

ROLE AND RULE OF WATER: RE-VITALIZING THE MULTIPLE-USE NATURE OF RURAL WATER BODIES

Dr. Thomson K Alex

Assistant Professor, Department of Economics, Bishop Abraham Memorial College, Thuruthicadu.

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ABSTRACT

Fresh water is a finite and vulnerable resource, to nurture life, economic growth and persistence of ecology. But the growing demand and dwindling supply of water concerns it as an economic good, that increases the price and denied it to poor; over extraction denied water to the Ecology; water source dependent communities are excluded from their livelihood and the 'publicness' of the water sources are under threat. The demand–supply gap, privatization and commercialization, pollution, down fall of environmental concerns and unethical pricing mechanism in the water sector are deepening these problems. Therefore, 'whose voice' and 'whose choices' are the important questions associated to water issues. In micro level it may be a family matter; but in macro level it is a conflict between states or nations; and now we are in the threshold of water wars¹. In this juncture, the UN's Millennium Development goals, World Bank's new projects, WTO Summits, and other International Organizations are focusing water as a development agent and a strategic economic good. Though, water is treated as an economic good beyond its humanitarian and ecological functions.

World wide, water privatization could be a multi-trillion dollar industry in future. On this ground the multiple use nature of water sources are under threat. As a result, it is significant to revitalize governance of village water bodies; because, the human right to water entitles every one to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. And United Nations Organisation declares 2005-15 as the international decade for action by the motto 'Water for Life' with greater focus on water associated issues.

Considering as a fast growing economy, India also faces too much water governance and management problems. Plachimada in Kerala, Gangaikondan in Tamilnadu, Khammam in Andhra Pradesh, Thane in Maharashtra, Medhiganj in Uttar Pradesh, Sheonath River in

¹ Shiva, Vandana: Water Wars, Privatization, Pollution and Profit [India Research Centre, New Delhi,2003]

Chhattisgarh, Kaladera in Rajasthan, and Sardar Sarovar projects are some of them in this regard. The foremost questions revolving around these water issues are, is water an economic good or free good? Who are the real custodians of nature's life blood? Who will protect water resources? If water is privatized who will it buy for Ecology?

In this course, this paper trying to analyze the water scarcity driven vicious circle of poverty, natural resource democracy and governance of water, with two axioms- Socio-economic space of water [water is a Socio-economic development tool especially in rural areas] and rule of water [the water source dependent communities are the real custodians of water resources] in accordance with a case study.

Keywords: Vicious Circle of Poverty, Water Scarcity, Pollution, Poverty.

Socio-Economic Space of Water

Forces of demand and supply play a shrewd role in allocation and distribution of water. Demand for water is rapidly increasing due to population explosion and supply remains constant or decreasing by pollution and mismanagement. Along with these, financial, technical and environmental constrains limit our capacity to tackle the demand- supply gap. Without water there is no economic system; in that sense, it may be an economic matter. More over water is a sociological oddity and ecological futurity, and our question is that, how to put water as a core of life; in this front it must be considered as a matter for development. The services and benefits provided by the water resources are immeasurable.

Household Matter

Water is required in households for numerous purposes – drinking, bathing, cooking, washing utensils, and clothes. Over the next 20 years, the average supply of water per person is expected to drop by one third. 1.4 billion People do not have access to safe water. Daily water use per inhabitant totals 600 litres in residential areas of North America, while in Sub-Saharan Africa it is just 10 and 20 litres. The amount of water available per person in India has decreased to 1250cm in 1999 and will be reduced to 760cm in 2050. In 1993, only 78 percent of rural and 85 percent of urban inhabitants had access to drinking water. About 143,000 villages still have acute water problems, and many more have unreliable water supply (IGIDR- 2000). "... Water is precious to man and there for WHO refers to control of water supplies to ensure that they are pure and wholesome as one of the primary objectives of environmental sanitation. Water may be polluted by physical, chemical and bacterial agents. Therefore, protected water supply is sine qua non of public health of a community." (Govt. of India-1984). So, proper drinking water supply to all people is an indispensable duty of the State.

