Policy Brief 7

Water Series

Translating Practice into Policy Change

Conflict Resolution in Conservation and Management of Tanks (small scale water bodies)

Executive Summary

Tanks are small scale water bodies that are easy to operate, have multiple uses and facilitate groundwater recharge. The multiple users of tanks include various groups and sections of the village community such as farmers, fisher folk, artisans, animal rearers and women who struggle to collect water for domestic purposes. Thus the tanks were able to meet the different requirements of the people. In any common property, resource sharing generates conflicts among the users and traditionally our Indian societies had the resilience to cope with conflicting demands, which were solved amicably through mediation. But over a period of time, the time tested methodologies of conflict resolution lost their ability to resolve issues due to breakdown of village institutions such as the Panchayats.

The centralisation of the tank administration in the last six to seven decades by the government led to severe consequences, alienating the local community from taking up collective efforts towards the betterment of tanks. Problems have become an essential component in tank, which may arise at anytime either before rehabilitation or during rehabilitation or thereafter. Disputes are common in allocating water but generally they are resolved through mediation by village elders. DHAN Foundation through its Vayalagam programme was able to successfully demonstrate that collective action involving all the members of the Tank Users was one of the ways to amicably share the precious water and land resource. Tank Farmers' Associations organised by DHAN act as vibrant local level Institutions, which have been strengthened

through capacity building and knowledge sharing exercise.

Tanks coming under non-canal irrigated areas holds more prominence since the livelihood of the farmers depend on the surface water stored in small scale water bodies which are dependent on the local rainfall. In this context the dynamics and social customs vary in comparison to tanks coming under canal irrigated areas. The sharing and maintenance of common property resources such as water bodies is strong because the dependence on water and the maintenance of the tanks lies in the hands of the user groups. Unlike the canal irrigated tanks where the stakes of the user groups are not high, but in the case of small scale water bodies the people are cohesive and united to save and conserve one of the important natural resource, water, because their very survival depends on these tanks.

This brief deals with the kind of approach DHAN Foundation has adopted to strengthen the village level local institutions for rehabilitating the tanks. It also presents the experiences of DHAN in resolving conflicts along with the local community. Based on these experiences, some changes in policies and practices that are required to be undertaken are suggested.

Summary of suggested changes in policies and practices in various departments

Existing policies/guidelines and practices and their shortcomings	Policy/practice changes required
1. Public Works Department and Rural Development Department	
There exists a policy on participatory approach stressing the involvement of water users in planning for tank rehabilitation, water management and future maintenance.	Although the policy specifies the involvement of the water users in the various aspects mentioned, there is no mention of people's contribution and involvement in the actual implementation, which is crucial for their becoming stakeholders to the restored tank infrastructure. The policy therefore must specifically include those two items if they are to be true partners in the project. Without their contribution or getting involved in the implementation, experience shows that they will not be able to take over the management and future maintenance of the tank system.
People centred participatory approach and indigenous water management technologies are not practised adequately in tank-based irrigation areas.	People centred approach has to be adopted in water management. It should include the best traditional water management practices in tanks, which include desilting, cleaning of channels, provision of shutters to sluices, strengthening weak spots in tank bund and conjunctive use of surface and groundwater wherever feasible. Capacity building of the water users on these aspects and their empowerment to generate revenue from tank complexes for using it for tank maintenance has to be ensured. Appointment of "Neerkattis" or traditional water managers and using improved mechanised devices should be facilitated.

Existing policies/guidelines and practices and their shortcomings	Policy/practice changes required
Descriptive Memoirs for tanks are available only for a small percentage of tanks.	Tank Memoirs should be compiled and updated for all the irrigation tanks, river basin wise, and made available in the website, as they form the basis for all improvements planned.
2. PWD, Rural Development and Revenue Department	
Encroachments occur due to government and private interventions in feeder channels, surplus courses and tank beds. This happens because of the poor understanding of the dependence of villagers on tanks for various uses, the hydrological relationship of the tank with groundwater and disregard to Governments' rule prohibiting the use of water bodies for other purposes. Individual/ sectoral need to use these valuable water bodies and the power to use the resource leads to encroachment or land use change of these vital water bodies.	**All common properties such as tanks and ponds need to be resurveyed; boundaries fixed and handed over to the village tank associations and local bodies for protection. The offences related to the tank encroachments should be declared as criminal and punishable under provisions like those of Forest Conservation Act and The Tamil Nadu Highways Act 2001 (section 28).** **Pattas should not be given to any part of the tank complex. Existing pattas on tank lands should be re-examined and cancelled with severe punishment to the concerned offenders.**
Tanks serve various purposes apart from irrigation. They support pisciculture, forestry, and also bring revenue by sale of tank silt and inland fishery. Various departments like Fisheries and Revenue share the revenue.	Usufruct rights over the trees on bunds, tank beds, sand, silt and fish should be given to TFA/WUA on a sharing basis with local Panchayat. This will strengthen associations in building their own capacity for maintenance.
Resolving water conflicts at village or local level are practically absent or operated negligibly.	Water related conflicts have to be solved at Gram Sabha level amicably or a separate water users' committee to be formed. Issues like encroachment, sharing of water, dumping of wastes and pollution can also be solved at the Gram Sabha by counselling.
3. Law Department	
Delayed judgment on issues pertaining to land and water management indirectly encourages the offenders. Similarly stay orders issued in a few cases of encroachment eviction, have emboldened others.	**Speedy disposal of cases in courts regarding tanks will greatly help the poor since these water bodies are the lifelines of the villagers.**

