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IRRIGATION REFORMS IN ANDHRA PRADESH

WHITHER THE TRAJECTORY OF LEGAL CHANGES?

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INTRODUCTION

A key focus area of water sector restructuring in the country is irrigation. Being the largest consumer of water, irrigation has become the focus of reforms and restructuring in several parts of the world, in the past two decades. Shifting paradigms of governance, the need for agricultural growth and increasing demand for water have been the motivation for the changes, in several countries. Notably, two contrary identifiable forces determine the path that the changes tread – one seeking to promote commodification of the resource and the other, primarily, driven by concerns around water security and water conservation.

Nearly a decade after the restructuring was initiated in India, an evaluation of the trajectory of the political economy of the legal changes is necessary. Some of the salient features of the reform process in the country may be summarized as participatory management of irrigation systems, streamlining cost recovery to further financial sustainability, setting up of independent water regulatory authorities, rationalisation of irrigation bureaucracies and dismantling of water public sector. An essential component of the restructuring process is the use of law and the legal processes to build the framework within which the restructuring operates. Ironically, though community involvement and management of natural resources is at the core of the restructuring, the approach to incorporating the law and policy has largely been statist, bureaucratic and opaque.

Eschewing a gradual approach to the restructuring, the State of Andhra Pradesh was the first to effect legal changes, to enable institutionalization of water sector restructuring. In keeping with the World Bank ‘big bang’ approach, the state of Andhra Pradesh enacted three new legislations after 1995, to provide the supportive legal framework, seeking to reorder the institutional structures of the irrigation sector and to regulate the groundwater usage. Much has been written, both documenting and analysing these ‘reforms’. This paper attempts to focus exclusively on the legal regime that is envisaged by the two new enactments, enabling the restructuring of the irrigation sector in Andhra Pradesh.

In its first part, the paper discusses the impetus and rationale for the initiation of the legal restructuring to the water sector in Andhra Pradesh. In the second part, the paper examines the trajectory in debates demanding reforms within the irrigation sector in India and compares it to the reality of the reforms carried out by the State. Based on this, the paper argues that legal reforms to the irrigation sector are long overdue, but the suitability of the framework adopted by the Andhra Pradesh Government, premised as it is on the “Participatory Irrigation Management” model, needs critical evaluation. Relying on various studies, the paper, in the third part demonstrates that the legal framework disregards the socio-economic and political context within which it is situated, and that “participation” through effective devolution of powers and functions, has not been prioritized. In the fourth part, the paper examines the impact of these changes on the “rights discourse” and the jurisprudence informing the new legislations, while simultaneously revisiting the ‘rights’ debate within the irrigation sector. In the final part, analyses the reform process and provides a tentative hypothesis for effective reforms in the irrigation sector.

I. IMPETUS AND RATIONALE FOR LEGAL REFORMS IN ANDHRA PRADESH

A. Background

The irrigation sector in the country has been plagued by several problems. Various studies have been carried out identifying the issues that need to be addressed. Firstly, the returns on the investment in the sector are not commensurate with the costs incurred for the projects and their maintenance and operations¹. Thus, financial sustainability of the irrigation sector has been a recurrent theme is examining the feasibility of the projects. Secondly, irrigation sector being the largest user of water, the productivity and efficiency in the use of the resource and its influence on the environmental degradation has been a growing concern. Thirdly, the irrigation sector has

1 See generally A.Vaidyanathan, *India's Water Resources, Contemporary Issues on Irrigation* (New Delhi: Oxford University Press, 2006).

been plagued with poor governance and management, characterized by lack of accountability, transparency, democratic participation, which impact issues of sustainability and equity in irrigation.

Andhra Pradesh is endowed with very rich water resources and has three large rivers Krishna, Godavari, Pennar, Nagavalli, Vamsadhara and several minor rivers. The state is divided into three major agro-climatic zones – the Telangana region, the Rayalseema region and the coastal region along the Bay of Bengal. The major rivers are seasonal with more than 90 per cent of the total flows occurring between June and December. The ultimate irrigation potential from all sources is estimated to be 9.50 mha. It includes 7.30 mha from surface water and 2.20 mha from groundwater.² The major surface irrigation systems in Andhra Pradesh are maintained by the Government, primarily through the Irrigation and the Command Area Development Department. The Revenue Department is in charge of measurement and assessment of irrigated areas and for the collection of irrigated acres and for the collection of water cess for the irrigated areas besides land revenue.³

Andhra Pradesh has no comprehensive legislation dealing with irrigation. The State of Andhra Pradesh was formed in 1953 by separating the Telugu speaking areas from the old Madras state. Later in 1956, Greater Andhra Pradesh was formed by the merger of the Telangana area of Old Hyderabad State with Andhra. The geographical area of Telangana is about 1/3rd and that of Andhra about 2/3rd of the whole state. In Hyderabad State, there was an Irrigation Act of 1357 Fasli (1948) which after the Reorganization of the States in 1956 has been adopted as AP (Telangana) Irrigation Act, 1965, applicable to the Telangana Region. The other enactments include the AP Irrigation Cess Act, 1865 and the AP Irrigation Utilization and Command Area Development Act, 1984.

Systemic problems related to the irrigation sector are prevalent in the State of Andhra Pradesh, too. The net irrigational potential created through large financial investments is under-utilised with a gap of nearly 33%. “Some of the main reasons for this gap are the non-compliance of farmers to the designed cropping pattern, the poor conditions of the irrigation systems, and the lack of operational plans. In addition to this gap, water distribution within the command areas is often neither reliable nor equitable with large differences in water availability between the head and tail end of the irrigation canals.”⁴

B. Restructuring process

Irrigation is a state subject under the Indian Constitution. The State of Andhra Pradesh is the first to initiate the irrigation restructuring process in the country. Prior to initiating the restructuring programme, the Andhra Pradesh government published a white paper in June, 1996, outlining the status of the irrigation sector in the state. Spelling out the need for restructuring, the white paper identifies key areas such as (i) decline in net irrigated area; (ii) low irrigation system efficiencies; (iii) low yields and farmer incomes; and (iv) low agricultural growth that need attention, in order to ensure ‘sustainable development of the state’s water resources.’ The World Bank technical paper identifies the causes for the problems as being (i) government dominance and limited user involvement; (ii) poor cost recovery; (iii) insufficient operations and maintenance (O&M) allocations; (iv) deteriorating condition of the irrigation and drainage network; (v) low quality of agricultural extension; and (vi) weak incentives for government agencies to perform⁵.

2 K.V.Raju, ‘Participatory Irrigation Management in Andhra Pradesh’, in Hooja, Pangare and Raju eds, *Users in Water Management*, 84 (New Delhi: Rawat Publications, 2002).

