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Water Resource Management

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ABSTRACT:

Water is a precious natural resource for sustaining life and environment. Effective and sustainable management of a water resources is vital for ensuring sustainable development. In the view of the vital importance of water for human and animals life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and management of water resource and its optimal, economical and equitable use has become a matter of the utmost urgency. Management of water resources in India is of paramount importance to sustain one billion plus population. Water management is a composite area with linkage to various sectors of Indian economy including the agricultural, industrial, domestic , household, power, environment, fisheries and transportation sector. This water resources management practices should be based on increasing the water supply and managing the water demand under the stressed water availability conditions.

KEYWORS : Water ,Management, Environment , Resource , Life

INTRODUCTION:

Integrated Water Resources Management (IWRM) is a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare, paving the way towards sustainable development, in an equitable manner without compromising sustainability of vital ecosystems (GWP 2000).

In the absence of proper water management, conflict within countries often arise because of competing water uses, and from competing jurisdictional mandates of agencies dealing with water issues (Yilma and Donkor 1997). Cameroon for instance has many rivers that it shares with other countries. These are the Benoue River (shared with Nigeria). Cross River and River Munaya (shared with Nigeria). The Ngoko, Sangha and the Dja Rivers main tributaries of the Congo basin take their rise from Cameroon.

It is critical therefore that the country has a successful water resource management to avoid conflict with the countries that share these rivers. Even among individuals and between institutions in the absence of effective coordination among water resources stake holders, more conflicts are likely to occur. In Cameroon, competition over water is already evident where more than 99% of installed electricity generation capacity relies on hydropower.

RESEARCH METHODOLOY:

Data sources for the present study include bibliographic research, analysis of reports.

Field observations and interviews of institutional and non-institutional stake holder in the water domain.

Study area:

Cameroon is hinged between West and Central Africa at the extreme northeastern end of the Gulf of Guniea and is considered to be in the central ftAfrica sub-region.

It has a total surface area of about 475,650 km2 with mainland surface area of 466,050 km2 and a maritime surface area of 9,600 km Cameroon is bounded by Lake Chad in the north, the Republic of Chad in the northeast, and the Central African Republic in the east. In the south are the Republic of Congo, Republic of Gabon and Equatorial Guinean ;and in west by the v Federal Republic of Nigeria and about 400 km of coastline with the Atlantic Ocean. There are three main climatic zones

in Cameroon: the equatorial climate extending from the coast to the Southern Plateau (green forest zone); the equatorial ,transition climate extends from the southern plateau (latitude 6◦ N) to the Adamawa Plateau; and the tropical climate extending from the Adamawa plateau to Lake .Rainfall distribution in the country is a function of the climate type. Precipitation diminishes from a maximum of more than 9,000 mm/year in the south to less than 300 mm/year in the extreme north. The average annual rainfall of Cameroon is 1,684 mm (Sigha-Nkamdjou et al. 2002). Based on a land area of 466,050 km2, the total annual volume of rainfall in Cameroon is 784.8 km3 with about two-thirds in the south and about a third in the north of the country.

***Integrated Water Resources Management**:*

The development of the idea of IWRM started following the 1992 Dublin Conference

Water and Sustainable Development intended to prepare for in Rio that same year. The Global Water Partnership (GWP 2000) defines IWRM as a process, which promotes the coordinated development and management of water land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems. Four principles, known as the Dublin Principles, which emerged from the conference, have now become the cornerstone of the debate on international approaches to water policies (UNESCO 2003). These are: Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels

Implementation of IWRM Principles in Cameroon

The conditions for the adoption of IWRM are thought to be favorable in Cameroon. Water resource management in Cameroon is a severe constraint to poverty alleviation and to sustainable development. This is because significant sections of the population suffer debilitating disease and economic hardship mainly due to poor management rather than actual water shortage. The country is endowed with abundant fresh water resources but the water and sanitation sectors are faced with the following problems which call the implantation of IWRM. There is a problem of access to potable water supply in towns and villages. Based on estimations carried out by the FAO in 2002, about 18.5% of fresh water mobilized in Cameroon is used for domestic consumption. The challenge of access to potable water of the population following the Millennium Development Goals is an essential objective of the national water policy especially as about 42% of the population does not have access to adequate drinking water and particularly in rural areas with 58% and 23% in urban zones (MINEE 2005). The principal urban centers are.

CONCLUSIONS AND RECOMMENDATIONS:

Given the variation in the nature and complexity of the issues and the jurisdiction of different institutions and organizations, the water and water-related problems have to be approached at different levels. Issues such as to guarantee the supply of basic water requirements, the economic allocation of water for other human purposes, the more efficient use of water by all users and the protection of water resources from pollution have to be solved primarily at the local level. According to the Laws on Decentralization in Cameroon, councils are at the lowest institutional level of government responsible for basic service provision to the communities which include the sustainable supply, use and management of water resources. The elaboration of a council water resource management policy and strategy provides the council with a strong legal instrument to negotiate with the supervisory authority and external support agencies and is therefore a step towards self-reliance and empowerment of councils. A coherent policy and strategy are very useful instruments to plan, implement and monitor water related activities. It also facilitates the council's collaboration with different partners (civil society, private sector, state) and can be used as a sensitization and coordination tool for IWRM. The problem that needs to be dealt with mainly at the regional level is the fair allocation of the water recourses among the different requirements and user segments in a catchment and watershed. Being a member of seven international or trans-boundary basins, transboundary water management should therefore be an integral part of Cameroon's IWRM strategy. If well implemented in Cameroon, IWRM can serve as a mechanism for equitable use of water for growth and development, help in the reduction of poverty and hunger, increase well-being and improve sustainable environmental management thereby attaining the Millennium Development Goals.

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