Existing Policies/Guidelines and Practices	Policy/Practice changes required
	District Magistrate (District Collector) may also be given powers to redress conflicts that could not be solved by the local community. Farmers should be permitted to establish people courts where the civil courts need not intervene in judgments passed pertaining to land and water management by peoples' court.
4. Police Department	
Police Officers are not adequately involved in Conservation of Small Scale Water Bodies.	**As mentioned in the Kerala Panchayat Act Section 252, the Tamil Nadu Panchayat Act should be amended to include in the duties of Police Officers, the provision to support the Panchayat on Protection/Conservation and Management of Small Scale Water Bodies.**
5. Agriculture Department/Agricultural University	
No specific policies exist regarding tankfed agriculture. No contingency plans to help farmers in tank-based irrigation exist.	A separate "Mission" on tanks is needed. The Mission should focus on the landless agricultural labourers, such as marginal farmers to empower them with rights to use the tank to ensure their livelihood. Tank fed agriculture should be facilitated with adequate resources. Improved water management and agricultural practices have to be evolved specifically for tank irrigated areas through experimentation and widely disseminated.
6. Education Department	
Awareness on tank and related structures is poor among the younger generation.	Tanks and their technologies should be incorporated in the curriculum of schools/colleges. All schools, right from the primary to higher secondary, should take special effort to create awareness about small scale village water resources, importance of fresh drinking water and water borne diseases.
7. Ministry of Information and Broadcasting	
No policy exists regarding dissemination of information on environmental related issues.	**Mass media such as the press, television and radio should play a major role in enlightening the public on the importance of tanks in Water Resource Management.**

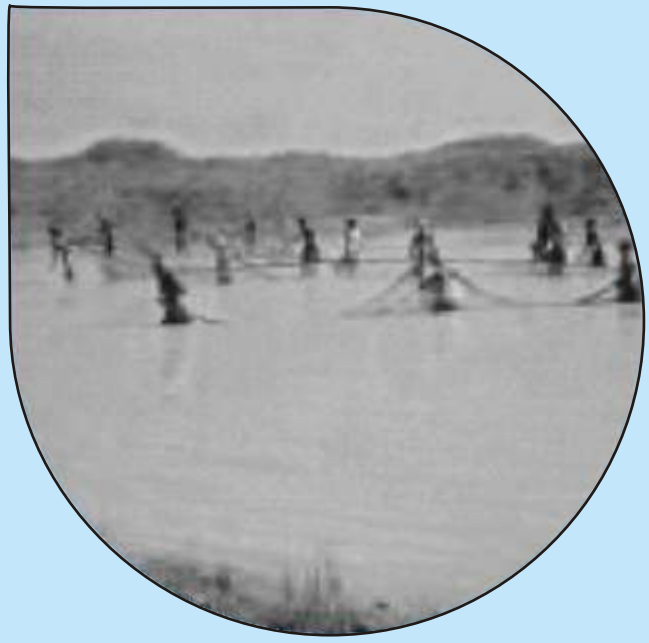
Existing Policies/Guidelines and Practices	Policy/Practice changes required
8. State Government /Panchayat Unions	
Management of water bodies still vests with the State Government/Block Development Offices.	"Management of water bodies" should be brought under local bodies at the local (village/town/Panchayat) level.
9. Academic/Research Institution	
Academic institutions are not paying adequate attention to research and documentation on the usage of traditional water bodies like tanks.	Documentation of traditional water management practices and traditional methods of conflict resolution need to be studied and the best practices have to be practiced.

Villagers interacting with Mr. M.A. Siddique, District Collector, Sivagangai

Management aspects in tank

Sharing of water

Encroachment



In obtaining usufruct rights

Nature of conflicts arising in tank

Conflict Resolution in Conservation and Management of Tanks (small scale water bodies)

I. Background

While nature has endowed this country with ample rainfall the same is not evenly distributed. It is therefore necessary that local water storage becomes an essential component to meet the needs of the farmers for irrigation.

Tamil Nadu located in the southern most part of Indian Peninsula is a state with a large number of tanks. There are reportedly 40,319 tanks in Tamil Nadu (source: Season and Crop Report 2005–2006, Department of Economics and Statistics, Government of Tamilnadu). Of these, 23,156 tanks having a command area less than 40 acres comes under Rural Development Department. These water-harvesting structures were indigenously designed by native rulers and managed by local communities over the past several centuries.

In Tamilnadu out of a net sown area of 56 lakh hectares, about 30 lakh hectares of arable land are irrigated. The gross irrigated area is 36 lakh hectares. Canals account for about 29.2%, tanks for 21.3% and wells for 48.9% of net irrigated area. Area under canal irrigation has remained the same since the sixties at around 8.5 lakh hectares. The area under tank irrigation has fallen by a third from 9 lakh hectares in sixties to 6.3 lakh hectares in 1999–2000. The average area irrigated by a tank has decreased from 19.2 hectares in 1981–1982 to 15.1 hectares in 1999–2000. The proportion of area irrigated by tanks has fallen from 36.8% in sixties to only 21.3% in 1999–2000. Reduction in area is due to drying up of tanks and encroachments of tank complexes.

