Shaping Stakeholders' Perspectives[1]: Survival of the Common Traditional Tanks in South India

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Abstract

Key Words: Tanks, Conservation and Development, Water

Tanks, one of the major water and common property resources in Southern Peninsular India, are owned, managed and maintained by the 'State' ever since, the British centralized the tank administration. These structures have multiple use and multiple users. As the stakeholders are many with varying stakes on the CPR the modern management systems established by the British colonial administrators which is still followed, could not cope up with the declining performance.

Various attempts for reforming the system and administration were made by the various stakeholders like farming community, government and non government agencies and other research academic institutions. A series of stakeholders meets discussion groups, future search meets and farmer's conventions held in five major river basins of the South Indian state of Tamilnadu had the aim of sharpening the understanding on tanks by various stakeholders in today's context of sweeping global changes.

The objectives of these stakeholders meet were to bring together the major actors involved in the theme evolve and shape the future of tank administration and policy issues and set the agenda for all the primary stakeholders, including the government agencies, non-government development organizations, research institutions, philanthropic organizations and the community. While it is found that the relevance of the CPRs are more than ever, the question of reforms and coping with the changes, and accepting the realities of changes make the various stakeholders hard to settle for the new norms and procedures of resource management.

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Background

Tanks are traditional irrigation common situated in many parts of Indian sub-continent to capture monsoon runoff in arid and semi arid areas. As per Minor Irrigation Census of 1986, tanks numbering around 500,000 are one of important irrigation resources serving 33% of Net irrigated area in the country. They are found in all soil types except in sand, but found in all socio ecological, agro-climatic and rainfall areas of the country. They are in existence for several centuries serving the water needs of underprivileged communities namely small and marginal farmers.

As one of the oldest man-made ecosystems, the tank systems consists of water spread areas, physically constructed structures namely bund, sluices, surplus weirs and water flow structures like feeder canals and surplus courses, wetlands, flora and fauna and inland fishes. Tanks have been serving both as flood moderators in times of heavy rainfall and as drought mitigators in times of long dry spell.

Rationale for Stakeholders' perspective on Tanks survival

Tanks being widely dispersed, if revived to their original capacity, the tanks would ensure direct irrigation and ground water recharge in water stressed, rain 'insufficient' areas. Nonetheless, they are a basis life supporting system in most parts of the state.

Being numerous, small in size and spread over thousands of villages, tanks lend themselves to decentralized local management, whose maintenance and management are currently centralized with 'State' government. The irrigation services are far superior in terms of conveyance and water use efficiencies.

Moreover, tanks are resource complexes for multifarious uses of the local communities. The most prominent uses include the following:

- Set the agenda for all the primary stakeholders, philanthropic organizations and the community.
- Irrigation, drinking water for people & animals, domestic use for people & animals and recharging ground water acquifers
- Space for animal to graze, to grow fuel wood and timber, fodder, avail silt for manure and sand for construction.
- Sanctuary for birds, animals and bio-diversity complex for flora and fauna and place to rear fish.

The Purpose

The centralized administration introduced by the British Colonial rule had almost wiped out the role of the community in conserving and developing them. Even in free and independent India it is continued to be even more retrogressive in keeping people and locals away in matters related to the tanks. Presently the tanks have many stakeholders such as the Irrigation department, the local Panchayats, the Revenue department, the Agricultural Department, Forest department and the local people. Of these, are the encroachers the most and the user communities the most passive witnessing a colossal change.

These resources need revival and rehabilitation. The situation therefore calls for major changes in governance, and management, activism of the locals, research in engineering and tankfed agronomy, funding by the governments, and donors. The

desired changes can be brought about only when the various stakeholders are brought to a common platform to share their views on the need for sustained management.

It is therefore decided to consolidate the experience of the constituents dependent on tanks. Some attempts for reforming the system and administration were made by the various stakeholders like the farming community, government and non-government agencies, research and academic institutions. Such efforts were sporadic and did not culminate into any appreciable policy change. Therefore a series of the stakeholders' meets, discussion groups, future search meets and Farmers Conventions were organized to sharpen the understanding on tanks. DHAN Foundation across the state, representing various agro-climatic and sociological setting selected five basins to get a glimpse of transition in tanks and tankfed agriculture.
The objectives of this exercise was to

- Bring together the major actors involved in the theme, to evolve and shape the future of tanks
- Set the agenda for all the primary stakeholders, philanthropic organizations and the community.

Stakeholders Meet

There are many stakeholders in the tank and tank programs, of which the government agencies, farmers and research institutions are important. The government officials, institutions and farmers were invited for the meet to listen to each one's views on the tank systems. The meet focused on the Status of Tanks, Tankfed Agriculture, Tank Administration, Encroachment and the Improvements needed on these aspects.

