WATER WARS BECOMING A REALITY?

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During the last decade of the 20th century, Ismail Serageldin, Vice President of the World Bank had predicted that 'the wars of the next century will be about water.' Similar apprehensions were expressed by Kofi Annan, then U.N. Secretary General in his message on the occasion of World Water Day, March,2002, that 'Fierce national competition over water resources has prompted fears that water issues contain the seeds of violent conflict'. Again recently, Ban Ki moon, the present U.N.Secretary General has also warned the world community that high population growth, pollution and poor water management posed significant threats on water availability and could be 'a potent fuel for war'. Also a recent study published by David Zhang of Honkong University in the Journal of the U S National Academy of Sciences is relevant in this connection. He had analysed the data of more than 8000 wars in the past and could establish that resource shortage was the main cause for triggering those wars. We have to be concerned with these warnings and take immediate actions to avert the impending crisis as per capita water availability is heading to dangerously low levels.

Experts have projected that by the year 2025, 2/3rds of the world population is likely to live in countries with moderate or severe shortage of water resulting from depleted supplies, falling water tables, shrinking inland lakes and stream flows diminished to ecologically unsafe levels. Hence as a corollary to David Zhang's studies, it could be concluded that when a non-substitutable resource like water becomes scarce, and most parts of the world reach the threshold of water famine, such a situation could then trigger water wars among contending states.

Many analysts do not subscribe to the view that water could become a source for wars in this century as they consider that wars on water are not cost effective. With the cost of one day's war, many desalinization plants could be constructed to meet the water demands and hence why one should go for war for this purpose, they point out.

Some other commentators are of the view that if the states sharing the international river basins conclude treaties and establish water regimes, such agreements are resilient enough to survive conflicts between hostile co-basin partners engaged in skirmishes over other issues. To justify their stand, they cite the Indus Waters Treaty (1960) between India and Pakistan for sharing the waters of the Indus river as a model which survived two wars and many war like situations between the two countries. They point out that there are many more such treaties and agreements entered into by some of the riparian states during the last century to optimally use the water resources of their common rivers, due to which many potential threats have been averted.

There are more than 260 international rivers and an untold number of shared aquifers covering almost half of the world's land surface, providing fresh water to meet the needs of the people settled within these basins. Presently, in many of these basins, conflicts over water have become more common among competing water users as each co-basin state is obsessed by the use factor-drinking, industry, irrigation, environment, etc. as if all are competing and not a part of the whole ecological system complementing each other for sustainable development. This contention has led to a fragmented approach in managing water, contributing to shortages.

Further, many of the participating states in a river basin look at the administrative boundaries as the basis for decision making, over looking the fact that rivers do not recognize political boundaries and legal generalizations. In view of the above situation, wars for water could be a reality, but the argument that 'water wars are not economically viable', does not stand to reason since no war is cost effective.

Regarding the view that the inbuilt resilience in the existing water treaties and agreements is adequate to prevent wars, an in depth study of such agreements show that some biassed provisions in the agreements on sharing common rivers have become the cause in raking up fresh problems. When scarcity looms large, these could be exploited by one party to its advantage ignoring the interests of other parties and this could lead to an environment conducive to trigger conflicts. It is also seen that based on their past experience in the working of the agreements, many of the parties who are signatories to the existing treaties are pressing for renegotiating the terms with their counter parts as they feel that they have been taken for a ride while signing the agreements.

There are many such treaties signed during the course of the 20th century between and among co-basin states for sharing the waters of transboundary rivers in the world. For example: India with Pakistan on the Indus, US with Mexico and Canada for their common rivers, Brazil with Paraguay on Parana river, Egypt with Sub –Saharan African countries on the Nile, etc. It would be of interest to examine as to what extent they have been able to

reduce tensions among the concerned states after many decades of their existence.

The 50 year old history of the Indus Waters Treaty (1960) between India and Pakistan is the story of a tragedy that began with hope as demonstrated by past events. It has failed not only in accomplishing its objective of optimum development and utilization of the Indus waters, but also in settling water disputes between the two all these years. India feels aggrieved that it had to sign the treaty which ignored its rightful share of more than 40% of the Indus waters and gave it only about 20% in the water allocation, due to World Bank using a concept of equally dividing the tributaries instead of equitably dividing the resource as per international norms. The disputes are continuing with no solution in sight as Pakistan is not willing to renegotiate and review the provisions in the treaty.

The peace brought about by the treaty signed between USA and Mexico on the Colorado river (1944) is under threat since recently Washington took the unilateral decision of lining parts of the All American Canal bordering Mexico ignoring the provisions and the latter objected to that action. U S took the stand that the canal being located in American territory and the water flowing through that being California's share of the Colorado river water, it had every right to take a sovereign decision to line it with the objective to make more water available to its people by preventing seepage loss. Mexican government disputed this right basing its case on the principle that their farmers of Mexicali valley adjoining the border had established a beneficial use of the seepage water since decades, giving them the right under the treaty. The tempers are rising on the issue between the two countries.

