rural areas of tropical developing countries do not have water within the compound, mostly consume around 10 to 20 litres per capita and day at home. The water consumption will increase dramatically when water is connected within the compound. In addition to the water carried and consumed at home, people in African countries often use considerable amounts of water at the water source for washing clothes, bathing, cleaning utensils etc.

During the last decades there have been repeated attempts to narrow the gap between the population being served with improved water and those unserved.

According to WHO projections some 1,348 million people received adequate water supply services during the last decade of which 368 million were in the urban and 1980 in the rural areas. The most impressive advances were made in Asia and the Pacific where over a billion people were reported receiving coverage. On sanitation, an estimated 748 million people received satisfactorily sanitation services during the Decade, 314 million in the urban areas and 434 million in the rural. Largest gains were again made in rural sanitation in Asia and the Pacific where 368 million were reported receiving services. Africa in both cases, water supply and sanitation coverage, lagged behind. Particularly, a special note should be made of Africa South of Sahara, where in spite of a doubling in the number of people provided with services, the number of urban dwellers without safe water supply increased by 29%. Similarly, the number of urban residents without adequate sanitation increased by 31% even though the number of dwellers availed of services increased by 11%.

Thus, some suggested priority areas for action are :

- (1) Raising the status of water resources at the global level. Efficient water development and management will require huge amount of capital which many developing nations can not afford at present. Luckily enough, water resources is one issue that received attention in the Agenda 21, adopted during the Earth Summit.
- (2) Conservation and efficient use of water is another area that should be addressed. We know from experience that the overall level of efficient water utilization is still far too low. Efficient design of water distribution networks will reduce leakage and wastage. At the level of individuals and families, everyone should appreciate the need for rational use of water.
- (3) Institutional strengthening and coordina-

tion in the management of the environment and water resources. In this regard, the activities of UN agencies, multilateral and bilateral assistance organisations should be strengthened. Research and training should be encouraged at regional, national and grassroot levels. In this regards, NGOs have a role to play.

- (4) Poverty alleviation should be a major concern of national governments. Efforts to increase food supplies and improve health conditions should be redoubled.

We must stress that for the above goals to be achieved there must be the political will at all levels of governance, for without this nothing can be achieved.

However, solutions have been researched using scientific knowledge without taking into account refined and sound cultures, a true legacy where man strove to maintain in symbiosis his relationship with nature and where the so-called modern techniques changing sometimes the nature of things have generated psychological and social troubles.

This means that we are lacking pertinent studies in social sciences, field investigations and others, in order to better apprehend and then conceptualize the relationship between the users and the water resources.

Nevertheless, experience has shown that community and citizen groups constitute a very favourable framework to the expression of every body's pre-occupation and to the implementation of socially relevant actions in terms of general environmental preservation.

In this regard, section 18 of Agenda 21 and the alternative treaties issues at UNCED in Rio insist on the active role that NGOs have to play, the community groups and the grassroots. A special mention in this is made in order to promote the role of women.

The question that we must ask ourselves

is which participatory approach we must take in the face of disengagement by states which have opted for political liberalization ? This approach is to be confined in an adequate legislative framework where it does not exist while we should expedite its implementation where it exists. In other words, how can the juridical arsenal measures which exists in our countries geared to the protection of water resources, harmoniously acknowledge and organize the co-existence of normative traditions and modern ones and put in place adequate institutions and be able to respond to the challenge which is:

On the one hand, to take measures that competitive economic interests do not welcome with enthusiasm given that we are in the phase of liberalization, privatization and opening to outside.

On the other hand to ensure a rational and integrated management taking into account economic, social and cultural aspects.

For reasons of efficiency, and not only of equity any more, the acknowledgement of the role of the civil society (men, women and children) has to become of general interest.

Moreover, addressing the issue of water at the local or national level, we should not loose sight of the fact that given its characteristics it has to subscribe to a regional and even international dimension.

Differences created around water issues generate undeniably geo-political problems but the question of water, given its complexity and intensity of problems around it, constitute a motive around which we could concentrate one or several solidarities at the level of civil societies and not one of those ephemeral solidarities which lead in the end to conflicts, but one solidarity which will always be re-enforced because it implicates among other things:

Consideration of this resource as a common heritage drawing lessons learnt from experiences through the actualization of traditional techniques and the local know-how with regards to social, cultural and religious realities.

Handling disparities in a world of over exploitations in general and in particular disparities of scientific and technological order.

Diffusion or information of integrity and not information as means to support thesis or pretensions.

Such an approach will definitely require a high level of local and international democracy. Promotion of human rights without leaving out the importance of en-

dogenuous choices which correspond to local realities and priorities.

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