Future Search Meet

The tank as a resource has got multiple uses and users. The Future Search Meet was to ascertain the perspectives of all the users of the tank and village. Representatives of the various users have debated on the subject of the tank. The agenda for discussion included. The past uses of tanks; Tank maintenance; Changes in Tank Productivity, Crops, Well Irrigation and Water Management before and after independence; Reforms proposed for Administration, Usufructs and Water management; Tank Rehabilitation and its need; present & future scope of developing tankfed agriculture.

Farmers Convention

A Convention of Farmers from 175 villages was organized to hold discussions. Nine preparatory meetings were also held with the participation of around 100 farmers from block towns and key villages. The discussions focused on the topics like – the general status of tanks in the blocks; rehabilitation programs in the area; farmers participation in the programs; tank encroachments and tank productivity. DHAN Foundation staff organized such meetings.

Conservation: Need of the Hour

The frequent droughts witnessed by the country makes us to think about opting for simple and robust solutions for solving the water problems for all uses and users in the country. Since many parts of the country are endowed with tanks the need of the hour

is to safeguard these properties by way of conservation measures. Also, it is important that the new found enlightenment in water harvesting or catch water is good to start with. However, ignoring what we have will be unwise and we may have to regret. Unfortunately, most of the watershed projects or water development projects across the country irrespective of its title and stated objectives are indulging in creating new structures whether it is scientific or absurd. This new structures in most cases are either short-lived or never bear fruit and become infructuous for want of so many reasons. Therefore, to strike a balance to stabilize the tank dependent communities we may need to think about the conservation of tanks which have existed for such a long time.

The rise of Ground water irrigation in the country is forcing the cost of farm production higher and higher leading to bankruptcy of farm households in the countryside. Even, in most acclaimed ground water areas the phenomena of Ground water drought is being faced. In most of these ground water irrigated areas agriculture is becoming costlier and unsustainable due to the rapidly falling ground water tables. They are in need of a major recharge programme. To start any recharge programme we have to think of larger surface water bodies to have an impact. The tanks and ponds spread across the village offers good scope of recharge and at least stabilizing agriculture if not raising the productivity of the farms.

Also it is important that many of the cities and rural household depend on Ground water. According to the recent figures around 75% of the drinking water requirements in the country are met by the Groundwater recharges. This is by any means is a dangerous signal for the drinking water planners in the country. The reasons are very simple that the extraction will never be made equal by the present recharges including the new found enthusiastic harvesting measures. The geo-hydrology of most parts of the country leaving a few riverine sandy aquifers is hard rock or its variants. In all hard rock areas occurrences and recharges of Ground water is directly related to the storages in the surface water bodies. Therefore, by all means it is wise and simple without wasting money we need to go ahead for conservation of the existing tanks across the country.

Our studies and experiences in South India shows that the scope of preserving the tanks is enormous and only political will and awareness of the situation is needed and nothing more. The money being used in various water programmes and artificial recharge programmes will bear immediate fruit if tanks and ponds are saved simply from the extinction. The conserved tanks and ponds will serve a long lasting multiple uses and purposes for various communities including the urban areas.

Challenges facing Conservation of Tanks

There are three kinds of situations in small scale water sector which include village tanks based on their potential and usage.

Region	Focus
Andhra Pradesh, Karnataka & Maharashtra, Kerala, Tamil Nadu, Gujarat & Rajasthan	Conservation or revival, modernization or adaptation except in selected pockets
Bihar, Orissa, M.P, parts of U.P. and W.B.	Scope for Development (new)
Hilly regions of North East, Himalayas etc.	Both Conservation and Development

Based on situations, either Conservation or Development, or both assume significance. The challenges to Conservation and Development are:

- Technological challenge for restoration / conservation and development
- Institutional challenge for revival / conservation and development
- Financial and human resources challenge for revival and
- Redefining the role of the state, research institutions, resource institutions, NGOs and the local community for conservation and development

Technological Challenges

What are the technologies available in small scale water sector? Contribution of the local people with their indigenous wisdom only runs the village tanks. Scientists and engineers are mostly 'attracted' or 'pulled' to major and medium irrigation sector in the country. Their contribution for tanks has been comparatively inadequate. A new ' thrust' should be given to work on this sector on the following lines:

- Developing new technologies to make tanks more relevant in a given context by way of identifying techniques of maximizing tank productivity, ground water recharge and other tank services.
- Documentation of indigenous knowledge system on small scale water technology: CSE, New Delhi has shown the way by publishing 'Dying Wisdom'.
- Initiating R and D in this sector by persuading research institutions to come out with field oriented research projects on the sector's significant contribution to poverty reduction and to tap the full potential of the rural poor.
- Technological intermediation has to be done because "Technology is not class neutral or even scale neutral". What is technological intermediation in SSW sector? Indigenous knowledge system could be validated scientifically for its application and dissemination. A new hybrid of technology could be developed by cross-fertilizing indigenous technology with modern water technology from research institutions. Otherwise, technology related to major and medium irrigation sector could be 'intermediated' to suit to small scale and for the local people's adoption.