3 This pattern is generally followed in the Southern states of India, namely AP, Karnataka, Tamil Nadu and in Orissa. In the rest of the country assessment of irrigated area is done by the Irrigation Department. In the states of Rajasthan, Madhya Pradesh, Bihar, Gujarat and Maharashtra even the collection of water cess is done by the Irrigation Department.

4 Action Plan for Completion of Irrigation Projects, Irrigation and CADD Department, Government of Andhra Pradesh, 1995.

5 The entire irrigation system in Andhra Pradesh is currently being maintained by the Government. There is practically no involvement of the farmers in the maintenance or operations of irrigation schemes. Area under irrigation is shrinking in many of the major and medium commands. By improving the conductor system and drainage network, considerable water can be made available for additional ayacut (irrigated area). Farmers in the head reaches of major and medium irrigation schemes are drawing water far in excess of their allocation and as a consequence, water is not flowing to tail end areas. The Government called for views from the general public on the following areas:

1. Management of irrigation system by the farmers’ organizations;
2. Cost recovery policy, including principle for levy of water charges;
3. Mobilisation of resources, for completion of on-going and new irrigation schemes;
4. Improving sector financing and funding of maintenance to ensure sustainability of irrigation schemes.

Keith Oblitas and J.Raymond Peter, *Transferring Irrigation Management to Farmers in Andhra Pradesh*, World Bank Technical Report No. 449, October 1999, Annexure 5, World Bank.

Having identified the specific problems that plague the irrigation sector in Andhra Pradesh, the Government drew up a strategy paper and set out the following objectives for the restructuring process:

- (a) Place the irrigation sector on a sustainable basis through cost recovery;
- (b) Reverse the decline in irrigated area under the existing commands;
- (c) Improve the productivity of irrigated agriculture;
- (d) Strengthened cost recovery for O & M;
- (e) Expansion of effectively irrigated areas in existing systems.

Prior to undertaking the restructuring, two NGOs IRDAS and SONAR, conducted a pilot project in the Sri Ram Sagar project in Karimnagar and the Kakatiya Canal, for promoting farmers participation in management of irrigation systems through Water Users Associations in 1994⁶. The Pipe Committees that were set up under the Irrigation and Command Area Development Act, 1984 were converted into the general body of the Water Users Association through consensus.⁷ The “success” of these pilot projects provided the supporting framework for scaling up operations. Relying on the experience gained from the pilot projects, the Government enacted the Andhra Pradesh Farmer’s Management of Irrigation Systems Act, 1997 (APFMIS Act). Having no other precedents for such an enactment, this was regarded as unique and several studies were carried out to understand the implementation of enactment. Subsequently, the Andhra Pradesh Water Resources Development Corporation Act, 1997 and the Andhra Pradesh Water, Land and Trees Act, 2002 were enacted. The new legal framework, thus established the water users associations, an apex body to deal with water resources development and a specific authority to regulate the use of groundwater and promote its sustainable use and conservation.

C. Need for Reforms

What then was the impetus for restructuring in the irrigation sector? Much of the incentive, funding, spadework and models for the restructuring can be traced back to the drawing boards of the World Bank and several of its partner institutions. Combined with a cooperative political set up in the then Chandrababu Naidu government, a conducive atmosphere for experimenting with irrigation reforms was extant. It is appropriate therefore to examine the contours of the Bank supported AP Economic Restructuring Program that outlined the roadmap for irrigation reforms in the state.

Identifying the need for reforms, the 1997 “Agenda for Economic Reforms” in Andhra Pradesh states that the bulk of the 42 per cent capital allocated to irrigation is utilized for public canal irrigation. But the benefits from the investment have been found to be below the potential as a result of poor efficiency of the public canal irrigation network. The document therefore identifies an urgent need for reforms wherein the strategy adopted would concentrate on raising the efficiency of the existing network with stronger cost-recovery efforts, adequate budgetary allocations for O&M, greater participatory involvement of farmers in irrigation system management, and effective institutional and legal reforms.⁸ The document goes on to identify the factors contributing to the inefficiency in the canal irrigation system.

First, persistent underfunding of O&M works has resulted in rapid deterioration of the network and large conveyance losses. Second, resources are thinly spread over a large number of projects, leading to substantial time and cost-overrun. Third, poor water management has hindered the delivery of adequate, reliable and equitable irrigation. Farmers in the head reaches of major and medium irrigation schemes draw water far in excess of their allocation, and as a consequence, water does not flow into areas downstream. Fourth, under the current arrangements, the public irrigation system is managed and maintained by the government, with adequate involvement by farmers. Fifth, under a legal procedure called localization, the government determines the cropping pattern in irrigated dry areas if public irrigation is used. Irrational localization on individual canals leads to unauthorized water use and inequitable distribution.” (pp 38-39)

The solution as recommended to the Andhra Pradesh Government by the World Bank was to focus on cost recovery and decentralizing irrigation management by vesting greater powers and responsibilities in water users. It was believed that this would lead to improvement in quality and cost efficiency of irrigation management. “The process

6 The two pilot projects were funded by the World Bank.

7 Author unknown, for details refer to www.iar.ubc.ca/centres/cisar/joshi/j13.html.

8 Andhra Pradesh: Agenda for Economic Reforms, World Bank Report No. 15901-IN, January 16, 1997, 37.

was perceived to be a cost saving venture for the government wherein the released resources could be used for raising investment in irrigation elsewhere or on the main system.”⁹

The funding for the first phase of the reforms was provided by the World Bank. The Irrigation Component of the Andhra Pradesh Economic Restructuring Project (APERP-IC) provided a sum of US \$ 142 million to the Government of Andhra Pradesh’s irrigation sector reform programme. The APERP-IC’s main components were: (a) irrigation performance improvement (which includes rehabilitation and recurrent maintenance of the States irrigation schemes); (b) scheme improvement/modernization and farmer turnover (SIFT) - piloting of more intensive modernization on selective projects; (c) agricultural intensification – intensification of agricultural extension services, capacity building of agriculture department staff, dissemination of information and productivity-enhancing agriculture technologies, and on-farm demonstrations; (d) institutional development of farmers organizations and government departments.