Village tanks, their significance and unique characteristics

Tanks coming under non-canal irrigated areas holds more prominence since the livelihood of the farmers depend on the surface water stored in small scale water bodies which are dependent on the local rainfall. In this context the dynamics and social customs vary in comparison to tanks coming under canal irrigated areas. The sharing and maintenance of common property resources such as water bodies is strong because the dependence on water and the maintenance of the tanks lies in the hands of the user groups. Unlike the canal irrigated tanks where the stakes of the user groups are not high, but in the case of small scale water bodies the people are cohesive and united to save and conserve one of the important natural resource, water, because their very survival depends on these tanks.

Small scale irrigation tank is vital for serving the **multiple uses**, which are stated below:

- Provides protective irrigation with high water use efficiency.
- Recharges groundwater, which helps in sustaining irrigation wells, inhibits mining of groundwater and sustains life-supporting system.
- Vital source for the livelihood of marginal community in terms of inland pisciculture, grazing land and vegetable cultivation.
- Livestock development depends heavily on tanks and ponds for drinking water.
- Domestic uses of human beings.
- Key source for drinking water in many rural environments.
- Provides "social space" for local management, thereby promotes grassroots participative democracy.
- Integrates with local culture and serves as a platform for social and cultural integration.

As one of the oldest man-made ecosystems, the tank system consists of water bodies and associated tank structures, feeder canals and supply channels, wells, wetlands, semi dry tankfed lands, soils and plants, animals and birds, aquatic plants and fishes. As an agriculture system it is distinct, which promotes different cropping practices and management of water. As an engineering system it is historically one of the oldest irrigation engineering designs. As a management system it is capable of becoming administratively and financially a self-reliant

structure. As a social system the tank serves and benefits various sections of the village community such as farmers, fisher folk, artisans, animal rearers and mostly women. As a spiritual system, it has cultural integration.

II. Deteriorating performance of tanks and DHAN's approach

Of late the performance of the tanks in different States is coming down due to various reasons of which the neglect by the government administration and users in general is the major reason. The centralisation of the tank administration in the last two centuries by the government led to severe consequences, including alienation of the local community from taking up collective efforts towards the betterment of tanks. The farmers prefer using free electricity to pump groundwater without caring to use surface water stored in tanks, which of course is not available now due to inadequate maintenance of the tank system.

Since the tank irrigation benefits mostly the marginal cultivators, the livelihoods of these communities get affected due to water scarcity. The adverse effect is that the marginal and small farmers are forced into a cycle of deprivation, debt and migration.

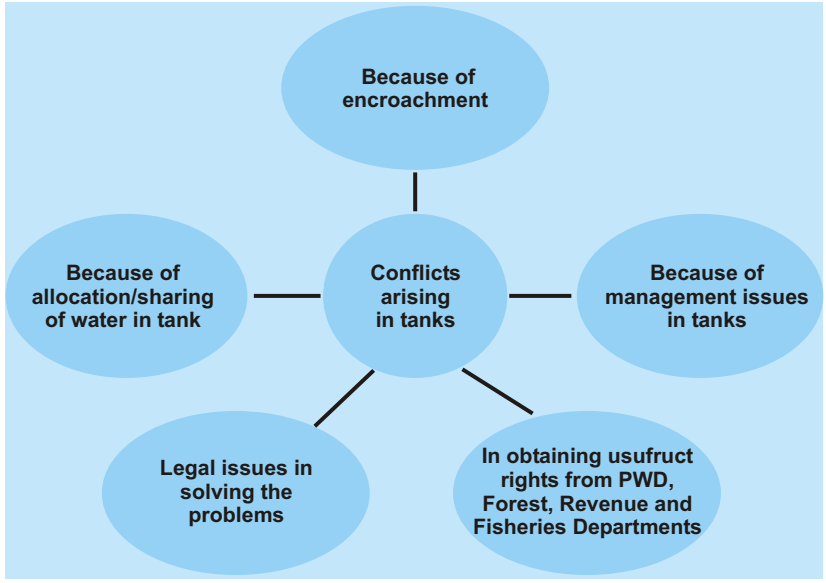
Livelihood intervention approach by DHAN Foundation through rehabilitation of tankfed irrigation system involves the whole user community of the tank. The user community sees tank as a social, engineering and spiritual system. In such cases, different dynamics happen within the community. Conflicts and problems arise in the system and many get resolved on their own, but some also remain unresolved. Because of these conflicts the management of common property resources such as tanks often gets complicated. Capacity building programmes to the community on various aspects of tank rehabilitation and management including identification of encroachments on land and water, implications of such encroachments, process involved for

their removal are conducted by DHAN Foundation. The development interventions like rehabilitation of tanks cannot be sustained unless the problems and conflicts are resolved and the community wholeheartedly participates in development interventions. Thus **water can unite communities.**

III. DHAN's experience in solving conflicts by Vayalagam Tankfed Agricultural Programme (VTADP)

DHAN Foundation's experience in Vayalagam (VTADP) in tank rehabilitation work with the community, the experiences and the lessons learnt in problems/conflicts resolutions are given below:

A problem arises when an individual/group breaks the law. Individual likes and dislikes, needs and expectations differ from one another, thereby sometimes leading to problems. Problems related to tank arise when there is uneven



distribution of water among farmers/users of the tanks, usage of groundwater through wells, forgetting traditional/ancestral rights and encroachment of the small scale water bodies. Problems arise at different levels viz., between villages, Panchayats, cascade associations and the Government agencies.