Agricultural Matter

Agriculture is the backbone of every developing country. It provides food and fodder as well as employment and income. 67 percent of Indian population engaged in agriculture, which contributed 30 percent of GDP. Agriculture has a spiral effect on economy and plays a credible role in economic growth. In this context the availability of water and its uninterrupted runoff making increase in production of cereals buffer stocks and vegetables. The scarcity of water exacerbates the production of food grains and growing population forced to eke with a little back and bellies. Irrigation will increase the people's purchasing power and expands their entitlements to food nutrition and social choices. "Access to reliable, good quality irrigation reduces the cost and the quantum of food production by reducing the risks faced in rain fed agriculture."(Tushar Shah-1998). In 1950.51 the total irrigated land area in India was 22.3 million hectares and increased to 55.1 million hectares in 199-97. But it was reduced to 53.1 million hectares in 2002-03. It is not a good sign as compared to our growing population. There is a correlation between Irrigation and food security; which enables farmers to adopt new techniques and intensive cultivation, both of which make significantly higher crop yields per acre possible.

Industrial Matter

Twenty eight percent of Indian GDP is contributed by industries. 30km³ water was consumed by industrial sector in 1998 and 37km³ water is estimated to 2010. Considering as a developing economy, industrial growth is significant, which absorb 15 percent of the total labour force in India. The availability of water to this sector is an inevitable one, which enhances the production of goods and maintains the productivity and health of the labour force. So, to provide affordable, acceptable and reliable water in quality and quantum to industry is the responsibility of the State.

Energy Matter

Public production of electric power is largely a post Second World War phenomenon, as they are justified as an economical by-product of irrigation, flood control and navigation projects and also renewable, non-polluting and more economic. In India, water requirements for power generation were 9km³ in 1998 and it is expected to increase 19km³ in 2010 and 33km³ in 2025. Thus, in developing economy, the provision of hydropower is an irresistible need.

Ecological Matter

Ecology is the means of every economic, social and cultural activity. In this context, we want a policy shift from anthropocentric to eco-centric, where water has an important role to keep the ecology stable. Scarcity of water by over extraction, pollution, contamination and

mismanagement make some decomposition in the relationship between ecology and human existence. To the sustenance of forests, vegetations, aquatic, riparian and terrestrial species water is inevitable. Lack of water also sterilizes the eco-system, which leads to social insecurity, anarchy and extinction flora and fauna. Therefore, it is the need of time to provide water to ecology to resist the desertification process.

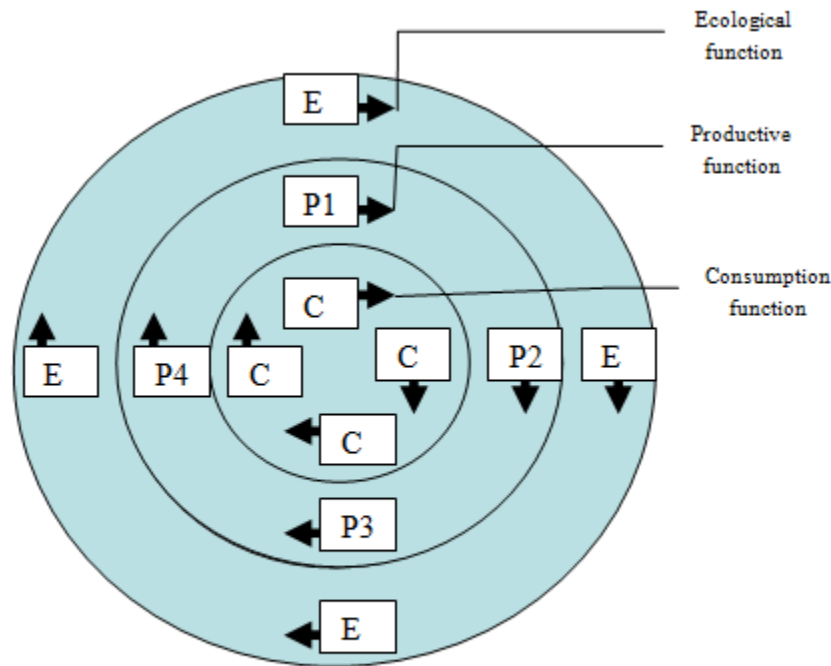
Cultural Matter

All civilizations and major cities in the world are emerged in River valleys and expanded through water roots. India has a strong historical tradition, as seen in many other older civilizations, to manage, govern and enjoying the healthy relations between man and nature. This tradition is preserved from generation to generation through socio-cultural practices and religious customs. Ethnic groups treated the natural resources like water, land, trees and air as Gods and Goddesses. Most of the customs and rituals are also related to water and river. Further more, water is a mark of our dubious origin. Our recreational activities, hobbies, exercises and some sports are also depending on water. In this modern world people are ready to pay and spend more time in water parks to repose their attitudes. So, water is a recreational matter and comical one. Water has an aesthetic value and the scenery of agro-lands, forests, back waters and aquatic waters are related to the availability and purity of water.

