

WATER- A LIFE LINE

BY FAZAL HAKEEM

Dams/ reservoir construction, water conservation and educating people in water's use is vital in national development and integration. Water's excellent management and its all round economic, strategic and security repercussions is documented.. Declaring 2003 as International Year of Freshwater and annual World Water Day organized by the UN Environment Programme (UNEP) substantiates importance of water as a life-line. If the proponents of water's management highlight its socio-economic benefits such as irrigation, electricity, flood control and sustainable water supply for agriculture. The opponents discuss detrimental consequences i.e. debt burden, cost overruns, displacement of people, destruction of ecosystem and the inequitable sharing of costs and benefit. Government's plan on water management is realization to sensitize its multi-dimensional impacts. 100% organized water resources utilization may jack up national income. Chairman Parliamentary Committee on Water Resources Senator Nisar Ahmad Memon has said " proper water management is a national challenge which is needed to ensure water supply to all Pakistanis for drinking and agriculture purposes besides generation and industrial usage".

Waters use is an international issue and need internationally acceptable guidelines and standards for large dams/reservoirs. The process can be made feasible through consultative making based synthesizing the opinion of water experts on sound scientific principles in accordance with national/local context. This can provide an umbrella framework to Pakistan's policies and futuristic direction for sustainable water and development projects on merit basis rather than subjecting to political maneuverings. Water is a life-line. Its conservation, management and optimum utilization is therefore, everybody business. Hectic government efforts for maximum construction of dams/reservoirs indicative future vision for sustainable economic development. In the national budget for 2004-05 an amount of over 20 billion rupees have been allocated for the ongoing nine dams and canals projects. These include Gomal Zam, Raising of Mangla Dam, Mirani Sabakzai and Satpara dams, Greater Thal canal, Kachhi and Raini canals and modernization of barrages and improvement of 87000 water courses.

God has gifted Pakistan with abundance water, coal and gas reserves. These resources optimum utilization could be a launch pad for self-reliance. Government vision for water utilization is national cohesive factor. Water has assumed an internationally strategic importance and is going to be the bone of contention in future conflicts. During an in depth presentation on water and power in Rawalpindi on 8th May, President Musharraf was updated on feasibility studies for the construction of water dams. Feasibility study of Basha dam is expected to be ready soon. Feasibility report on Akori and Munda dams was emphasized. On the occasion the President stated "we must gear up our efforts to make optimum utilization of indigenous energy resources including, water, gas and coal for achieving self-reliance in power generation as well as meeting the ever increasing water requirements on long term basis".

Water shortage and limited water natural resources can cause severe food crisis. In October 1997, warning of Americas World Watch Institute on water crisis after 1973 oil

crisis was reported in the press. According to which population pressure is causing water crisis in more than 26 six countries. To Achieve UN's Millennium Development Goal, an extra 300,000 people a day will need access to safe drinking water. It means roughly one billion people (one out of every six) are deprived of this most basic human needs. Geologists are stressing that clean drinking water constitutes only 3% and the rest is saline. Water's contamination causes million people death due to water borne disease. Experts believe in future wars would fought over struggle for controlling water resources. It is the irony of developing countries that no mechanism exists to educate farmers on water's proper utilization. In advanced countries, the agriculturalists are properly educated on waters procurement and utilization. Agriculture sector consumes 97% of water. In water starved areas the peoples are confronted with; (a) dry seasons, (b) drought; (c) earth erosion due to rains and (d) ravines/drain waters evaporation which make the goal of food self-sufficiency difficult.