Like wise, the project initiated by US unilaterally without consulting Canada for the diversion of water from North Dakota's Devil's Lake to Manitoba (Canada) ignoring the provisions in the Boundary Water Treaty (1909) has been objected to by the latter as it feared that the proposal would damage their ecosystem. Canada pointed out that the proposal should have been discussed and approved by the International Joint Commission (IJC) set up by the two under the treaty which had been handling all trans–boundary water issues for more than 100 years. But US is poised to go ahead with the scheme bypassing the IJC and ignoring Canada's protests. This has resulted in strained relationship between the two.

In South America, the Itaipu treaty signed in 1973 between Paraguay and Brazil for the optimum utilization of the Parana river for power generation, has opened up disputes on the benefits accrued. According to Paraguay, Brazil got undue benefits as the former had to invariably sell all its surplus energy to the latter at cheap rates as per the treaty provisions. Paraguay wanted to renegotiate the terms but Brazil is not willing till the treaty lapses in 2023.

In Africa, a battle of control over the Nile has broken out between Egypt and the countries of Sub-Saharan Africa with the latter complaining that they have been denied the due share of the Nile water as per the existing treaty (1929). Flouting the treaty provisions, Tanzania plans to build a 105 mile long pipeline for drawing out water from lake Victoria which feeds the Nile river.

Uneasy calm continues to prevail between Mauritania and Senegal on the Senegal river. The co-basin states, Mozambique, Zambia and Zimbabwe sharing the Chobe waters are still to come to terms with the present situation.

The long standing disputes between Portugal and Spain on their common rivers could be settled by their signing the 'Convention' concerning the management of their shared river basins in November,1998 and adopted by both the countries in January 2000. However, according to media reports, the worst drought of 2005, has resulted in fresh disputes over sharing the Tagus and Douro waters in spite of the standing agreement.

Like wise, though the dispute between Hungary and Slovakia on the Danube river has been settled at the instance of the International Court of Justice, many legal questions are being raised on the outcome of the court decisions. Similarly, the disputes on the waters of Amu Daria and Syr Daria draining into the Aral Sea are waiting to erupt into major conflict among the Central Asian Republics. Troubles are brewing in Asia with the Chinese proposals to divert the waters of the Mekong, Yarlung-Tsangpo and Salween to its dry north, in spite of protests from the downstream countries as also from the Mekong River Commission. Interestingly, China is not a party to any treaty with its neighbours regarding the sharing of its transboundary rivers. There are many more such simmering disputes on the use of common rivers all over the world.The examples shown above reveal that even in spite of existing agreements, many nations continue to feel that they have not been given their due in their common rivers. As the demand for water is increasing by leaps and bounds to meet the aspirations and requirements of a surging world population , and the scarcity is becoming a reality, there is every possibility of the bickering countries taking the conflicts to the battle fields.

Unfortunately, the international law in the present form is ineffective to arrest such a situation and the international institutions are not adequately equipped to resolve water disputes. Though the 'Convention on the Non-navigational Uses of International Water Courses' adopted by UN General Assembly in 1997 sets out many important principles for cooperation and joint management of such water courses, it is still to be ratified.

Hence it is time the world community takes immediate actions to prevent the situation likely to explode into volcanic proportions.

Experience in the Middle East prone to acute water scarcity shows that the global trade in 'virtual water', i.e. the water consumed for making food products, has allowed these arid countries to meet their water requirements indirectly without resorting to war as happened in 1967 between the Arabs and Israel for controlling the waters of Jordan river. Experts point out that but for this trade which kept Jordan and others fed for the last more than 4 decades, there could have been many more wars in that region for water.

According to the International Commission on Irrigation and Drainage (ICID),the global community should encourage concluding agreements for sharing benefits than for sharing water in the case of transboundary rivers. Such an approach would lead to an environment conducive to cooperation on water issues than provoking conflicts.

All the concerned parties would agree that the root cause of the conflicts is shortage of water and the solution lies in improving its availability-through storage and conservation. Hence wherever the available water resources are not fully harnessed, as in developing countries like India, there is need for creating more storages on priority to tap the billions of cubic metres of the unutilized monsoon flows which are being discharged into the sea every year, to improve water availability.

On the demand side, agriculture is the world's largest water user in terms of volume claiming more than 2/3rd of the water withdrawn from the surface water bodies and aquifers. It is also a relatively low value, highly subsidized water user at present with low efficiency due to conveyance and other losses. Similarly, in the domestic water supply area, the conveyance losses are high. We have therefore to take many actions to reduce these wastages and improve the situation

To conclude, supply and demand management aspects have to be analysed for an effective strategy and to provide a set of concrete solutions. These include adoption of techniques for augmenting water availability such as water conservation and pollution prevention; improving water use efficiency; recycling and reuse of drainage water etc. Adopting more intensive water saving techniques, changing crop patterns etc. would reduce the demand on water for agriculture simultaneously, dialogues based on water needs than on water must be initiated among the basin countries.

Warning signals are already visible cautioning that the limit of renewable fresh water a hydrologic cycle can yield, has already reached and such a situation cannot be continued for ever. With the scenario that there is no international law to contain transboundary water conflicts, and the resource is becoming scarce with population growth and increased industrial development, there is a compelling argument that the plausibility of water war occurring in this century is not a myth, but can be a reality. We should not wait for that crisis or flash point to occur since it is possible to sort out the problems through various short and long term measures. It would then be easier to overwhelm the conflict inducing characteristics of water by developing a sustainable arrangement.