The characteristics of the conflicts are

- Conflicts arising from emotional issues.
- Conflicts arising over the ownership, control and use of the resources. For example, encroachers and illegal water users (free riders).
- Conflicts are latent for long periods of time if the parties have no chance to have a confrontation. For example, village meetings are not conducted.
- Conflicts become more frequent as well as more intense during water scarcity periods as the available supply is not able to meet the growing demand of the various sectors.

Consequences of conflicts

Conflicts have a bearing on water-related institutions and have the potential to trigger contention and dispute, thus becoming an instrument of polarisation and exclusion.

Unresolved conflicts lead to greater misunderstanding, differences of opinion and arguments, which may at times lead to manhandling among people. Effects of the problem are damage to tanks, wastage of money and purposeful destruction of the structures. Finally it leads to obliteration of socioeconomic livelihood sources of the people depending on it.

Conflicts around common resources like tanks and ponds severely affect the poor most because it is closely associated with the survival of the poor. For example, drinking water.

Conflicts could also become an instrument of equitable and sustainable prosperity for all those who depend directly or indirectly on water for their livelihoods, when resolved judiciously or democratically.

Summary of DHAN's experiences in resolving conflicts by working with community before, during and after tank rehabilitation work is presented below:

Status of tank rehabilitation work	Nature of conflict	Basic causes for conflict	Impact of the problem on tank rehabilitation	Efforts taken to solve the problem
1. Before starting the rehabilitation work.	Competition for leadership.	Unresolved problems at village level as well as between villages.	People are reluctant to take up rehabilitation work.	Study and resolve the problems which have been prevalent for a long time.
	Tank related problems like need based planning and prioritising the works.	Problems at individual level. Differences of opinion at individual and family level.	Avoid village meetings.	Describe tank rehabilitation project in a transparent and effective manner.
		Group and community rivalry.	Making contradictory statements.	Involving everyone in planning.

Status of tank rehabilitation work	Nature of conflict	Basic causes for conflict	Impact of the problem on tank rehabilitation	Efforts taken to solve the problem
	planning and prioritising the works.	Problems related to administration and governance at village level.		Give preference to peoples' needs.
2. During rehabilitation work.		Misrepresentation of financial status and improper accounting.	Placing obstacle during tank rehabilitation work.	Balanced approach.
		Suspicious outlook.	Criticising the work.	Facilitating transparency in account maintenance.
		Self-centred approach.	Delaying the implementation of work.	Rectifying the defects noticed then and there.
		Getting jealous when another person is recognised.		Sharing the progress of work among villagers and consider their comments.
3. After the rehabilitation work.	Management aspects in tank.	Lack of proper planning for sustainability of the tank.	Causing damage to the structures.	Correcting the mistakes.
	Obtaining usufruct rights from PWD, Forest, Revenue and Fisheries departments.	Short comings in proper water distribution.	Complaining to the local authorities.	Learning from experience.
	Allocation or sharing of water.		Taking the problem to the court.	Making the required changes to ensure equitable distribution of water.

Ways of solving the conflicts (prevailing within the community)

Conflicts have become an inevitable component in tank irrigation management and may arise at anytime during the course of the rehabilitation of tank or thereafter. Hence proper conflict resolution is a prerequisite. This can be done in the following ways:

- Wherever differences of opinion are found among the members of tank association towards village common work, the facilitating team acknowledges that there exists a conflict and works towards resolving it.
- The team then patiently hears the different view points within and outside the village.
- Along with the villagers, it explores ways to resolve the conflicts. Gains trust from the opposing parties, understands the stand of each party and makes way to approach the problem, integrates with both parties and fixes village meeting.
- Involves a third party from the village and listens to its views.

- Jointly evolves a solution by consensus.
- Involves people in rehabilitation works.
- Develops an acceptable accountability mechanism among the community while doing the rehabilitation work.
- Introduces a strict monitoring mechanism.

Presented below are the details of a case explaining the conflicts that arose due to caste differences and its resolution.

Case Study - DHAN Foundation

Nediamanickam is one of the coastal villages in Ramanathapuram district. It consists of 140 households and the major castes in the village are Yadavas and Dalits. Tanks and ooranis are the major source of water and agriculture and goat rearing are the major occupations of the people. During 1988 there was a common village function in the village, which led to a conflict between the two castes. The problems started by using abusive words and then ended with manhandling of each other. The conflicts continued for more than ten days and there was heavy loss of material and life. People approached the court and spent more than Rs. 40,000 for redressing their grievances. Political parties were also involved which led to the worsening of the situation and as a result the people were afraid to come out of their homes fearing threat to their lives.