Pakistan is an agricultural country and irrigation efficiency is essential. Waters sustainable management needs equitable distribution and synchronization with crops/plants requirements through innovative technologies. 90% food is produced through use of waters of Indus river and its two subsidiaries- Jhelum and Chenab rivers. These rivers' waters needs scientific use and no political ifs and buts as the sources of waters out . Pakistan has one of best canal system of more than forty thousand miles long. But most of the irrigation waters goes waste which needs long terms planning. Government's plan to construct small dams is to ensure proper management of water resources, enhancing the storage capacity of current water reservoirs and develop provincial consensus about distribution formula. President Musharraf's 50 years water vision is a landmark plan. Due to confrontationist politics on the issue of Indus water distribution, no water reservoir is built after Tarbela Dam. It is encouraging that Rs.64 billion Mangla Dam Raising Project is launched. An attractive package of incentives has also been determined for the upcoming affected population. Pakistan Power Infrastructure Board's (PPIB) issuance of Letter of Interest (LOI) to US AMZO Corporation for construction of 703 ft high Munda Dam on Swat River at the cost of 1.2 billion dollars in NWFP, Mohmand Agency and FATA on Build, Own, Operate and Transfer (BOOT) basis indicates Government's vision on water's utilization. The Munda Multi purpose Dam Project , the first ever hydel project in private sector will have 740MW capacity and lake for storage of 670,000 cusec.

The UN World Water Development in Millennium Development Goals to halve by 2015 in poverty and hunger, by 2015 achieving the goals of universal primary education, gender equality through primary/secondary education, under 5 years child mortality reduced by 2/3 , maternal mortality reduced by 3/4, major diseases-HIV/AIDS, malaria etc. and environmental sustainability through halve unsustainable exploitation of natural resources, highlights direct and indirect role of waters management contribution. Water's direct contribution is in agriculture production, industry, investment (poverty), irrigation/supplementary irrigation for expanded grain production, home garden livestock, tree crops, and fish production(hunger), improved water/sanitation (child mortality), improved health and reduced labour burdens from water portage (maternal mortality) reduces mosquito habitats and malaria incidents (major diseases) and pollution control, sustained level of abstraction (environmental sustainability). Millennium Development Goals indicated indirect effect of water are- reduced

vulnerability to water related hazards, reduces risks in investment, production, ecosystem degradation improved health (Poverty), ensure ecosystems integrity to maintain water flows to food production, (hunger), improved school attendance from improved health (Universal primary education), improve social capital of women, reduced time/health from improved water services, ensure balanced gender role (gender equality), improved nutrition and food security reduces susceptibility to disease (child mortality), improved health/nutrition, reduce susceptibility to anemia etc(maternal mortality), improved health/nutrition reduce susceptibility to HIV/AIDS and other major diseases (Major diseases) and environmental sustainability is facilitated through integrated management with in river basins and upstream-downstream impacts are mitigated through sustainable ecosystems management (Source Soussano 2002.http://www.unesco.org/water/wwap/table_contents.shtml).

Water's importance as a life line is a fait accompli. Needs management in a holistic manner (developing new resources and water conservation measures) to ensure resources sustainability in agriculture, industrial and environmental sectors. In Pakistan's perspective water proper management may facilitate food-self-sufficiency and on farm and off-farm employment opportunities and income. There is need to educate people on water conservation and its efficient use, offering incentives that may encourage people to take heart in this noble task. To locate, develop and exploit new resources of water is a prima-facie requirement to meet ever increasing water's usage demand. Pakistan's population has increased 5 folds and has caused fall in per capita water's availability. According to a study, water's requirement has been assessed at 215 Million-Acre Feet (MAF) by 2005 against 107MAF availability. At the time of independence an annual water consumption was about 64 MAF which has now increased to an average 106 MAF per annum (3% of the available water) due to construction of more barrages, link canals and storage dams.

To meet the water shortage, there is need to increase water productivity with different strategies for irrigated and rain fed areas. This can be done to (i) shift to low water consuming plants; (ii) adopt multiple cropping system and crops cultivation that increases yield with every unit of water consumed which also helps in Water Use Efficiency (WUE); (iii) adopt precision irrigation system and improved water management-exploiting shallow water tables, temporary water logging and conjunctive use of brackish and domestic waste water, storage of monsoon/winter seasons waters. In addition improved farm management is also essential by switching to new varieties of crops, sowing and use of fertilizers at optimum time and weed control.

Constitution of Technical and Parliamentary Committees in August 2003 to develop a consensus among the provinces on the building of large dams and other contentious water issues is indicative of government concerns on water management, distribution and optimum utilization. Increase in irrigated land to boost production to feed a growing urban population in particular (in 1951 Karachi was the only agglomerate with more than a million people which are now more than a dozen with Karachi and Lahore have about 13 million and 7 million people respectively), increases vitality of water- a life line multi folds.

