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Interwoven Problems Need Integrated Solutions

1. INTRODUCTION

Creating a healthy and/or safe community in this puzzling world is quite challenging; however, any attempt in this direction is highly valued and appropriate. Thus, for success, it requires understanding the human nature, improving supply of critical resources such as water, promoting fair benefit sharing and counteracting other intermingled root causes of the conflicts. Besides competition for resources, eagerness for self esteem, recognition and desire to impose self interest upon others are among the human behavior that trigger aversion and conflict. In the Holy Bible Cain killed his brother Abel when the almighty God looked with favor upon Abel and his offering (*Genesis 4: 3-10*). In today's world humans are conflicting irrespective of their living area or tribe or status or wealth or education level. The poor strives for his daily bread and his/her rich counterpart works to add more and hoard. In doing so, both of them encounter conflict; either within their respective niche (area of specialization) with their equivalents or at the boundary or when traversing one another. In the Bible it is also underlined that it is a must to love others and duly accept that our fellows need what we need for ourselves (*Leviticus 19:18...you must love your fellow as yourself.*). In contrary to this we are accelerating conflicts by undermining the wish and need of others. Some of us initiate conflict while grabbing resources to accumulate for the imaginary future, which we are not sure to enjoy, or interfering with the benefits or right of others.

While the resource base is shrinking at an alarming rate with the changing climate and unwise or wasteful utilization; how can the world fairly eke out resources to rapidly growing world population and halt conflicts? In poor nations that depend, for sustenance, on natural resources; valuable resources such as water initiate conflict between upstream users (mostly agriculturalists) and downstream users (mostly pastoralists) if a river, which originates in the agricultural uplands is blocked for irrigation purpose by the agriculturalists that live in the source area. Similarly the conflict can be triggered among the agriculturalists for equitable share of water for irrigation. Degradation of ecosystems resulted in

barrenness of agricultural fields, shrinkage of pastures and weakening of river flows and caused shortage of food, feed, and water, respectively. In addition, difference of interests that emerge together with modernization and associated allocation of water and land for new development directions has initiated conflicts as it discourages benefits, traditions, beliefs and culture of other parties or indigenous communities. Another impediment of peace is the growing need of people for luxurious living (investing for accessories far from basic needs even in poor countries) and hoarding wealth as a means of securing prestige, power and recognition through corruption or unfair way. Furthermore, the way of handling the emerged and emerging conflicts also requires clearly understanding the motive behind, and selecting appropriate approach that can satisfy or appease the actors.

This reflection emphasizes on conflicts that emanate in relation to natural resource use by taking watersheds and water as central issues, and forwards workable approaches help to reduce the prevalence of conflicts based on field level experiences learnt in Ethiopia.

2. WATERSHEDS AS SOURCE OF WATER AND CONFLICTS

The highlands/mountains of Ethiopia have been feeding millions of people for millennia both onsite and offsite. They are source of more than eight major river basins that provide freshwater to the inhabitants and users in the downstream within the country, and some of them offer trans-boundary benefits to neighboring countries. Through time, the mountains are losing their vigor to feed millions. They have lost their fertile soil, crop production potential and genetic diversity due to inefficient land management. Water storing ecosystems such as forests, wetlands and other vegetation types have been cleared and replaced by crop fields long ago. Population of the general area (both on the mountains and downstream areas) is almost tripled within the last few decades. As a result of the emerging new development directions and growing human needs; demand for water and other natural resources, food and other basic necessities is accelerated in the surrounding. In addition, lack of capacity for alternative source of livelihood resulted in increased dependence of people on natural resources. Climatic disturbance is worsening the situation in its part. Rainfall fluctuation and temperature rise resulted in further weakening of the source of the rivers and causing shortage of water and food, and worsening poverty.