While this was the immediate impetus for initiating reforms in 1997, it must also be noted that there have been several suggestions for reform by Commissions set up by the Government to study and recommend changes to the irrigation sector. The need for reforms, therefore, is a long standing demand. With regard to legal reforms in the Andhra Pradesh, a 1982 report stated that the A.P (T.A) Irrigation Act, 1965 “defines the water courses and confers powers on the Irrigation Officers for regulation of water, for proper maintenance of water courses and for stoppage of water for certain specified reasons, etc. The Act provides for framing of Rules regulating the period of opening and closing of the channels, distributaries defining localization and prescribing procedures. Rules have not been framed under this Act and for some reason this Act is not being implemented even in the Telangana Region of the State. As a result, in both the regions of the State organized water management in the main system and among the farmers below the pipe outlets did not receive due attention. This has resulted in over-utilisation and mis-utilisation by the upper end or powerful farmers in the systems to the detriment of the weak and tail end farmers. This is also partly because the farmers in the command area of an irrigation system do not have a right to a share of water on an equitable basis.”¹⁰ The faults in the irrigation system and the need for a legal response have been highlighted with regularity for several years now. The Planning Commission and the Vaidyanathan Committee (in 1992) have also recommended reforms to the management of the irrigation systems and have demanded greater farmer involvement. The need for change and reforms is therefore a longstanding need and the subject of a lot of study and debate within the irrigation sector.

In 2006, the World Bank sanctioned a fresh loan amount of 435 million US \$ to take forth the reform project in Andhra Pradesh. The World Bank document stated that: “(E)xperiences from both the recently closed projects indicate that further reforms are needed to improve the sector performance on a sustainable basis. These reforms include: (i) adoption of a State Water Policy, (ii) ensuring allocation of annual O&M needs in the budget, (iii) decentralizing irrigation service delivery and system maintenance to WUAs, (iv) adoption of new water management practices/instruments, (v) establishment of regulatory framework in the water sector, and (vi) restructuring/ capacity building of existing Irrigation and CAD Department, GoAP plans to utilize the proposed Andhra Pradesh Water Sector Improvement Project (APWSIP) as a strategic opportunity to broaden/deepen state wide sector reforms, and also to develop a modern and sustainable irrigation/multi-purpose scheme management model, to be used in other projects in the state.”¹¹

The document goes on to state that the Government of Andhra Pradesh aims to “initiate some fundamental and bold sector reform initiatives, which could potentially have a substantial impact on the approach to water sector management in the state.” The reforms envisaged are:

- (a) All efforts to complete the development phase of the water resources in the state, GoAP also plans to simultaneously utilize this period to put in place an enabling policy, legal and institutional framework/ arrangements for sustainable management of irrigation/water services.
- (b) GoAP has chosen to modernize the management practices of the Nagarjuna Sagar Scheme (NSS) which is a large multi purpose water project, which generates 840 MW of hydro power, supplies water for industries, urban and rural drinking water, and irrigation to cover about 1 million hectare of command area. NSS also supplies regulated river water for use in down stream project. This is being attempted as a pilot project with efforts at replicating it in other projects in other states.

9 Jasveen Jairath, *Water User Associations in Andhra Pradesh*, 16 (New Delhi: Concept Publishing Company, 2001).

10 Report of the Commission for Irrigation Utilisation, Government of Andhra Pradesh, November 1982, Chairman Syed Hashim Ali, pp 3-4.

11 Project Information Document, World Bank Report No. AB2508.

II. TRAJECTORY OF POLICIES AND DEBATES PERTAINING TO WATER SECTOR REFORMS

A. Policies in the country

In discussing the debates, it is important to state that the policy statements, studies and planning have largely related to the large and medium irrigation projects. Tanks and other minor irrigation projects have only recently come within the purview of policy analysis and concerted planning. The emphasis on irrigation also changed with the transformation of irrigation from a 'protective' (against floods and droughts) to a 'productive' enterprise, in the late 19th century. Greater emphasis was placed on planning and financing of irrigation projects, both by the Government and financial institutions.

Evidently, there has been a gradual decline of the public sector institutions that provide the water service, more particularly, irrigation. The total plan expenditure on irrigation has reduced from 22 per cent in the first five year plan to 10 per cent in the early 1990s. "The slowdown in irrigation investments, especially by the public sector, is sometimes attributed to a response to a relatively comfortable food situation in the country and declining world prices of grains, especially rice, as well as opposition to the displacement of people for irrigation dams and negative environmental effects of irrigation projects. On the other hand, the capital cost of creating irrigation potential through major and medium irrigation schemes increased from around Rs. 40,000 per hectare of potential created during second half of 1970s to above Rs. 190,000 per hectare of potential created during 1990s, at constant 1995-96 prices."¹²

Tracing the history of the reform debates in India, upto the 1990s, Mollinga and Bolding identify the triggers for each phase of reform. They trace the reforms in the mid-60s to being largely a result of the experience gained from the field. Performance problems, particularly in the canal irrigation systems such as not all areas created were actually irrigated; yields were below projection; maintenance below standards; widespread waterlogging and salinity and non-recovery of costs. To address these issues, a series of intervention programmes were designed to improve performance and one such approach was to improve farm development at individual farms, making the canal system reach every farm and improving irrigation methods. Thus the focus in this early period was to improve the use of water at farmer level.

The next phase of reforms occurred with the realization that farmer level problems are caused partly by main system management. So in the 1980s the scope of the debate and intervention gradually moved up the canal system, to include the secondary and primary canals. According to Mollinga and Bolding, in the 1990s, the debate and intervention shifted one more level up. In the 90s it was felt that the irrigation sector requires reorganization at the agency, policy and legal levels, to enable the solution of performance problems at system and farmer level. The reform therefore sought to focus on establishing river basin management organizations for integrated water resources management. Hence the changing debates have also enlarged in scope from merely technical improvements to increased farmer participation to the present day interventions for greater self-governance and accountability.

Mollinga and Bolding also examine the driving force behind the reforms and three key sources have been identified as being instrumental in the 1990s restructuring process. They state:

The first source of the irrigation reform drive of the 1990s has thus been a learning process within the irrigation sector, which has produced an increasingly comprehensive problem analysis of the issues in the sector.

However, this process does not explain the interest in irrigation reform fully. A second source for the interest in the reform agenda of the 1990s is that of external pressure by development funding agencies. Organisations like the World Bank and the Asian Development Bank have made their loans conditional on particular reform packages. Their agenda is strongly flavoured by the neo-liberal development paradigm. It emphasizes a reduced role of the state and a larger one for the private sector, economic pricing, financial autonomy of irrigation agencies, and the devolution of management responsibilities to lower levels.

¹² Gulati, Meinzen-Dick, Raju, *Institutional Reforms in Indian Irrigation* (New Delhi: Sage Publications, 2005).

