CONCLUSION

CONCLUSIONS AND RECOMMENDATIONS

In a country such as India, with a monsoon rainfall pattern, the most logical way of utilising water resources would be by harvesting rainwater as it floods characteristically over the country, most of it precipitated during a few hours over a few days during the year. This is particularly relevant to South India where no snow covered mountain ranges supply water perennially to rivers as the Himalayas do in the northern part of the country. The rivers here are mostly flood draining mechanisms. Another feature wich influences the modes of water use is the varied topography across the country. These two factors - periodicity of rainfall and the forms of physical terrain - determine the type of water harvesting structures that are designed and adopted by local populations. These same factors also make it imperative that this initiative is taken by the local population, to establish the most effective system of management.

Ancient Scientific Achievements

These principles have been strikingly demonstrated by the medieval civilisations in South India; the evidence of their scientific approach to the utilisation of the natural resources of land and water are in existence even today - the tank system of water harvesting, which serves the purpose of irrigation, as well as the Cauvery Irrigation system. This indigenous system of water harvesting requires a legal control over land and water resources in the locality. Archaeological evidence proves that the political systems in pre-British South India through a period of nearly two thousand years permitted such control over land and water resources.[1] Without a decentralised system of government, the tank system could not have survived the centuries as it has done. While the South Indian regions were under the control of royal dynasties, autonomous village government was also extant. It was such political and legal control over land and water resources as well as a particular value system associated with water - that empowered village governing bodies to direct the construction, management and use of water bodies. The agronomic practices of these ancient populations matched the ingenuity with which the tank systems had been created. So effective was the system that even upto 200 years ago, before the damaging effects of British colonialism began to be felt, fields around the famous Uttiramerur tank in Chengai-Anna District in Tamilnadu was producing 12 tonnes of paddy per hectare.[2] Recent historical research into a 1780 survey of the Chinglepet area shows that about 200 years ago, the average fields around Uttiramerur tank used to yield as much paddy per hectare as can now be grown in districs like Kurukshetra and Ludhiana with the latest green revolution technologies.[3] The best fields of Uttiramerur produced perhaps as much as is possible only in experimental paddy plots. With an average of 2.24 tanks per village the potential of this irrigation system to provide a dispersed growth is high.

Impact of British Colonialism

However, as a result of the centralising force of colonialism, this indigenous and appropriate system of irrigation and village government both met a similar and simultaneous fate - a slow and certain process of degradation.

The mercantile policy of the British Indian administration - during the period of the East India Company and later the British Crown - deprived the local population of its legal powers over land and water resources, and appropriated this power to itself. The system of land revenue administration introduced by the British severed the link between indigenous village political and administrative systems and the village population and brought the cultivators into direct contractual relationship with the government for the payment of land revenue. This contractual element was extended to the use of water for irrigation purposes. State monopoly was established over water as much as over land, the commercial exploitation of water resources became the objective of a government primarily interested in expansion of cultivation and increase of land revenue. Centralised administration to fulfill this objective became a necessity. The attempts of the British Government to centrally manage the indigenous irrigation system in South India proved to be a total failure, as village governing bodies were obliterated and had no control over land and water resources. The traditional village leadership was coopted into the Government to implement the revenue policy of the Government. As the Government found it almost impossible to manage the thousands of tanks all over the region, by itself, it developed alternative irrigation systems more suited to its interests and its capacity to manage; large scale river irrigation systems which permitted a controlled supply and distribution of water to the greatest financial advantage became the natural choice of the Government. This did not reflect any high scientific engineering principles but merely a hard political and economic choice. In fact, the irrigation systems introduced by the British have been built on the ruins of a much more sophisticated technology indigenous to the country - sophisticated in terms of both design and management. This has been proved by hindsight - when the limits of agricultural growth under large scale irrigation has been reached; when the high cost to environmental stability through that technology has been understood; when the spectacular results of green revolution in selected areas were not only insufficient, but were proved to have been arrived at, at the cost of equity; when it was increasingly recognised that dispersed growth through decentralised governance was necessary to restrict the continuing, widespread and growing poverty. This awareness is but cautiously acknowledged in policy pronouncements of the Government. The institutional and structural changes that are necessary to institute the shift in priorities are nowhere in sight. This is most clearly indicated by the legislation in force concerning irrigation, the colonial content of which has not been changed at all. Irrigation legislation continues to serve the purpose of empowering state governments - through the departments of

Irrigation, Public Works and Revenue - to enforce centralised control in the matters of construction, repair and maintenance of and income generation from water resources. The Government is enabled to assume this control by virtue of its legal powers over common lands and water resources conferred by the provisions of land laws, law of easements, and irrigation laws in the country.