Erratic rain pattern, low moisture retaining capacity of the farms, soil erosion and siltation of water bodies are among the major problems that occur in many watersheds. In addition, the risks of crop

failure are high in these watersheds and exposes poor farmers to complicated problems (starvation, migration, unrest, epidemics, etc). These complications compelled the impoverished and food insecure people to look for options such as migration in to urban areas and into other localities, which have relatively better natural resources base (forests and water). The migration is also associated with conflicts that emerge between the migrants and the locals, as well as results in further degradation of natural resources or ecosystems. As a result the potential of water sources is further degraded and shortage of water intensified. Other alternatives being practiced are using alternatives such as rainwater harvesting and stream based irrigation to reduce risks of crop failure. However, due to the degradation of water sources and climatic impacts on the streams, the efforts become susceptible to conflict of benefit sharing.

This situation is highly interrelated with watershed health and calls for integrated actions to improve ecosystem integrity and functions, water resource use efficiency, socioeconomic alternatives and harmonizing competing interests at all levels of uses and users. Therefore, it required looking for appropriate approaches that help improve environmental wellbeing and benefits of communities, and thereby calm potential conflicts of water use.

3. DEVELOPMENT INTERVENTIONS AND SCENARIOS IN RIVER BASINS

The following basins of Ethiopia are among very important basins in terms of socioeconomic, political and environmental well being of the country as well as the region and the world as well, if we accept the fact that environment/water/ connects continents at least by winter migratory birds and global warming. The basins are also highly populated areas and affected by land degradation and climatic problems such as drought and desertification. There is also growing demand for water and land in these areas together with the increasing population and development interventions. New economic development directions such as water intensive agribusiness activities, conversion of land use, introduction of new plant varieties, use of chemical fertilizers and pesticides, tourism expansion, emerging urbanization and cultural change as a result of learning western styles of living through electronic communication are among the major features of these basins. Most of the interventions are profit oriented or consumption based. They are not much worried about the sustainability of the resource they are exploiting; for instance there is no official investment of water users to watershed development.

3.1 River Awash Basin

Awash is an inland river originates from highlands in the central part of the country and flows to the eastern lowlands. It is being used by millions of inhabitants in the basin; urban dwellers, industries, hydropower plant, wild life in national parks or protected areas, agriculturalists and pastoralists. However, the basin is entangled by natural calamities such as climatic problems (drought, flooding and desertification) and manmade problems such as siltation by soil eroded from the degraded catchments, invasive alien species (*Prosopis juliflora*, *Eichhornia crassipes* and *Parthenium hysterophorus*) and pollution. The problem within the basin affects directly or indirectly people living in the area and the country at large. People migrate from the degraded uplands in to the basin to earn living and in search for cultivable lands. Similarly in dry seasons or during drought pastoralists migrate from the weed infested and drought affected rangelands towards the crop fields and pasture lands of the agriculturalists or agro-pastoralists in the upper catchment to save life. This movement also covers protected areas, parks and state farms. Thus the conflict has included wildlife living in the protected areas as well. As history indicates there were mild tribal conflicts in the early days (when the population was small and resources were adequate). Those conflicts were mainly sporty among the adolescents and settled by elderly mediated traditional system. However, currently with the growing demand for the shortening resources such as water, land and pasture, the conflicts become economic and question of survival.

3.2 Rift valley Lakes Basin

The situation of the lakes basin is more or less similar to the preceding one. The lakes' ecosystem is desertification prone area. Tributary rivers are also carrying heavy load of silt from the catchments and reducing the water retaining capacity of the lakes. Evapo-transpiration is increasing with the rising temperature, and accelerated by wind movement that gallops freely because wind breaking lakeshores forest is cleared. There is also water abstraction from the lakes and tributaries. The prevailing situation has resulted in shrinkage of Lake Abiyata and siltation of Lake Zeway. Satisfactory actions are not taken to rehabilitate the upper catchment (source of the feeding rivers) and to enhance wise use on the site. Settlement in parks and sensitive ecosystems such wetlands and dry land forests has continued. Therefore, the current consumption oriented approach is a good sign of future shortage of water and exacerbated conflict among the users (farmers, agro-pastoralists, investors, urban dwellers, industries and biodiversity in the parks).