Different stages of conflict

S. No.	Stages of conflict	Reasons for intensification of conflict	Impact
1	Stage 1	Involving political and caste leaders for resolving the conflict.	Instead of reducing tension this aggravated the caste issues and instigated violence.
2	Stage 2	Involving the relatives from other villages for peace talks.	Instead of leading to an amicable solution it led to resource mobilisation to spread violence.
3	Stage 3	Sharing of water in the tanks.	Rich and powerful people utilise the water from the tanks and thus leading to drought conditions in the village.

S.No.	Stages of conflict	Reasons for intensification of conflict	Impact
4	Stage 4	Celebration of village festival caste wise.	Developed non co-operation between the villagers and led to division of common village property resources among the castes.
5	Stage 5	Not inviting the people from other castes for the marriages and other village functions. This led to the propagation of untouchability among the people.	Competition and jealousy among the villagers started to evolve.

At this stage DHAN entered the village for restoration of tanks and collected the information regarding the villagers and the reasons for the conflicts. The approach followed by DHAN was first to conduct the village festival by involving the people from the two opposing castes then solve the conflicts among the villagers and to enable them to live in harmony.

The steps followed by DHAN in problem solving are

- To understand the problem in depth
- To establish an integrated system
- To enhance the activities of the established system
- To determine the long-term working of the system
- To maintain individuality of the system.

Impact on the village resources after the resolution of the conflicts

S.No.	Impact on	Before resolving the conflicts	After resolving the conflicts
1	Relationship between people	Competition, jealousy and difference of opinion existed among the people of the two castes.	A peaceful relationship has emerged among the villagers.
2	Water sources	Lack of rehabilitation works in the tanks and ooranis and the people have to walk 2–3Km to fetch water for drinking.	Involving people in rehabilitation works and thus solving the drinking water problem.
3	Agriculture	The tanks, which stored water lacked proper operation and maintenance.	After the rehabilitation of tanks the water is utilised for the entire crop period in an orderly manner.
4	Economy of the village	Lack of savings habit, obtaining loans at usurious interest rate and becoming debt ridden.	Forming MFGs through Vayalagam programme has inculcated the habit of savings and obtaining loans at affordable interest rates. Stabilised tankfed agriculture has increased production and the village economy.
5	Common Property Resources	Negligence of Common Property Resources and their maintenance.	The people maintain the Common Property Resources. The rules and regulations are formulated and adhered by the people to maintain these resources on a sustainable basis.

Highlights of DHAN's experience in resolving various types of conflicts

DHAN Foundation as a facilitating organisation to rehabilitate irrigation tanks encountered several problems of the following types:

1. **Conflicts caused by encroachments**

Encroachments of land by a few dominant persons in tank complexes, which affected the storage capacity and the performance of the tanks and inhibited their rehabilitation. This act had deprived the majority of the villagers dependent on the tank for their livelihood. DHAN's initiative in organising the villagers as a tank association and building their capacity gave them collective strength and confidence to confront the encroachers and by and large succeeded in evicting them. While in many villages the tank associations were able to evict the encroachers by themselves, they also got the cooperation of government agencies by approaching the concerned revenue and survey and land records' department to identify or confirm the encroachments and then evict them. However, there still remain a few cases of encroachments unresolved as the encroachers had gone to the court claiming that they had obtained "Patta".

2. **Conflicts arising from sharing of tank water**

Nature of conflicts encountered in sharing of tank water

Listed below are the conflicts that arise among various categories of water users

Between irrigators and fish rearers.	Water for agriculture and water for inland fishing.
Between head reach and tail reach farmers in the tank concerned.	Who should get how much water?
Between farmers in the command area of different sluice outlets.	How much water has to be drawn from each sluice outlet and on what basis?
Between farmers owning wells in tank command and others.	How to determine the share of tank water among them?
Between small and marginal farmers and others in the tank command.	Basis for sharing tank water particularly during water scarcity periods.
Between registered ayacutdars (recognised land owners having right over tank water) and non-ayacutdars using the tank water.	Need to share tank water with non-ayacutdars during surplus rainfall years when tanks overflow.

The conflicts on sharing of tank water among the various categories of people as enumerated above are resolved mainly through the water users associations formed by the mediatory efforts taken by them, facilitated by DHAN through patient, persevering reconciliation and consensus building processes adopted. In a few cases, the restoration of "Neerkatti" (water managers) has helped in the rational distribution of tank water in an equitable manner.

3. **Conflicts arising from sharing of usufructory rights**

Usufructs from tanks like trees planted on tank bed and tank bund, tank silt and fishing rights in tanks were customarily being enjoyed by the concerned tank users and villagers. When the government took over the tanks, the villagers were deprived of those rights. Government agencies like Forest Department and local bodies like the Panchayats had rights for trees, Fishery Department for inland fishing and Mining

Department for tank silt, framed their own rules and collected revenue from the people for those products. DHAN's intervention with those departments and the local panchayats as well as the tank associations helped to restore those rights to the villagers only in a few cases. In a majority of cases the concerned agencies still hold those rights and are reluctant to share them with the Water Users' Associations.