Impact of Water Scarcity in Rural Development

The above discussion can conclude in a single statement as said by Kenneth Boulding that 'water is far from a simple commodity; and it is a sociological oddity. Along with the above discussed matters, in rural economy and in the pace of rural development, water plays a significant socio-economic role; that means water can empower the capabilities of rural poor, enrich their resources and widening their social choices. Improper use or poor access to water resources can adversely affect the diet and lively hood of the poor and increases the cost and decreases the accessibility of clean drinking water, that results highly inequitable distribution.

Considering water as consumption good, lack of drinking water, leads to ill health; this also leads to low productivity of labour force, low income, and low consumption of food grains and again to ill health. Considering as a productive resource, lack of water in irrigation will leads to low productivity, low income, low saving, low consumption and investment; and again to low productivity of the land. When we consider water as an environmental good, low availability of water in the ecology will make a vicious circle; which will increase the oscillation of the formers. Pollution of water by fertilizers, pesticides and contamination also will deepen the problem. [See diagram]



Water Scarcity Driven Vicious Circle of Poverty

Where Cs- refers the consumption function, Ps- shows the productive function and Es- indicates the ecological function of water.

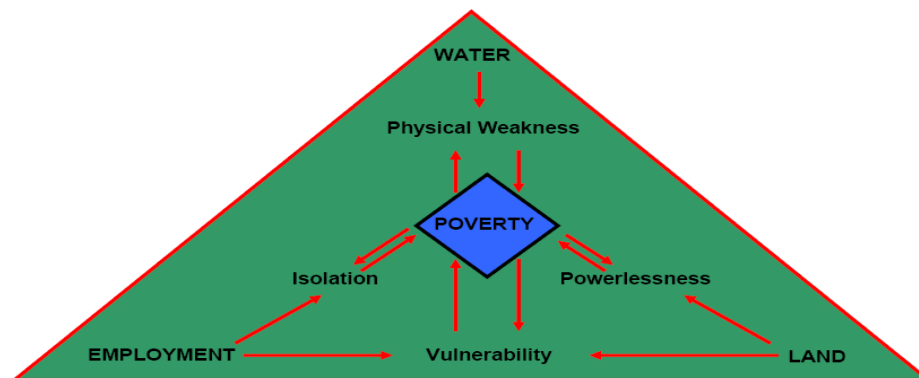
In consumption function, C₁ indicates the scarcity of water leading to ill health of people which will negatively affects the working capacity (C₂) of the people and that will guide to the low income (C₃), low savings and low consumption (C₄) of nutritious food and other amenities by the people. Considering the productive function of water, where the lack of irrigation (P₁) will escorts the low productivity of crops and land (P₂); and again makes low income from agriculture (P₃); that will badly affect the investment in agriculture sector for improved irrigation and the productivity of the crop (P₄). In ecological function E₁ indicates the over extraction of water, E₂ refers the contamination and pollution of water, E₃ denotes the mismanagement of water and E₄ means the lack of water availability to the ecology. These are makes some unconstructive spiral effects on rural economy.

More extensively, consumption, productive and ecological functions of water, further link with livelihood questions. In coastal aquifers, due to over draft saline water has contaminated fresh water aquifers and has pauperized thousands of small farmers [Tushar Shah-2000]. Assured access to irrigation can boosts the livelihood and increases the food security of rural people. It

empowers small farmers to diversify their cropping pattern to include a mix of food and cash crops. Reliable water for subsistence agriculture, home gardens, livestock, tree crops and the sustainable production of fish and other foods gathered in common property resources are key to improving the food security of those most vulnerable to hunger. Hence, food security needs to be addressed at the local level, with landless people, women headed households, rain fed farmers, livestock herders and other vulnerable people.

‘Water shortage will typically affect the poor more than the non-poor and may force them to migrate in search for livelihoods based on better water supplies’. [Johan Holmberg-1992]. Water poverty [difficulty to secure adequate fresh water] is the major cause and effect to the rural poverty as well as global ecological imbalance. That leads the rural poor to deprivation trap.

‘Deprivation trap’ has five sets of factors viz. poverty, physical weakness, isolation, vulnerability, and powerlessness. As we discussed earlier, poverty is related to improper water supply; and refers to lack of income and wealth. The remaining four factors are strongly correlated to this water- poverty puzzle [see diagam]. To escape from this trap, there should be ensured a ‘triangular democracy’, which is based on the dependent people’s voice on water, land and employment. Water is a matter of the very existence of life, land is a matter of power and employment is a matter of social space [George K.Alex (2003)].