3.3 Blue Nile Basin

The Blue Nile which originates from the Ethiopian highlands supplies about 80% of water to the Nile. This water is base of life for millions of people in Ethiopia, Sudan and Egypt. The source of the river is affected by climatic problems (drought or rainfall unpredictability), land degradation, food insecurity and poverty. Population growth and demand for water is increasing throughout within the basin. The critical question is how can the users cooperate and reverse the scenario of growing demand for water and degradation of water sources, and strike a balance between demand and supply of water? The Nile Basin Initiative (NBI) has been established among the riparian countries so as to strengthen intergovernmental cooperation, design harmonious water sharing system and tackle potential water use conflicts. This is one indication of realizing the importance of peaceful and cooperative movement between upstream and downstream users to harmonize water use related differences, and jointly work for common benefit. The NBI may help to develop shared responsibility and prepare for shared investment on the common resource, the degradation of which may complicate and worsen the situation for all within the basin.

In the aforementioned two inland and one transboundary basins the manner of resource use and demand are changed with the growing population and development plans. However, the efforts made by the upstream and downstream users to cooperate and maintain the vitality of the basins from source to mouth are very minimal or nonexistent. This may create shortage of resources such as water and initiate and intensify conflicts. The problem in one part of the basin should be felt by all the users within that basin and by those beyond the basin because the problem will radiate and affect all the rest in one way or another. Therefore, capitalizing on conflicts is costly and not rewarding; rather it is beneficial to work more on revitalizing the weakening resource base, sharing the problems of the affected parties and addressing the needs and rights of others. The problem requires the involvement of policy makers, economic planners and development agents as well as poor communities who are primary victims of the problem.

4. INTEGRATED WATERSHED MANAGEMENT AS A PANACEA TO AVERT WATER RELATED CONFLICTS

(Case from Ethio Wetlands and Natural Resources Association projects in the Nile basin)

Ethio Wetlands and Natural Resources Association is a non governmental not for profit organization working in Ethiopia. The organization has two project sites in the headwater sources of the Blue Nile Basin, namely, in Metu Woreda (upper catchment of Baro-Akobo basin) and in Fogra Woreda (upper catchment of Lake Tana). The Baro-Akobo and Lake Tana basins are major water contributor and origin of the Blue Nile, respectively. The projects are promoting Community Based Integrated Wetland-Watershed Management approach in order to reduce vulnerability of poor communities to socioeconomic and climatic shocks both within the project sites and in the downstream through revitalizing water supplying ecosystems. Positive endeavor of the communities in these watersheds is contributing for their own wellbeing and for their fellows in the downstream. This small effort can be an example of a contribution of one community to another community positively for mutual benefit. It creates altruism and seals holes for conflict. Communities in the globalizing world or citizens of the world should behave in this manner in order to block opportunities for conflicts and create healthy communities in a healthy environment.

The focus of the organization is tackling factors that contribute to natural resource degradation and shortage of resources such as water and food through integrated watershed management (people and watershed centered approaches) and cultivating shared responsibility among the stakeholders (community members, community leaders, development practitioners and decision makers) through continuous sensitization. The activities include biophysical soil and water conservation (that uses Vetiver grass to reinforce soil bunds and compost to improve soil fertility). This is to improve farm level crop production, moisture retention and carbon sequestration. Thus it contributes to food security, flow of silt free water to downstream users, better vegetation cover, regulated river flow and climate change mitigation. In addition, other activities such as livelihood diversification, family planning (population) and water and sanitation or health issues are being implemented in an integrated manner. The principle of this approach is to calm interwoven problems at household and community level by realizing the fact that households and communities are the bases for all other problems that gradually increase in scale and spatial coverage.