IV. Review/Analysis on sector's experience with respect to problems and solutions in rehabilitation of small scale water bodies

Water conflicts in India reach various levels; divide every segment of our society—political parties, states, regions and sub-regions within states, districts, castes and groups and individual farmers. In India, water conflicts are likely to worsen before they begin to be resolved. They pose a significant threat to economic growth, social stability, security and health of the ecosystem and the victims are likely to be the poorest of the poor.

Conflicts might sound bad or negative, but they are logical developments in the absence of proper democratic, legal and administrative mechanisms to handle issues at the root of water conflicts. These conflicts, scale and range over contending uses for water, issues of allocation, ensuring equity, water quality, problems of sand mining, problems associated with privatisation as well as the various micro-level conflicts currently prevalent across the country. Effective conflict resolution calls for a consensual, multi-stakeholder effort from the grassroots upwards. Review of various literature on water conflicts highlights the various problems that arise from water.

Part of the problem stems from the specific nature of water like

a) *Water is divisible and amenable to sharing*
b) *It is a common pool resource*
c) *It has multiple uses and users*
d) *Exclusion is often an inherent problem and very often exclusion costs involved are high*
e) *It needs evolving a mechanism to understand the way the water is planned, used and managed.*

Our forefathers indigenously designed many man-made structures, which are found predominantly in South India that can be termed as small surface water reservoirs. These small scale water bodies are easy to operate, have multiple uses and facilitate groundwater recharge. These tanks can be easily managed as the people have direct access and control. But over a period of time many of them have gone into disuse due to breakdown of customs and traditions and changes in attitudes. Micro-level disputes comprise conflicts on a truly micro-scale within a village, a community or around a small tank.

India being rich in diversity, which includes biophysical, social, economic and political aspects, there is a need to look into the multi-stakeholder platforms regarding water. **Various cases show that local level water conflicts are increasing and spilling over into many other issues and though there are various instances of successful resolution of conflicts, what stands out is the absence of mechanisms to mediate, to provide platforms for dialogue between rights and stake holders.** Water is a resource embedded within ecosystems and it cannot be treated as a freely manageable resource. **The need of the hour is a system of graded institutions that start from the micro-level, may be a village, and proceed upwards to a basin level board or authority.**

No authenticated documents are available with respect to problems and solutions in tanks. Hence, for this sectoral review, only the documentation of DHAN Foundation on this subject is taken into account.

Solving local problems within the community

Disputes are common in allocating water but generally they are resolved through mediation by village elders. The traditional tank irrigation systems involve a great deal of collective actions viz., organised community labour for maintenance and other critical water management tasks (Janakarajan, 1996). Village level organisations are responsible for various irrigation management tasks. Different types of

rules and regulations have been evolved to distribute the water based on its availability in the tank.

In the traditional water sharing practice, which was in vogue in earlier decades, all families had water rights. As all families were directly involved in the tank maintenance works, the village committee gave water rights even to landless families. Neerkattis or traditional water managers regulated water flow and irrigated the farmer's fields.

In this way the conflicts arising due to water sharing were controlled in earlier times. Today this system has broken down due to several conflicts among the villagers in the last few years. Presently no rules are followed for sharing the tank water and farmers are taking water whenever they need. As a result the tank water is exhausted in a short period and collective tank maintenance work has totally disappeared.

DHAN's approach in resolving conflicts will create a healthy working relationship among the villagers. New rules are being framed and thereby new management regimes are created for village administration and common resource management. In many cases a second line of leadership emerges and neutralises the existing power equations in the village.

One of the major issues threatening the small scale water bodies is encroachment. Because of increasing pressure on land due to increasing population, many water bodies are being encroached. The water holding capacities of the tanks are getting reduced due to siltation and also due to poor inflow, as feeder channels/supply channels are not maintained properly. Foreshore area and water-spread area are being encroached for various end uses. Removing encroachers is becoming a difficult problem. Approaching courts is time consuming. Hence it is wiser if people negotiate peacefully to resolve disputes. NGOs and other institutions can play the role of a peaceful negotiator. One way of doing this is to form WUAs, which will lend credibility in the eyes of the local people. Educating and sensitising

A typical encroachment in tanks

people about common property resources like tanks will go a long way to avoid cumbersome legal proceedings if any. *Prevention is better than cure.* It is better to start the peoples' institution around all large and small scale water bodies, whether or not rehabilitation is being carried out. Tank rehabilitation is just an engineering tool for physical improvement of the structures. Our work should not end with this activity. Social reengineering process should be the main agenda in any rehabilitation programme. We need to keep the system vibrant by forming TFAs which will study the village dynamics in its totality. Sensitising people about issues, which will improve the livelihoods of common man, will form a basis to take up works. It is not that villages do not have a conflict resolution mechanism. In most villages there are informal associations with an unwritten code of conduct, which is by and large adhered to. In the last few decades, many villages have been getting influenced due to urbanisation, migration, lack of opportunities to work in their village and many other socio-economic factors.

The programme has a number of necessary components to ensure that the interventions are sustainable in the long term in which problem solving is one of the necessary underlined intervention. The measures that are proposed in the rehabilitation of tanks comprise improvements not only to the physical works, but also institution building and the software aspects like Operational and Management (O&M) of water resources.