A third source for reform is the internal developments in the nations and states concerned. Many suffer from fiscal/budgetary crises, and find the subsidies to irrigation increasingly difficult to continue and justify. In some countries there has been increasing public criticism of particularly large-scale canal infrastructure development generally has considerably reduced the status that irrigation enjoys. Finally, and more simply, the problem of decaying systems, and the danger of total loss of the investment in the infrastructure, has induced some governments to opt for more fundamental reforms.¹³

The post independence period witnessed several studies that recommended reforms within the irrigation sector. The Second Irrigation Commission in its 1972 report laid emphasis on reforming the structure of administration of the sector including water rates, investment and return on investment. The Commission dealt with the issue of water rates in some depth and recommended 5-12 per cent of the gross-value of output as the criteria for fixing the water rates. The next important reform stage occurred following the World Bank review of the irrigation sector which recommended the setting up of institutions to manage the irrigation projects. This led to the setting up of the Command Area Development Authorities. In 1992, the Vaidyanathan Committee set up to study the irrigation reforms, also recommended extensive changes to the institutional structures governing irrigation systems. Over the five decades, the reform debates have spanned a gamut of issues – financial viability and sustenance, efficiency in water use, institutional issues in administration and future of water resource development.¹⁴

A recurring refrain in the debates about reforms has been the demand for greater participation of the stakeholders, primarily the farmers. The various policy statements also reaffirm this need. As a part of the reform process, the Command Area Development program initiated in 1974, sought to provide for long term support for the implementation of participatory irrigation management. The sixth and the seventh plan documents also reiterated the need for participation of farmers in the management of irrigation. The 1987 National Water Policy sought greater efforts to involve farmers progressively in various aspects of management of irrigation systems, particularly in water distribution and collection of water rates. Further, the Committee on Pricing of Irrigation Water in 1992, recommended farmers participation in the management of irrigation systems. More recently, the eighth and the ninth plan also endorsed the need for farmers' participation in irrigation reforms. The National Water Policy 2002 calls for greater participation of "users" and "other stakeholders" in various aspects of planning, design, development and management of water resources schemes. It is suggested that necessary legal and institutional changes should be made at various levels for the purpose and the Water Users Associations and the local bodies such as municipalities and gram panchayats should particularly be involved in the operation, maintenance and management of water infrastructure facilities at appropriate levels progressively, with a view to eventually transfer the management of such facilities to the user groups/local bodies. It must, however, be noted that these policy statements are being made at the federal level

Thus, farmers' participation in irrigation management has been a longstanding demand within India but reforms have been slow in coming. The World Bank strategy for Andhra Pradesh however, views it as the first step in the larger effort at reducing the role of the State in the management of irrigation. The strategy for restructuring contained in the World Bank document may be extracted here:

First, a sector strategy should be developed to guide policies and investment in the sector for efficient allocation of water resources. Tamil Nadu, Orissa, Haryana and Punjab introduced State Water Policies to set priorities and coordinate water development programs. Second, water rates should be increased so that they cover 100 percent of O&M costs. At the same time significant improvement must be made in the quality of service delivery and effective collection. It would be useful to establish a water rates committee to review O & M costs and ensure that water rates are adjusted on a regular basis to cover full costs. It is also important to adjust water rates in conjunction with power rates to ensure regional equity. Third, adequate budgetary provisions should be provided to meet the recommended O & M norms. Fourth, the institutional framework needs to be improved by enhancing planning and management capacity of I&CAD and streamlining its staffing, consolidating the existing Irrigation Acts under a new Act, which reflects the new sector strategy and participatory management and caters for WUAs, and creating scheme-level committees representing all concerned governmental and private parties and empowering them to take all decisions concerning investment, O&M, and staffing within their own schemes and within the framework of the new Irrigation Act. Fifth, efforts to promote the participatory involvement

13 Mollinga and Bolding eds, *The Politics of Irrigation Reform* 246 (England: Ashgate, 2004).

14 See generally A.Narayanamoorthy and R.S. Deshpande, *Where Water Seeps!* (New Delhi: Academic Foundation, 2005).

of farmers and transfer of O &M responsibilities at the distributory and minor canal levels to the beneficiaries should be accelerated. The government has already drawn up a program to form Water Users Associations and handover the management to the tertiary canal networks to WUAs to improve efficiency and finances in the sector. In time, water will be supplied to the WUAs on a volumetric basis and associations would have the freedom to decide how costs would be distributed among their members.

The above narrative indicates that reforms in the irrigation sector, and more particularly farmers' participation in irrigation, have been a long standing demand. However, these demands had arisen out of the need to strengthen and improve the public sector institutions involved in irrigation. The reforms that are being carried out presently, starting with Andhra Pradesh, is against the back drop of the larger agenda of rolling back the state, dismantling the public sector and envisaging a regulatory role for the state. These reforms are not, therefore, primarily addressing the problems that are inherent with the irrigation sector but are driven by a larger agenda of liberalization of all sectors of the economy.

B. Global Policies

One primary motive can be attributed to the irrigation sector reforms across the world. It is largely driven by the ideological understanding that there is an urgent need to dismantle state control over the sector as they are unable to effectively operate and maintain the irrigation schemes. The solution being experimented with, the world over is the transfer of these responsibilities to water users associations, through a process of Irrigation Management Transfer.

The global debates on reform are largely driven by the financial institutions such as the World Bank. Increasingly, however, there is an engagement by civil society institutions and international bodies such as the UN, slowly transforming the content of the debate. It is therefore useful to examine the strategy and sector papers that have been drawn up by the World Bank and some of the more recent international declarations and covenants.

The World Bank- financed activities aim at higher productivity (more crops, cash and jobs per drop) through a combination of means – economic, institutional, agronomic (cropping patterns, intensification), hydrological (reducing non beneficial evapotranspiration), and ecological (salinity management, water-logging control, deficit irrigation, water harvesting in rain-fed areas). In order to achieve this, the World bank envisages:

- reducing irrigation subsidies that are extended to farmers in developing countries and ensuring that the farmers pay the full financial costs – operation and maintenance, rehabilitation, debt servicing on existing infrastructure – and the opportunity costs of water.
- promoting and setting up of water user associations so as to empower users to operate and maintain their systems, collect fees, hire professionals and manage water rights.
- modernising and reforming public sector agencies in order to provide for the institutional set up that will aid the functioning for the water users associations.
- addressing the political economy of reforms by engaging comprehensively with the Governments. The strategy is to be aware of temporal and political opportunities that are conducive for initiating and progressing with the reforms.
- once the frame work is in place, the larger agenda will kick in. In the world bank's words "Supporting partnerships that focus on the production of new crop technologies. While institutional reforms are crucial, it is evident that the water-environment-food production square cannot be circled with out the development of new generations of crop varieties. Accordingly, a high priority for the World Bank is support to the CGIAR for the development of crops that are less susceptible to droughts, floods and salt, that result in more production per unit of water use, that are less vulnerable to pests and spoilage and that use smaller quantities of water-polluting fertilizers and pesticides."

The emphasis on the World Bank and its policy may appear unwarranted but it must be acknowledged that several major policy making think tanks and research institutes are linked directly or indirectly to the World Bank, actively carrying forward the agenda set by it. Besides, the World Bank, since the fifties has funded large irrigation projects. In keeping with that larger policy thrust, it continues to fund operation and maintenance of irrigation projects. It

must be noted that the present day reforms are linked to this historicity and may have very little to do with the ground realities and the assessed needs for a water sector restructuring.