The Land Revenue Codes or Acts in force in various states, Land Acquisition Acts, Land Encroachment Acts, Forest Acts, Easement Acts, and Irrigation legislation enacted during colonial rule with the intent of establishing monopoly of the colonial state over natural resources continue to be in force throughout the country after Independence.

Role of Panchayat Institutions in Irrigation

The impact of the continuation of colonial legal and administrative systems in irrigation have rendered the Role of panchayat institutions a nullity.

The concept of 'Panchayat raj' as is legally in force today has been defined not with reference to the constitutional function of village assemblies in our own history, but has been derived from the 'civic bodies' created by British colonial rule. The legally constituted panchayats in the early 20th century were not intended to be politically autonomous with legal powers over their economic resources. They were merely supportive administrative bodies and therefore, in the view of government, did not represent conflicting interests, particularly as the power to define the limits of their function continued to be vested in the government, by virtue of its authority to frame rules under the various enactments dealing with *panchayats.* Periodic election of representatives to *panchayat* institutions after Independence has made no substantial difference to their efficacy because the *panchayat* legislations do not confer on them any real powers of control over their environment, but merely carry over into the present, the crippling shortcomings imposed deliberately on them by colonial legislation. The reasons are not far to seek; the institutions created by a colonial government have evolved over time, representing the consolidation of the vested interests of powerful sections in society, which become the defenders and protectors of the institutional and structural *status quo.*

Panchayat development is being attempted after Independence within the existing institutional framework of State monopoly over natural resources. In this context, one cannot expect *panchayat* institutions to exercise any effective role in irrigation. *Panchayat* and irrigation legislations far from expowering these institutions in protecting, preserving and effectively utilising water resources, in fact actively discourage any activity beyond the limited role of distribution of water, and contribution of free labour for repair and upkeep of works. Even this, is only on paper. In actual fact, farmers manage as best as they can, unaided by government. The *panchayat* institutions themselves, more so in Tamilnadu than in Karnataka, are far removed in an amazing way from the basic and ubiquitous activity of agriculture itself.

SUGGESTIONS

Proprietorship over water resources

A radical structural change seems to be an urgent necessity to turn around the process of deterioration in the standard of indigenous irrigation works in these two states; This contributes to the low level of agricultural growth, the pressure on natural resources for growing populations, the degradation in the condition of the land mass, the accelerating increase in the dependence on wells for irrigation which are not being proportionately recharged by surface water storage tanks, the increasing individualisation in the use of water and land, and the corresponding deterioration in community involvement and activity towards these natural resources. The relevance of this last factor in the preservation of the environment is widely acknowledged currently all over the world. In South India, particularly in the states of Tamilnadu, Andhra Pradesh and Karnataka, a rejuvenation of community interest and action is potentially relatively simple for the reason that the physical infrastructure made available to us by the wisdom of ancient civilisations - the tank system—is still existing, still functioning, and can be the hub of future developmental activity at the village level. What is needed is political will to make "a crucial political economy choice - the decision about structural changes."[4]

The first change that needs to be made is in the concept of proprietorship of common water bodies. State proprietorship of water bodies is unquestioned, ostensibly because the state, at the state level, is believed to be the best protector of general social interests. But this is hardly the case.

Regarding irrigation for instance, in Tamilnadu, private irrigation through wells operated by pumps energised by electric power has come to be a major source of water supply for cultivation in the state, as a result of policy decisions made and implemented by the Government; while this has had beneficial results in providing assured and controlled water supply and thereby promoted increase in production, certain socially negative results have also been observed. That is, farmers are placed in a position to improve their condition by moving into more profitable commercial non-foodgrain crops; as a result, agricultural labourers may suffer because they are denied a share in the kind of foodcrop that they helped to produce. Secondly, access to private sources of water leads to the neglect of public sources of water for irrigation such as tanks and consequently have an adverse impact on one section of the farmers themselves who have no access to wells. Thirdly, some farmers are in a position to over-exploit groundwater with high horsepower pumps and deep wells, while others are not. As a result, the water level in the locality goes down, and the poorer farmers are the losers. Case studies from different parts of Tamilnadu have documented the emergence of 'water lords' who are able to sell water to their neighbours in need and extract from them upto a third of the produce in kind from their plots as well as several forms of service.[2] Further, the value of land appreciates with water availability, triggering change in land relationships. Thus, those who have been tenant

cultivators may be thrown out and land taken over from them by the owners for personal cultivation. There is reason to believe that the rapid growth in the number of agricultural labourers in Tamilnadu during the 1960's and subsequently is related to some extent at least, to the increase in private irrigation[6] and it may, thus, have also played a part in the increase in poverty in the state during that period.[7] Thus developmental policies are not formulated on due consideration of social differentiations in society. On the contrary, administrative convenience and political expedience seem to be the determinant factors.