DHAN foundation has defined the activities that need to be undertaken for participatory tank revival as given below:

	Stake-building and trust-building	Standardisation	Integrated tank system development	Self-management of tank system
Content	Tank selection	Farmers' planning	Catchment treatment	Ongoing operation and maintenance
	Formation of tank farmers' association	Farmers' implementation	Integration with other tanks	Endowment fund
	Leader(s)	System repairs	Water management	Institution building
	Farmers' contribution	Encroachment eviction	Conjunctive use and crop production	Turnover
Process	PRA methods	Sharing of experiences	PRA methods	Review process
	Exposure visits, problem solving	Specific training	Handholding of TFA	Capacity building training
	Farmer sub-group meeting	System design and implementation	Integration of catchment and command area farmers	Setting up of self-renewal mechanism through Micro Financing System

Note: PRA: Participatory Rural Appraisal TFA: Tank farmers Association.
(source: http://www.rainwaterharvesting.org/Rural/Dhan1.htm)

Review of existing Act and Policy

The Tamil Nadu Farmers Management of Irrigation Systems Act, 2000

The purpose of the Act is to empower farmers' organisation in the management and maintenance of the irrigation system through fair and equitable distribution of water among users, inculcating sense of ownership and promoting efficient utilisation of water to achieve optimum agricultural production. This Act does not cover the thousands of tanks vested with Panchayat Union and the Panchayats. **The activities of the tank farmers' association formed under this Act will be under the control of PWD of the Government.**

National Water Policy 2002

National Water Policy was adopted in September 1987. Since then, a number of issues and challenges have emerged in the development and management of water resources. Therefore, the National Water Policy (1987) has been reviewed and updated in 2002. This policy focuses on efforts to develop, conserve, utilise and manage water resource in a sustainable manner. The success of the National Water Policy will depend entirely on evolving and maintaining a national consensus and commitment to its underlying principles and objectives. To achieve the desired objectives, **state water policy backed with an operational action plan should be formulated in a time bound manner.**

Review of the existing Acts and Policies emphasises the involvement of people before, during and after the rehabilitation of tanks. To fulfil the objectives of the existing Act, the ownership regarding common village resources should be vested with the people instead of the government.

Role of Government in tank maintenance

Within the government systems, various departments are involved in management issues for the tank cascade—Revenue (Tahsildar), Development (BDO), PWD (WRO and TMP), Forestry and Fisheries. An analysis of the government structure reveals the following as issues, which need to be addressed:

- The problem of lateral spread of authority across many formal and informal institutions.
- Lack of alignment between roles performed, responsibilities assigned and authority exercised.
- Complete absence of operational synergy and partnerships.
- No direct mechanisms to ensure accountability of the governance structures to the system users.

A possible solution to these problems lies in the direction of "restructuring the entire structure of governance". This involves:

- **Creation of an integrating mechanism or structure or authority, which would manage the entire cascade of tanks and the lands irrigated by it as "one administrative unit".**
- **Create a countervailing structure of the users (tank farmers associations federated into a tank farmers federation) to ensure direct accountability for performance.**
- **The government agencies to hand over the governance to the farmers.**
- **The farmers should take over the responsibility and should show their efficiency and effectiveness through participation.**

Hence there is a need for process mechanism to resolve conflicts arising in the operation and maintenance of tanks.

From the sectoral analysis and experiences of DHAN, it is clear that people's participation is imperative in tank rehabilitation work. Tank rehabilitation is an engineering tool for physical improvement of the structure. Problems arise before, during and after tank rehabilitation work since a large community is dependent on tanks. Hence social reengineering and forming TFAs' at the tank level, moving closely with the community and solving their problems will go a long way in the sustainability of tanks apart from rehabilitation. Removal of encroachment, contribution of resources and sharing of usufruct rights of the tanks build the stake and ownership of the people in tank irrigation system.

IV. The Seminar

A Seminar was organised on **"Conservation and Management of Tanks–Conflict Resolution"** focusing mainly on issues related to tank conservation and management aspects. The main participants were Farmers, Central and State Government officials, Academicians and Scientists from Research Institutions.

The seminar mainly dealt with various problems encountered by individuals, village/community, before, during and after tank rehabilitation work and how they had been solved. For solving the problems effectively, Agricultural Department, PWD, Law Department, Agricultural University and Banks should join hands. As a follow-up of the seminar and further research, this policy brief brings forth the following recommendations:

V. Recommendations

- Focus on tank conservation and management programmes should be aimed through a multipronged approach to meet the local needs and should never narrow down to irrigation development alone. Drinking water development, weed control in tank areas,

environmental restoration and conservation such as preserving "Bird Sanctuaries" and groundwater recharge will have to go hand in hand to achieve the primary objective of conserving all tanks in the state.