Though driven by these institutions, the global debate is increasingly being carried out in portals other than these institutions. Debates on human rights, institutional frameworks, socio-political issues and common resources paradigms are inching into policy and law reforms. Though the 1992 Dublin Statement on Water and Sustainable development echoes the World Bank policy thrust, it also acknowledges water as a human right. The Dublin conference identified four guiding principles for action at the local, national and international levels – (a) Fresh water is finite and vulnerable resource, essential to sustain life, development and the environment; (b) Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels; (c) Women play a central role in the provision, management and safeguarding of water; and (d) Water has an economic value in all its competing uses and should be recognized as an economic good.

The right to water is explicitly enshrined in two of the core human rights treaties namely the Convention on the Elimination of Discrimination Against Women, 1979 and the Convention on the Rights of the Child (1989). The right to water as a human right can also be read into existing International Covenants on Civil and Political Rights and Economic, Social, and Cultural Rights. While in the former Article 4 states that “Every human being has the inherent right to life”, the latter contains Articles 11 and 12. Article 11 states that the States Parties to the Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions. Article 12 recognizes the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

In 2002, the UN Committee on Social and Cultural Rights adopted the General Comment No. 15 on the right to water. The Comment provides an interpretation to Articles 11 (the right to adequate standard of living) and 12 (right to health) of the ICESCR, so as to explicitly provide for the right to water as a human right. The General Comment 15 states that the right to water comprises both freedoms and entitlements. ‘Freedoms’ such as the right to be free from interference, for example, arbitrary disconnections or pollution of water supplies, and ‘entitlements’ include the right to a system of water supply and management that provides equality of opportunity for people to enjoy the right to water. The General Comment obligates the States Parties under Articles 2 and 3 of the International Covenant on Economic, Social and Cultural Rights, to guarantee that all Covenant rights are enjoyed both without discrimination and on the basis of equality between men and women. Notably, the comment emphasizes that water should be treated as a social and cultural good, and not primarily as an economic good, and that the manner of the realization of the right to water must be sustainable.

III. LEGISLATIVE AND INSTITUTIONAL CHANGES

A. The Andhra Pradesh Farmer Management of Irrigation Systems Act, 1997

The Andhra Pradesh Farmer Management of Irrigation Systems (APFMIS) Act, enacted in 1997, provides for the establishment of water users associations in the irrigation sector. The Act classifies the irrigation projects as minor (less than 2,000 hectares), medium (2,000 to 10,000) hectares, and major (more than 10,000 hectares) for the purposes of setting up Water Users Associations (hereinafter referred to as WUA/s). The Act divides the area of operation of a WUA into four to ten (“territorial constituencies”) determined hydrologically in order to provide for fair representation of all farmers in the WUA. According to the World Bank, this ensures that the management becomes based on water, “rather than on other boundaries and is more efficient and equitable.”¹⁵

Water Users Associations:

In a bid to reduce the role of the government in the direct management of irrigation systems, the Act provides the framework for the setting up of water users associations. The Water Users Associations is composed of all the water users who are land holders in a water users area and where there is a tenant, then the tenant of the land

¹⁵ K.V.Raju, *see* note 2 above.

holder. Section 12 provides that every farmer's organization shall be a body corporate with a distinct name having perpetual succession and a common seal, vested with the capacity of entering into contracts and it shall sue or be sued in its corporate name represented by the chairman or the president.

Substantive rights and duties conferred on the members:

The Act states that the objects of the WUAs shall be to promote and secure distribution of water among its users, ensure maintenance of the irrigation system, ensure efficient and economical utilization of water to optimize agricultural production, protect the environment and ensure ecological balance by involving the farmers thus inculcating a sense of ownership of the irrigation system.

More specifically, the Water Users Associations (at all three tiers) are broadly required to perform the functions of planning¹⁶, regulating water use, collect water charges and raise resources, maintain records¹⁷ and resolve disputes. Additionally, the water users associations are also required by the act to encourage avenue plantation on canal bunds and tank bunds, to conduct regular water budgeting and to conduct periodical social audit.

Sources of WUA funds:

The Funds for the WUA are sourced primarily from (a) government grants as a share of the water tax collected; (b) funds granted by the state and Central government for the development of the area of operation; (c) resources raised from any financing agency for undertaking any economic development activities in its area of operation; (d) income from the properties and assets attached to the irrigation system within its area of operation; (e) fees collected by the farmers' organization for the services rendered in better management of the irrigation system.

Reports from the ground on the utilization of funds indicate that a number of improvements in the physical structures to improve the irrigation systems have been undertaken by the WUAs but studies also indicate that the inflow of cash has replaced the contractors with the Presidents of WUAs doubling up as contractors to carry out minor maintenance works. It is also reported that the WUAs are unable to recover the 15 per cent farmers' contribution to undertake minor works. Charges of corruption have also been corroborated by field studies.¹⁸

Federating process:

The Water Users Association (also called the Farmers Organisation) is the primary unit of the pyramid envisaged for the participatory management of irrigation. In case of major irrigation schemes, the two tiers above this primary level are the distributory committees for each distributory area and a Project Committee for the project area. All presidents of the water users associations in the distributory area, shall form a distributory committee and all presidents of the distributory committees in the project area shall constitute the general body for the project committee.

An apex committee is also envisaged with wide powers for laying down policies and giving directions to farmers. However, the composition of the Apex committee is not spelt out in the main Act and it is left to the Government to determine the same by notification. In conceptualising the role of the WUAs, the Act fails to take the process of decentralisation to its logical end. For the primary level units to actively engage with the process of decision making, it would be important to associate at the State level both to garner information that would aid the decision

16 *Farmers Organisations*

- (a) prepare and implement a warabandi schedule for each irrigation season, consistent with the operational plan, based upon the entitlement, area, soil and cropping pattern as approved by the distributory committee;
- (b) to prepare a plan for the maintenance of irrigation system in the area of its operation at the end of each crop season and carry out the maintenance works of both distributory system and minor and field drains in its area of operation with the funds of the associations from time to time.

Distributory Committee:

- (a) to prepare an operational plan based on its entitlement, area, soil, cropping pattern at the beginning of each irrigation season, consistent with the operational plan prepared by the project committee;
- (b) to prepare a plan for the maintenance of both distributories and medium drains within its area of operation at the end of each crop seasons and execute the maintenance works with the funds of the committee from time to time.

Project Committee:

- (a) to approve an operational plan based on its entitlement, area, soil, cropping pattern as prepared by the competent authority in respect of the entire project area at the beginning of each irrigation season;
- (b) to approve a plan for the maintenance of irrigation system including the major drains within its area of operation at the end of each crop season and execute the maintenance works with the funds of the committee from time to time.