Institutional Challenge

Many forms of local institutions, both formal and informal are in existence managing village tanks. Yet so many small structures are without local institutions. Hence a range of actions has to be initiated or evolved.

- Regeneration of local institutions
- Formation of new local institutions
- Development of nested institutions on horizontal and vertical line to build the sector
- Integration of these local institutions with panchayat and other mainstream institutions.
- Development of 'good governance' at all levels of these institutions by systematic capacity building programmes
- Creating a 'new generation of local workers' for the village tanks by systematic training.

Financial and Human Resources Challenge

More and more funds are flowing continuously to major and medium Irrigation sector because of political compulsions and lack of 'pull' from tank sector. A new way of thinking (mindset) has to come among policy makers, development planners, implementers, resource allocators and users. Repeated, strong message and advocacy have to be given to the above categories of people through rigorous field interaction and 'Dialogue Workshops'. There is no dearth of money in this country. Each DRDA in the country on an average spends at least Rs 10 crores annually for various schemes of poverty alleviation in the villages and apex financial institutions like NABARD, and other Banks do have 'loan able funds'. What is needed is an enabling policy and a strong, demand from local institutions and the civil society.

It is found that the local people often ask for 'rights' to use the usufructs, for the conservation and up-keep of tanks and ponds. Therefore empowerment of local institutions with 'rights' over tanks, in consultation with the Panchayat Institutions, and substantial allocation of financial resources (grants and loans) for 'massive' implementation of rehabilitation programme will help to conserve and develop the village tanks and ponds.

Redefining the Role of stakeholders

The Institutions working on the tank fed agriculture have acquired those in the height of the colonial days and most of them serve no purpose other than holding offices. Greater challenges are forcing them to be in the race of development in a meaningful manner and our analysis indicates the following matrix of the roles to be dropped and acquired.

S. No.	Institutions	New Role	Role to be dropped
1	State	• Rigorous regulation & enabling policy and empowerment of people's institutions • Encouraging market investments • Technical and managerial support • Resource augmentation	• Implementation role & implementation staff • Outdated legal framework • Control perspective
2	Research & resource institutions	• Study and documentation of existing practices • Experimentation • Opening new frontier • Outreach & field oriented research and studies	• Conventional outlook • Outdated curriculum & policies • Exclusive reliance on campus based activities
3	NGOs	• Understanding people's needs and aspirations through committed work and pilot field works • Enlarging into research and	• Conventional 'social' outlook • Ordinary quality staff & programmes • Conventional

S. No.	Institutions	New Role	Role to be dropped
		resource institutional areas • Liaisoning with Government research & resource institutions & people's organization	'institutional' view
4	People's Institutions / Community Institutions	• Vibrant civil society - sharing governance • Setting agenda for mainstream institutions & social auditing of those institutions	• Expectations of 'doles' & subsidies • Divisive parochial views and 'tokenism'

Revival of Tanks as measure of Tank Conservation

A tank comprises the catchment area, feeder channels; water spread area, outlet structures (sluices), flood disposal structures (surplus weir) and command area. It is reported that more than 70 – 80 % of the minor irrigation tanks need renovation to restore them for normal functioning. Conventionally the following terminologies are in practice related to tank works.

- ***Tank Rehabilitation/Restoration/ Renovation:*** The tanks which are dysfunctional are brought to normal functioning by way of undertaking works on breach closing, tank bund strengthening and repairs or reconstruction to the sluices and weirs.
- ***Tank Modernisation:*** Normally functioning tanks are selected to modernize their structures so that their functional efficiency is increased. Typically the traditional sluices are dismantled and sophisticated semi-mechanical sluices and gates are constructed. Also lining of channels and liberal cement works are allowed to undertake.
- ***Tank Desilting:*** Over the centuries of time, tank water spread area has been filled with silt, sand and earth by way of soil erosion. This huge volume of silt is being removed in few places where liberal funds are available. However there cannot be any single way to resolve this massive problem of desilting in all the tanks.