- Importance should be given to the promotion of appropriate farmers' organisations in tanks, at cascade and district levels with adequate powers and representation of women.
- The usufruct rights over the trees on bunds and tank beds, sand, silt and fish should be given to local village tank associations on a sharing basis with the local Panchayat. This would strengthen the village tank association in building its resources for maintenance of tanks apart from using the common property for a useful purpose. Necessary amendment of existing laws should be brought about by the Department of Law and appropriate guidelines should be prepared for the same.
- A board for the governance of tanks needs to be constituted by having representations from organisations at all levels. The wings of the government such as the PWD, WRO, Panchayats, Agriculture, Horticulture, Animal Husbandry and Revenue Department shall have a role in upholding the multiple uses of tanks ecosystem.
- Government departments, local bodies and farmers' organisations should work in close coordination for water allocation and distribution for tankfed irrigation. Schemes related to tanks should be formulated by the departments based on full involvement of farmers and the nature of problem.
- Entire tank complexes need to be resurveyed, and boundaries fixed and handed over to the local village tank association. The offences related to the tank encroachments shall be declared as criminal and punishable under provisions like those existing in Forest Conservation Act. Giving 2C pattas in tank complexes should be discouraged.
- Solving problems by adhering to age old traditions/customs should be revived.
- Effective laws are needed to enforce and empower the tank association for solving the local problems. Laws should be made easy and understandable. Necessary amendment to existing laws should be taken up by Department of Law. Guidelines should be prepared.
- People's courts should be established by farmers and the civil court should not have jurisdiction to intervene in the judgement passed pertaining to land and water management by the people's court.
- Considering the potential and contribution of the tank irrigation systems to the state agriculture, the school and college curriculum needs to be revised and updated, incorporating modern teaching methods and utilities such as computer models etc., by the teaching institutions devoted to Agriculture.
- A peace committee can be formed at Panchayat level to resolve conflicts.

VI. Way forward

Need for Policy Change

While the resolution of the conflicts of various types has facilitated the restoration of local management of the tank irrigation systems effectively and has served as models to ensure their feasibility, but it needs further action and appropriate policy change by the government to ensure its widespread adoption.

DHAN Foundation would initiate discussion with the following Institutions based on the recommendations:

- Public Works Department (PWD)
- Rural Development Department (RDD)
- Law Department
- Agricultural Department
- Education Department
- Ministry of Information and Broadcasting.

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Review of Irrigation **Act 1858 or Madras Compulsory Labour Act 1858.**

Review of **National Water Policy 2002.**

Review of **Policy Notes on Agriculture 2005–06, 2006–07.**

Review of **Policy Notes on PWD 2006–07.**

Review of the **Tamil Nadu Farmers Management of Irrigation Systems Act, 2000.**

www.dhan.org

www.rainwaterharvesting.org/Rural/Dhan1.htm

Abbreviations

MFG	–	Micro Finance Group
NABARD	–	National Bank for Agriculture and Rural Development
NGOs	–	Non-Governmental Organisations
PWD	–	Public Works Department
RDD	–	Rural Development Department
SHG	–	Self-Help Group
TFA	–	Tank Farmers' Association
VTADP	–	Vayalagam Tankfed Agriculture Development Programme
WRO	–	Water Resources Organisation
WUAs	–	Water Users' Associations

Why this Policy Brief?

DHAN Foundation is involved in Natural Resources Management focusing mainly on Community based Development and Management of Water Resources in South India. The initiatives taken so far have reached several villages through rejuvenating water bodies benefiting thousands of families. By working closely with the community, DHAN has gained valuable experience over the past two decades. DHAN believes that for better management of water resources, certain changes in the present policies and practices are needed. Hence it has now been decided to come out with Policy Briefs to disseminate the changes needed in specific sectoral issues. This will facilitate Administrators and Field level Organisations in their attempts of better management of scarce water resources.

Policy Brief 7 focuses on the problems and solutions involved in Conservation and Management of Tanks. The policy and practice changes that are needed to protect the tanks are discussed in this Brief. The Brief is planned for focusing the attention of Secretaries to Government of Agriculture Department, Public Works Department (Water Resources), Rural Development Department, Education Department, Voluntary Organisations and Panchayat level Administrators.

About DHAN Foundation

DHAN Foundation is a grassroots development organisation and was initiated with the objective of bringing highly motivated and qualified young professionals to the development sector for new innovations in development programmes and for upscaling development interventions to eradicate poverty. The Foundation works towards bringing significant changes in the livelihood of the poor through innovation in themes and institutions.

The approach of the Foundation is to promote tank farmers' association and their networks aiming at improving the livelihoods of poor communities by organising development works around themes. These tank farmers' associations would sustain themselves and excel in long run. Presently DHAN Foundation is working on the themes namely Community Banking, Conservation of Tanks, Information and Communication Technology for Poor, Rainfed Farming and Panchayats.

About the Centre for Policy and Planning

The Centre for Policy and Planning of DHAN Foundation provides support to the programmes and institutions of the DHAN Collective so that they evolve, develop and modify their policies and fulfil their aims. It shapes the sectoral policies to practice at the grassroots. DHAN Foundation as a member of many policy-making bodies on Micro Finance and Water Conservation strongly advocates pro-poor policies. The Centre takes up policy study and initiating research on Micro Finance, Water Conservation, Rainfed Farming, Panchayat Raj Institutions and Disaster Mitigation. As a resource centre, it organises many capacity building events and training programmes for Bankers, Government Officials and Representatives of NGOs within and outside the country.

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