17 To maintain a register of landholders as published by the revenue department, a register of co-opted members, an inventory of the irrigation system within the area of operation and to maintain accounts.

18 See World Bank report, note 8 above at pp 173-174.

making process and also to build an understanding of the processes at the State level. Lobbying through a federated unit, would be essential to give teeth to the idea of Participatory Irrigation Management.

Provision for recall:

The Act provides for recall of leaders on grounds of non-performance or any other violations. The tenure of water user associations and their elected representatives is five years. An innovative step, this provision would be an experiment in strengthening democracy.

Irrigation Department responsible to the WUAs:

The Act provides for linkage between the irrigation department and WUAs through appointment of officers who are responsible for implementation and execution of all decisions taken by the WUA. At the WUA level, an Assistant Engineer/Assistant Executive Engineer is the competent authority, the Deputy Executive Engineer is the competent authority at the Distributory Committee level and at the Project Committee level, the Superintending Engineer/Chief Engineer is the competent authority.

A critique of the enactment:

Though the Act seeks to co-opt all other water users' in the area, no voting rights have been conferred on them. The enactment thus prioritizes the usufruct rights of the land owners benefiting from the irrigation systems. Landless agricultural labour, women and children who are indirect beneficiaries of the irrigation systems, do not, as categories, have the decision making powers in the new institutions set up by the Act. The enactment further reinforces and marginalizes these categories of societies, in providing democratic governance. Further, the Act does not specify any linkages between the newly constituted statutory WUA and the traditional institutions associated with traditional water harvesting systems. The traditional functionaries are not referred to and the experience and expertise of these functionaries are not taken into cognizance.¹⁹

The reform process and the legislations do not pay careful attention to the process of institution building, which is crucial to the survival and success of the experiment. "Inadequate attention is paid to increasing the managerial capacity of the executive body and the general body of the WUAs. Maintenance and repair works do not have to be justified keeping in mind immediate necessity or potential long-term and short-term benefits that accrue to the ayacudars who do not see incentives for participation in the maintenance or repair works."²⁰ Further the legal mechanisms do not emphasize the importance of the transparency, accountability, and responsibility of the various functionaries, both internally and to the larger community.

B. Implementation of APFMIS

The Andhra Pradesh irrigation reform policy seeks to address all three dimensions of irrigation management namely technical, institutional and socio-political. The major focus of the programme is the institutional aspects which seek to reduce government management through the constitution of a three-tier management system controlled by water users. Water Users Associations (WUAs) and Distributory Committees (DCs) have been formed at minor (tertiary) canal and distributory (secondary) canal level. Project Committees will be formed at system (primary canal) level.

In 1997, after the enactment of the Andhra Pradesh Farmers Management of Irrigation Systems Act, the water rates were increased threefold and elections were held for the establishment of Water Users Associations (June) and Distributory Committees (November).

In the first years after implementation of the Act, the State government has given a fixed amount per acre for maintenance and rehabilitation work on the canal infrastructure, directly to the bank accounts of Water Users Associations and Distributory Committees. The first year this was mainly used for canal clearing and desilting, the second year for repairs of structures. The Water Users Associations and Distributory Committees can prioritize works to be undertaken, and they in principle control the funds, and decide who executes the works. The Irrigation Department gives technical advice and makes estimates. These maintenance/ rehabilitation activities have been the main focus of activity of the Water Users

¹⁹ Anil Agarwal, Sunita Narain and Indira Khuran, *Making Water Everybody's Business* 42 (New Delhi: Centre for Science and Environment) 2005.

²⁰ *id.*

Associations and Distributory Committees. This shift in control over maintenance/rehabilitation budgets from Irrigation Department to farmers is a qualitative shift in the structure of irrigation management. Water Users Associations and Distributory Committees have also been empowered to organize water distribution themselves. A Government Order was issued that put the laskars, the irrigation field staff executing water distribution activities, under the control of the Water Users Associations. 3500 laskars in the State have opposed this order in the courts, and the legal battle is ongoing. The transfer of water distribution responsibilities has thus not been effectuated so far.²¹

There have been studies to examine the feasibility and the functioning of the new institution of Farmers Participation in Irrigation Management. In a working paper, K.V. Raju enumerates both the positive and negative impact of the water sector reforms in Andhra Pradesh. Highlighting the positive aspects, he states that in the last few years it has resulted in inculcating a sense of ownership and belonging among the farmers in the irrigation systems; reducing irrigation disputes among the farmers; reducing irrigation offences by preventing damage and tampering with the irrigation structures by the farmers, particularly in the tail end areas; enabling farmers to take up minimum rehabilitation and O&M works according to their needs and choices; improving water supplies to undeserved areas, particularly at the tail ends and capacity building and empowerment of these organizations in decision making and execution of works.

However, his field research also threw up several inadequacies. Some of the WUA presidents were found behaving like contractors by undertaking the physical work in their own name, poor quality execution of works, making money in the process, considering the whole command area and its structures as their own, and accordingly operating it to show favours to their own cronies. Most of the WUAs are not concentrating on water management, which is their primary duty; instead they are now interested only in contracts. It was also found that some of the WUAs are too large with command areas of more than 8,000 acres resulting in administrative difficulties in convening general body meetings and taking decisions. Misuse of funds released by the government was also witnessed. Further, it was also found that the WUAs were performing only limited duties such as executing works but not complying with their statutory responsibilities such as maintenance of records and accounts, conducting financial audits, and organizing general body and managing committee meetings.²²

In another study, Davuluri Venkateshwarlu reports thus, after examining 14 WUAs from divergent regions/irrigation systems.²³

The background of these people reveals that a majority of them have come from rich, upper caste and are affiliated to ruling Telugu Desam Party (TDP). Of the 13 WUAs that are studied, seven presidents belong to TDP. Three belong to Congress party and remaining three do not have any party affiliation. Of the total 78 TC members, 36 belong to TDP and 20 to Congress. The caste background of these members indicates that the upper castes like Reddy, Kamma, Velama, Vaisya, etc., have greater representation than backward and Scheduled Castes. Nine out of 13 presidents and 39 out of 78 TC members belong to the upper castes. The economic background of these members indicates that almost two-thirds of the presidents belong to rich family background. Of the nine presidents from rich family background, two are ex-civil contractors of irrigation department. An important aspect to be noted here is that women representation is almost negligible. Except four TC members all presidents and TC members are males. ...There are clear indications that the party, caste and class background of the office-bearers are coming in the way of functioning of these institutions. In several WUAs we have noticed that there is a clear lack of coordination and cooperation among the members belonging to different backgrounds.²⁴

On water regulation, his findings reveal a distinct lack of interest in water regulation.