Thus, state proprietorship of water resources more often results in private benefits rather than social good. Local bodies which own their water resources are more likely to extend their benefits over a larger segment of the local population, being subject to local pressure. The 'invisible' state, distanced from the everyday lives of the citizen is less likely to be sensitive to social differentiations in society, and certainly less likely to direct its policies to promote equity, inclined as it is to make do with welfare measures instead of attempting systemic changes.

On the contrary, if given the liberty, local populations are naturally inclined to adopt radical measures, as demonstrated by the *Pani Panchayat* movement in Purandhar Taluk in Maharashtra.[8]

The scheme however has had several problems - created by government. The Irrigation, Revenue, Electricity Departments and Financial Institutions have been barriers to the smooth and quick progress of the scheme which is receiving widespread support of the farmers. The breaking of the 'State monopoly' bounds by the Pani Panchayat scheme has brought into sharp relief the regressive nature of the various rules and regulations enforced by these departments of government, which are inherently contrary to decentralisation. If local bodies were given adequate power over land and water resources, a concept such as this is certain to take root and progress by leaps and bounds, as long as the State does not stand in its way.

Common Lands

In order to establish local bodies' proprietorship over water resources, the question of legal control over common lands must also be considered. All common lands and forests within their jurisdictions must necessarily be declared to be the property of village *panchayat* institutions.

Constitutional status for *Panchayats*

New constitutional status and definition of *Panchayats* as against State and Union governments needs to be given in order to invest these bodies with the necessary powers over their natural resources. An exhortation under the Directive Principles chapter of the Constitution of India is hardly sufficient. Article 40 is no more than a concession to the troubled conscience of a few members of the Constitutent Assembly. All land and water related laws in force need to be abrogated, and new laws enacted in keeping with the

autonomous status to be accorded to Panchayat institutions. The Constitution 64th Amendment Bill on Panchayat Raj was the first attempt to give *Panchayats* a new place in the Constitution. But the provisions of the Amendment Bill proved tobe empty rhetoric. While elections to *Panchayats* was sought to be regularised, the State Government's umbrella powers over Panchayat institutions were retained; no state in the country has, under the existing powers conferred on them by the Constitution, accorded the local bodies the independent status that is theirs by right.

Objections to Decentralisation

Several arguments have been traditionally advanced against the impracticality of conferring autonomous status to panchayat institutions - in the matter of management of natural resources.- One is that 'vested interests' at local level may appropriate the benefits of this freedom; Another, that local institutions do not have the manpower, the skills or the credit-worthiness to undertake that responsibility, such that while individual small tanks within the confines of a single village panchayat may be within the capacity of local bodies to administer, large river irrigation systems must necessarily be managed by the state, and could admit of no significant participation by *Panchayats*. These arguments are no more than a defence of the status quo for none of them represent insurmountable problems.

"Vested Interest"

The danger of the operation of 'Vested Interests' is as inherent in centralised administration. In fact, it operates on a much larger scale, proportionate to the magnitude of financial powers available at that level, immune from public pressure or resistance. As was demonstrated by the *Mandal Panchayats* in Karnataka, recorded in this study, planning and execution of development programmes at the local level invites a much higher degree of public awareness, involvement and evaluation. This is but a simple truth.

Lack of skills and manpower

Denying local bodies an opportunity to create their own infrastructural facilities and organising adequate manpower by keeping financial powers out of their reach, and then using their supposed lack of these same resources as an excuse to defer decentralisation of powers over resources, has been the strategy adopted by ruling powers - political and bureaucratic - at the state and central level. There is no dearth of skills among the rural people relating to the proper use of their environment. The wisdom of centuries has been distilled into the habits of their everyday lives; respect for the environment, the urge to protect it, the inclination to treat it as common property are part of the cultural tradition of the rural people. If these values have been eroded, it is under the pressure of the contrary value systems generated by the incorrect policies and methods of functioning of the State. Restoring full

control over the environmental resources to local populations will naturally promote a resurgence of these values; both the extent of available resources, and the magnitude of demand from the local population become clearly defined, once local bodies assume responsibility for their development. This forces them to devise adequate methods of distribution of resources, which prove to be a departure from past approaches. Voluntary organisations or NGOs who are more flexible in their approach, have demonstrated time and again the possibility of generating radical ideas, and approaches to solve long standing problems. However without the legal sanction of the state, in the shape of constitutional autonomy to *Panchayat* institutions, local bodies could not follow the example of voluntary organisations on a sustained level.