Improving land management at household level and jointly monitoring at micro watershed level through watershed committees has contributed meaningful change in food production, water management and ecosystem wellbeing. Due to the interventions, currently the movement of farmers from their degraded

plots in to forest and wetland areas to convert them in to new farmlands is decreasing. Productivity increased per hectare of farmlands which are enriched with compost, and the target communities are now harvesting adequate yield. Wetlands are freed from siltation, free grazing and cultivation in Metu area (e.g. the revived Wichi wetland). Other activities such as creating livelihood opportunity through microcredit (for women groups), promoting honey production and agro-forestry (fodder and fuel trees, fruit, vegetable, coffee) and introducing fuel saving stoves helped to reduce the pressure on the remnant ecosystems (forests and wetlands). Water and sanitation and family planning activities have their own contribution in improving health and limiting family size, respectively. Moreover, capacitating women, sensitizing decision makers and building the skill of youth are among vital activities laying the foundation for future wellbeing of the environment and creating healthy and secured community. These activities are in progress under community ownership and with promising results that help strengthen the resource base and thereby block potential resource use conflicts, which may arise from shortages. Joining hands and mobilizing resources to scale up best practices will help create a healthy and secured community.

5. CONCLUSION

All humans belong to one species, *Homo sapience*; thus individuals or communities of poor and rich nations have similar needs that emanates from their nature or biology. They require basic needs such as food, water, shelter, peace, health, happy living, and are very keen to create comfortable situation for their offspring and exercise their beliefs, traditions and culture and all other beloved things without influence; freely. Interventions which affect this freedom initiate dislike and conflict. The biosphere unifies the *Homo sapience* by undermining barriers such as political boundaries, and globalization aspires for the same too. The biosphere encourages the evolution and existence of diversity and respects self identity. Could globalization be a means of creating devoted world citizenship where fair and equitable sharing of benefits is flourishing and creating healthy people whose identities are maintained in a healthy and peaceful environment?

Broadly thinking, people as a whole and those who share a given river basin /water/ in particular are very close as one family (brothers and sisters). However, lack of altruism and farsightedness have been aggravating destructive conflicts. With respect to water management, the health and wellbeing of the downstream is tied up with the wellbeing of the upstream. In majority, this truth is either not adequately

understood or deliberately neglected. As a result, in many instances, the efforts and investment of the downstream users to save the upstream is insignificant. Lack of political will to cooperate among nations from own standpoint or sought strategic advantage, suspicion or fear of unforeseen events, looking for other options such as power to monopolize resources and lack of understanding about the significance of cooperation to rehabilitate resource basis for mutual benefit are among the major barriers of peace building in natural resource (water) based conflicts.

Therefore, as per our field experience, it is time to cooperate and share responsibilities to save the sources of water and other resources; it needs *source- to- mouth* integrated efforts within river basins. Thinking about conflicts is a futile exercise and wastage of time, energy and resources. The situation needs paradigm shift and it is wise to redirect all the investment (time, energy and resources), which is allocated for conflict management or facilitation, towards resource development. The combined effect of growing demand for natural resources (water) and degradation of the sources of water shall end in water stress and accelerate water related conflicts, which are fruitless for all the beneficiaries and will further complicate the problem. Conflicts aggravate resource degradation, migration and unrest that may affect the peace and security of people including areas far from the conflicting area. In addition, degradation of the environment will add fuel on the warming climate that affects the whole world. Therefore, global cooperation is critical to halt environmental degradation, improve resource base and calm conflicts; this seems the right direction towards attaining the Millennium Development Goals and realizing sustainable development, and to make the planet a hospitable place for mankind. Contributing to make the planet a hospitable place for all the inhabitants' health, prosperity, peace and happiness needs to be the motto of "a citizen of the Earth" in the age of globalization.

Moreover, the prevailing climatic change is the result of anthropogenic misuse and/or elevated consumption of the environment or natural resources. The daily prayer in the Bible commands us to ask and work for the daily bread; and it underlines that all the rest are extra things. Surprisingly, the climate change and climate induced suffrages of poor countries and the mushrooming conflicts are emanating from resource exploitation related to working for the extras. Therefore, it needs to stop and think to fine tune for the solutions.