According to the Act, WUAs have two key functions to perform, i.e., maintenance of irrigation systems and distribution of equitable water supply (per acre basis) among all the users. As of now, WUAs seems to be much more interested in taking up maintenance works than water distribution activities. Water regulation is a crucial function which requires lot of motivation and self-discipline among the water

21 See note 13 above.

22 K.V.Raju, *see* note 2 above, pp10-12.

23 Of the 14 WUAs, 5 are under major irrigation systems, 2 are under medium and the remaining 5 are under minor irrigation systems.

24 Davuluri Venkateshwarlu, 'Politics of Irrigation Management reforms in Andhra Pradesh', in Hooja, Pangare and Raju eds, "Users in Water Management" 171-172 (New Delhi: Rawat Publications, 2002).

users. Of the 13 WUAs, except two none seems to have made serious attempt to motivate members about judicious use of water and control over unauthorized water users. Of the two WUA areas where water regulation systems is working somewhat better, one is tank-irrigated area and another is tail-end area of major irrigation system.Given the disparities and complexities involved in composition of WUAs, water use practices among the farmers (head-end farmers consuming water than they depriving the tail-end farmers of their share) and lack of any systematic method for equal sharing, the question of equal distribution among all members is a crucial one and needs to be addressed.²⁵

On the reorienting of the irrigation department, the study concludes that except a small group of enthusiastic and progressive officials, the lower level staff in irrigation and revenue departments in general does not seem to be very happy with the PIM programme. While their unhappiness was not expressly stated on the perceived threat of losing their control and power, it manifested in their actions such as delays in implementing the measures, non-cooperative attitude with newly elected members of WUAs, etc.

In several places the newly elected members of WUAs complained that they were not receiving proper support and cooperation from irrigation and revenue departments. In addition to help the WUAs in their multiple activities, the irrigation and revenue departments are supposed to provide necessary information required by the WUAs. According to the Act, WUAs are required to maintain a number of registers and records for which they need the help of irrigation and revenue department staff. As of now, several WUAs are not maintaining these records. Part of the reason lies in the lack of interest among WUA members in maintaining these records, but in many places it is the general attitude and lack of interest of local staff in extending cooperation. One WUA president reported that he had to make six visits and wait for about three months to get the information about the area actually irrigated and amount of revenue collected from the local revenue staff.

Several of the irrigation department staff interviewed also expressed their strong reservations and doubts about the capability of WUAs to perform the tasks entrusted to them and viability of the programme in the long run. In their opinion, the WUAs are more interested in receiving funds from the government and maintenance activities than water regulation and equitable distribution among all the members.²⁶

Guided by the hegemonic discourse of Participatory Irrigation Management (PIM) that is being experimented with all over the world, the APFMIS attempts to replicate the institutional model of water users associations. Two pilot studies were conducted by the Government but no detailed socio-economic analysis was carried out to gauge the relevance or feasibility of the water users association; no participatory exercise to elicit opinions of the water users and no detailed mapping of the requirements of such an institution was ventured.

According to Hooja, the goal of PIM is “improved and integrated management of water users associations at various levels with the concerned State Governmental agencies.”²⁷ Implicit in the idea of WUAs is the principle of voluntary democratic collectives with the power to design their own rules and bye-laws. The Act pre-empts the voluntary nature by making it mandatory for all water-users to be members of the association. Though touted as PIM, what the Act in reality does is put in place mandated groups of people, with the commonality of being water users, to ensure efficient and sustainable distribution of irrigation water. The Act does not necessarily focus on ‘rights’ or even the equitable distribution of the water resources. A related question that needs to be raised is whether the decentralisation envisaged under the Act is truly democratic. Does it take into account the lack of homogeneity amongst the water users (gender, class and caste divisions) so as to be truly representative?

It is also noteworthy, that the final arbiter for all decisions taken by the WUAs is the Government. The Government under Section 41-A has the power to give suo mou directions for the “proper working” of the WUAs and the WUAs are required to implement these directions for the “effective functioning” of the WUA. Further, the Government has the powers under certain circumstances, to remove a member of the President after giving him the reasonable opportunity of making a representation against such action. Having introduced the novel feature of the “right to recall” in this Act, it is unclear as to why this additional safeguard, which seeks to undermine the democratic functioning of the WUA, has been inserted.

25 *ibid*, pp 174-175.

26 Davuluri Venkateswarlu, *see* note 24 above, 174-176.

27 Rakesh Hooja, *Below the Third Tier: Water Users Associations and Participatory Irrigation Management in India*, *Indian Journal of Federal Studies*, 1/2004, accessed at http://www.jamiahamdard.edu/cfs/jour4-1_4.htm.

C. The Andhra Pradesh Water Resources Development Corporation Act, 1997

The Andhra Pradesh Water Resources Development Corporation, 1997 seeks to consolidate efforts to manage all water resources through coordination and cooperation between the conflicting sectors like domestic, industrial, and irrigation. Under the new schema, all the sectoral water needs and their management is through the single window agency i.e., the Corporation and this includes construction and operation of irrigation and command area development, flood control, drinking water and industrial water supply schemes, and promotion of water related activities like fisheries, floriculture, sericulture, tourism, water sports.

Composition:

The Corporation²⁸, which is based in Hyderabad consists of elected representatives (Minister [Major and Medium irrigation] is the chairman), bureaucrats (principal secretary/secretary to the government, irrigation department and principal secretary/secretary to the government, finance department); representatives from a financial institution to be nominated by the state government and nominees of the Government; nominees of the Government (officer to be appointed by the State Government as the member secretary, who shall be designated as the Managing Director of the Corporation and three other members from official or non-official category). The term of office of the members shall be for a period of one year. The state government shall appoint a Managing Director, Chief Engineer, Superintending Engineer, and Chief Accounts and Finance Officer.

The properties and assets comprising movables and immoveables including irrigation projects, works under construction and management of completed schemes, situated in the area of operation of the Corporation, which vested in the State Government and were under the control of the Command Area Development Department, are by virtue of this enactment now vested in and transferred to the Corporation. The rights, liabilities and obligations of the State Government, whether arising out of any contract or other wise pertaining to the said project of the State Government, shall be transferred to the Corporation. Effectively, this results in the Corporation taking over all the irrigation projects of the State Government.