Financial Resources

Dearth of adequate financial resources and the means of generating them have been a long standing problem of local bodies. An adequate devolution of financial power from the States in favour of *Panchayat* institutions as well as a reciprocal decentralisation from the Union to the States has long been pointed out as a sine qua non for effective functioning of *Panchayat* institutions. Land and water in a Panchayat are extremely valuable resources - which should be placed at the disposal of the Panchayats. The total land *revenue* should go to *Panchayats*, including the task of its collection. The states will not lose much of this as more than 70% is currently lost in collection expenses. Secondly, *Panchayat* institutions should be given the power of raising resources on the strength of their proprietorship of common land and water bodies as they did in medieval times. At present, the State has appropriated this power; funds are raised from international lending agencies on the basis of Government monopoly over water resources; one of the conditions imposed by such agencies is the retention of such State control and the exclusion of local elected bodies in the administration of irrigation works selected for repairs or renovation. These state-managed transactions thus serve to deny the legitimacy of village level elected bodies. Further, by making *farmers'* organisations under these works *mandatory*, while at the same time *excluding Panchayat* institutions, a deliberate attempt is being made to divert popular control over the resource and retain the concept of commercial use of water through a direct, contractual relationship between the water user (i.e. farmer) and the state. The principles of the Pani Panchayat Scheme, which envisages water sharing by all the households in the village - landed or landless - would hardly find a place under a scheme funded by external agencies based on the norms mentioned above.

Management of Large Scale Irrigation Systems

Another major issue is that of large scale river irrigation systems created on the logic of centralised management by the State. These works are so entrenched in the agricultural economy of the country, that they can hardly be wished away. Moreover, the beneficial uses of multipurpose river systems

- such as generation of electricity cannot be denied, though even here there is a case for exploring alternative ways of power generation. The existing large scale river systems in the country on which the Government has invested a total sum of *Rs. 19,331 crores* up to the Sixth Plan period, could hardly be dismantled in order to accommodate *Panchayat* institutions.

On the other hand, a decentralised irrigation system must, before anything else, be composed of independent facilities completely within themselves. The system must have its own water source and be equipped with facilities capable of a constant supply of water to cultivated fields. These physical conditions are very important to sustain the independence and unity of management at the local level.

As Akira Tamaki has pointed out[9] in order to solve the paradox between large scale and decentralised systems, measures must be taken to prevent the former from monopolising the entire area by establishing multilevel irrigation systems. Using dispensed local systems as a foundation, broad range adjustment systems should be constructed. These would supply water to the dispersed local systems, adjusting the amount of water allocated to each region. Care must be taken to prevent the broad-range system taking over command and becoming a centralised system. This could be done through adequate representation of proprietors of smaller systems (i.e. local bodies or *Panchayat* institutions) in the management of the large ones. If a broad-range system supplies water to smaller reservoirs, then the local terminal irrigation system must be fully controlled by the local users and must be taken as the main system and the foundation of the entire network. The broad-range system on the other hand must be a "supplier" and therefore actually more of a "sub-system", and could be managed by the public sector. An agreement between the users of the terminal or main system and the public sector should clearly define the rights and obligations of decentralised systems so that they can be established as main economic bodies in charge of water use and control and in order that the smaller systems will be able to protect themselves from centralised control.

Our own history provides a striking illustration of the application of this principle - in the river-fed tank systems of South India. Literally thousands of tanks were constructed to be fed by a single river through a chain system. This system was in existence and functioning throughout the period when local village assemblies exercised legal control over their land and water resources. The exact relationship obtaining between the various village bodies, and between them and the royal government, if any, regarding the chain-tanks needs to be researched further. It suffices to state here that whatever that relationship was, it did not preclude the autonomous functioning of village assemblies. The chain system of tanks still functions today - sans autonomous village bodies - under the control of the Public Works Department.

What is needed today - to fulfill the objectives of the Constitution, to achieve the goals of planning - is the reapplication of the scientific and legal

principles laid down by our forefathers in medieval times, to the physical systems that they have ensured that we would inherit. The very fact of the physical continuance of the tank system in South India establishes the appropriateness of that technology, even in modern times, where "sustainability", "equity" (i.e. decentralisation) and "eco-friendliness" are the watchwords of progress.

Notes

1. See Chapter I, *infra*.
2. T.M.Mukundan and J.K. Bajaj, "The Hindu, July 29, 1990.
3. *Ibid.*
4. *Tamilnadu Economy: Performance and Issues*, (MIDS, 1988)
5. Guhan and Joan Mencher, idat 351.
6. U.K. Ramachancran, *"Agricultural Labourans inthe Working Population of Tamilnadu"*, Bulletin, Madras Development Seminar Series (MIDS March 1980).
7. C.T. Kurien, "Rural Poverty in Tamilnadu, India", in *Tamilnadu Economy, Supra note 3.*
8. Furqan Ahmad, "People's Movements in Water Resources Management and the Law", in *Water Law in India*, Indian Law Institute Publication, 1992.
9. AkinaTamaki, *The Development Theory of Irrigation Agriculture*, Institute of Developing Economics, Tokyo, 1977.