These three concepts viz. the water related ‘vicious circle of poverty’, ‘deprivation trap’ and ‘triangular democracy’ are correlated to each other and water play the central role among them. Precisely we can say water is far from a free good; it is a livelihood matter. So we need a good economic and political will to manage the water resources and uninterrupted runoff of this economic development agent is also necessary. Above all within the socio-economic-political and ecological constrains, the rural community must revitalize the governance of village water bodies for protecting their multiple use nature and widening people’s choices.

RULE OF WATER

The most common and potent question in the globalised society is, who owns the resources and how a corporate giant can transfer those natural resources to make profit at the cost of natural resource dependent communities and future generations. In terms of governance and control over natural resources, people of ecologically sensitive areas face a lot of problems; polluted water washing out their agriculture, employment opportunities, good health, education facilities and welfare promoting infrastructures, gender equity and social integrity. In this juncture we need good water rule, which will ensure a happy planet. This section tries to define the perception of good governance of water associated with three key concerns viz. human rights on water, management and natural resource democracy.

Good governance has many dimensions: creating a fair legal policy and regulatory framework in which the rights of people to access resources are secured; improving the effectiveness, accountability and transparency of government agencies; ensuring the participation of the poor in decision making; enhancing the role of civil society; ensuring basic security; political freedom and others [UNDP-2004]. The institutions and civil societies play a vital role to determine who gets what water? When? and how? It is interesting to determine how to govern water resources? - such as harvesting, extracting, reproducing, processing, transporting, utilizing and storing in most economically productive way. Because, water is a subject of power, and those who control the flow of water can exercise this power in various ways. Thus, the representation of various interests in water decision making and the role of politics are important components in addressing governance dynamics.

However, many people around the world are currently lacking a voice in the decision making over water use and the distribution of water supply and sanitation. As opportunities to expand water supplies decrease in many parts of the world, competition over current supplies escalates, creating the need for improved governance. The notion of water governance and its meanings are still evolving and there is no agreed definition. Even though, United Nations Development Programme defines water governance as the range of political, social, economic and administrative systems those are in place to develop and manage water resources and the delivery of water services, at different levels of society [SIWI-2005]. Its ethical implications and political dimensions are all under discussion. Different people use the notion differently, relating it to different cultural contexts.

Governance of water is based on rights and ownership of water property. Simply, though beyond doubt we can say water is a basic human right, but property laws often determine who owns or has the right to control, regulate and access water resources. Water rights are often complicated

by the variable nature of the resource. Additionally, there are economic, social and environmental values attached to water rights, and any effective water governance structure will need to address this complexity [UNDP-2005]. Property rights on water must be addressed as a common property and state property rather than open access and private property. When we consider the deprived people and ecology, the 'publicness' is inevitable in water sector. The United Nations Water Conference resolved unanimously 'inter alias, "all people, whatever their stage of development and their social and economic conditions have the right to have access to drinking water in quantum and of a quality equal to their basic needs"[c.f. Alex-2006].

According to the constitution of India, Article 21– no person shall be deprived of his life or personal liberty, except according to procedure established by law. Based on this article, Supreme Court gives some explanations about ecology and its protection through M.C. Mehta case. "The resources like air, sea, water and the forests have such a great importance to the people as a whole, that it would be totally unjustified to make them a subject of private ownership. The concept 'environment' bears a very close relationship to the 'Public Trust Doctrine'. The doctrine enjoins upon the resources for the enjoyment of the general public, rather to permit their use for private ownership or commercial purposes."[M.C Mehta V. Union of India, (1987) Supp. SCC131 AIR1987 SC1086]. Water rights come from nature and creation. They flow by the laws of nature, and not by the rules of the market.

Governance and management are interdependent. Effective governance systems should enable more practical management tools to be applied correctly. "Public-private partnerships, public participation, economic, regulatory or other instruments will not be effective unless the political will exist and broader administrative systems are in place [UNDP-2005]. Those without rights or financial means to acquire water are excluded from consumption. Water management usually focuses on the protection, restoration and use of aquatic ecosystems, such as rivers and lakes, and their surrounding environment. But in recent year's policies, strategies and actions have increasingly recognized the role of forests, wetlands and other water-related ecosystems to ensure sustainable water management.

People's participation is playing a vital role in water management. The watershed development programmes, rain water harvesting, Pani Panchayat, Participatory Irrigation Management and River Basin Organisations are the best examples in this way. Democracy on the basis of natural resources provides more voice to the people on governance and management of water. Effective decentralization is defined by an inclusive local process under local authorities empowered with discretionary decisions over resources that are relevant to local people. Along with them, 'triple R' propaganda– Reap, Recharge, and Regulate, and ecological literacy are the most important elements to conserve water. Because water is a part of ecology and the ecological

interdependence, recycling, partnership, flexibility, diversity, and sustainability are inevitable measures to keep water in safe and sound level.

The governance of water is closely related to political system of a country. Now market conditions determine the power politics and the voices of the natural resource dependence communities are marginalised and suppressed. In this juncture, 'water district' concept is significant one. Water districts are places and agencies, which have a plenty of water and the districts regulate the water distribution with proper norms and conditions. In United States, special local governmental agencies called Water districts build dams and canals to supply water to agriculture and to supply hydropower to local municipalities and companies. Revenue from the sale of electricity is then used to cross subsidise the price of water with 'rate of return constraint' (profits always equal to zero). The features of the water districts are:

1. Water is a public good
2. Cheap water lowers the cost of agricultural production.
3. Lower prices of agro products create an income effect in economy.
4. Low water prices get senators votes from agriculture constituencies and
5. Make profit from the sale of water is against the Federal and State laws.

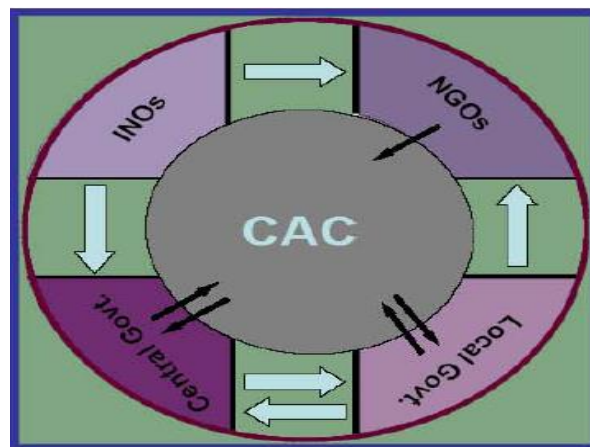
Lessons and Suggestions

In India it is necessary to adopt a water district political system, because within 50 to 100 km we have flood affected and drought affected areas. So I propose the introduction of a Catchments Area Constituency (CAC) model, beyond water districts that provides more power to the water dependent community in decision-making [See the diagram]. It may be an ecological concerned geographical division of territory even though; it is more rationale than the so called demography based constituency pattern.

Eco-system governance is a complex exercise; without sheer knowledge about ecology, participation of peoples and institutions, strengthening the capacities of concerned people and ecology, innovative economic tools and financing, national legislation and international agreements [UNECE-2005] that cannot be sustained. Along with these, market dilemma makes a puzzle in water governance that says water is an economic good. Now the dilemma is a multi faceted one-how to allow limited and regulated water markets to function without inequality, injustice and without transferring rights and commercial approach of water too in the domestic

economic spectrum. And an international level how to protect the rights of the poor and weaker countries over their own natural resources from predatory corporate giants [Iyer-2003].

Rule of water anchored in governance systems across four levels: government, civil society non-governmental organizations and international organisations associated with water scarcity driven vicious circle of poverty and natural resource democracy [See the Diagram].



Catchments Area Governance of Water

In CAC, civil society is the means and ecology is the subject; where people determine their socio-economic and ecological needs. If political determination and policies are incorrect in a CAC and if they are against a sound ecology, people can overthrow the government through voting. Here, dependent people confirm and cross checks the ecological and economic viability of policies in time to time and enjoys a decision-making power.

NGOs are the capacity building agencies and provide expert, tools and innovative techniques for ecological management. They ensure the peoples participation in constructive works.

International Organisations are the financing sources and responsible for international agreements on the ecological governance. Because natural resource management in the micro level has an international implication, that enrich the global environment.

Nation States are responsible for the formation of national legislation and its endorsement concerning ecological governance in CAC. Central and local governments are the monitoring and financing agencies. Here, local governments working as catalysts for ecosystem management and an agent for financing. They also enjoy production, distribution and allocation

functions of natural resources for the socio-economic enhancement of the concerned civil society.

This discussion recognises that, good governance of water is based on the voices of the dependent communities and scarcity of water drive the rural economy in to deprivation trap and vicious circle of poverty. The natural resource democracy based on land, water and employment will ensure a good management of resources and CAC is more significant than any other decentralisation model. Water governance covers a range of issues intimately connected to water, from health and food security, to economic development, land use and the preservation of the natural ecosystems on which our water resources depend [UNDP-2005].

In China there is a saying-“he, who controls the water, controls the country”.

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Mainstream

Down to Earth

Front Line

The Hindu