Powers and functions with regard to irrigation:

The Corporation has been vested with wide ranging functions from promoting and operating irrigation projects and command area development including flood control; plan, investigate, design, construct and manage the irrigation projects and command area development, drinking water supply schemes, industrial water supply schemes; to enter into contracts, invite tenders, bids, offers and to promote participation of any person or association of individuals, in planning, investigation, designing, construction and management of irrigation projects and command area development including flood control. The Corporation has also been given a wider mandate to promote irrigation related activities such as fisheries, pisciculture, floriculture, horticulture, sericulture, tissue culture, etc; and to promote tourism, water sports and other related activities on and around the irrigation projects. And on more commercial lines, the Corporation has the powers to develop the land around or nearby lakes and other locations with irrigation facilities and lease it to interested parties. Interestingly, the list of powers and functions enumerated in the Act, does not, even in the passing, refer to according community ownership and traditional management systems a continuing role in the matter of water resources management.

The Corporation has been vested with the powers to accord administrative approval, technical sanctions, acceptance of all tenders, sanctioning budget and making financial provisions and settling disputes arising out of contracts, to acquire and hold property, both movable and immovable as the Corporation may deem necessary for the performance of any of its functions.

Further it has the powers to lease, sell, exchange or otherwise transfer any property held by it, to construct or cause to be constructed such dams, barrages, reservoirs, irrigation, flood control and drainage canals and such other works and structures as may be required. The Corporation has vast powers to take measures to prevent pollution of any water under its control and to prevent the discharge of effluents which are harmful to water supply, irrigation, public health or aquatic life. It is permitted also to stock its reservoirs or water sources with fish and to sell fish or fishing rights and prohibit taking out fish or fishing rights from the water under its control.

²⁸ The Corporation set up under the Act has a legal status and shall be a body corporate having perpetual succession.

The Corporation is required to assist in the establishment of water users associations and other organization formed under the Andhra Pradesh Co-operative Societies Act, 1964. To lease rights for water sports, other recreational activities related to the use of reservoir and its surroundings. To establish, maintain and operate laboratories, experimental and research stations and farms for conducting experiments and research, for – (a) utilising the water, and other resources in the most economical manner for the development of the River Valleys; (b) determining the effect of its operations on the flow conditions in the river valleys; (c) providing navigation condition in the river valleys; In order to do all this, it can engage suitable consultants or persons having special knowledge or skill to assist the Corporation in the performance of its functions.²⁹

Under the Act, all dams, wiers, any installation or other work for the extraction of surface water, can be carried out only by the Corporation or with the permission of the Corporation. The only exceptions to this rule are the State Government or the local authority in that area. In effect, the Act, hands over the control and management of surface water to the Corporation.³⁰

Funds of the Corporation:

The Corporation shall have and maintain its own fund, which shall be credited with all moneys received by the Corporation from the State Government by way of grants, subventions, loans, advances and the loans raised under this Act; all fees, costs, and charges received by the Corporation; all moneys received by the Corporation from the disposal of lands, buildings and other properties, moveable and immoveable and other transactions; all moneys received by the Corporation by way of water charges, rents and profits or from any other source.

Section 34 provides that the Corporation may borrow money from the financial institutions or non-resident Indians or from the open market by issue of guaranteed or unguaranteed bonds, debentures, stocks, for the purpose of providing itself with adequate resources.

The Act states that the Water Users Associations shall be responsible for maintenance of the canals and management of water. The Corporation shall determine and levy water charges according to the volume, for supply of water for irrigation, industrial and domestic purposes to the state government, local authorities, government agencies, cultivators and water users associations. Provided that, the levy of water charges shall be such that water charges so recovered shall be sufficient at least to cover the interest charges of the loan raised by the Corporation from the open market. Section 22 clearly states that the Corporation shall pay the interest on the borrowed money through the recovery of water charges.

Rehabilitation and resettlement:

The rehabilitation and resettlement of the persons affected due to the irrigation projects shall be carried out by the State Government but all the expenditure required to be incurred by the State Government for the rehabilitation and the resettlement of persons affected by the irrigation projects shall be borne by the Corporation.

D. Implementation of APWRDC

The Andhra Pradesh Water Resources Development Corporation was formed but it has not undertaken any activities of any significance. Currently, there is one member secretary, who holds additional charge of the Corporation. The Andhra Pradesh Water Resources Development Corporation was set up to raise funds for funding the irrigation sector. The budget allocated from the Central and State Governments were found to be inadequate and it was imperative to raise loans to fund projects. However, the government could mobilise loans up to Rs. 3000 crores only, through this corporation from banks and other organisations and its efforts at raising funds by floating bonds has not been very successful.³¹

Given that there is no activity, the enactment needs to be examined on its merit, to ascertain its possible impact. It is found that the “legislation has not been as strong in including transparency and accountability in its performance; nor in providing incentives and disincentives to staff and water users (in all sectors) to enhance water use efficiency.

²⁹ Section 19, Andhra Pradesh Water Resources Development Corporation Act, 1997.

³⁰ Section 23, Andhra Pradesh Water Resources Development Corporation Act, 1997.

³¹ M.Venugopala Rao, CPI (M) Wants Comprehensive Water Policy With Balance and Social Justice, *People's Democracy*, accessed at http://pd.cpim.org/2006/0430/04302006_ap.htm.

The Act is not clear about water rights. Furthermore, the Act emphasizes controlling extraction only of surface water, and groundwater is untouched.”³²

The Andhra Pradesh State Irrigation Development Corporation, which provided irrigation facilities to hilly areas and lands of weaker sections, including tank irrigation which is completely neglected in the World Bank-sponsored projects, has been closed down around the same time that the APWRDC was set up.³³ This component of social justice and larger community interest, does not find a place in the present legislation.

By linking the determination of water charges (Section 22) to the borrowings of the Corporation as opposed to the needs of the WUAs at the ground level, the Act reveals the true nature of the association between the WUAs and the Corporation. The uni-dimensional nature of the association, given that the WUAs do not have a say in the borrowings (either individually or through a federation) of the Corporation, displays the imbalance in the institutional framework. Decentralisation, obviously, is only a disingenuous method to service the overtly centralising rationale of the water sector reforms. The focus of the new Corporation appears to be more towards raising funds and recovering the amounts required to repay the loan amounts.

IV. WATER ‘RIGHTS’ REVISITED

The water rights contained in the irrigation statutes largely stem from pre-independent legislations. These laws primarily provide for state take over, and control of irrigation waters while granting users, usufruct rights. The usufruct rights in water are linked to the land and could only be transferred if the land is transferred. Customary and traditional rights have been protected under most of these irrigation laws. Apart from the state irrigation laws, the Easements Act provides that no prescriptive rights of easement can be claimed against the government in the waters of rivers, streams, canals. Section 2 of the Indian Easements Act states that the Government shall have the right to regulate the collection, retention and distribution of the water of rivers and streams flowing in natural channels and of natural lakes and ponds or of the water flowing, collected, retained or distributed in or by any channel or other work constructed at the public expense for irrigation.

Water ‘rights’ is not the primary focus of the present phase of water sector ‘reforms’ in Andhra Pradesh. But it is envisaged as an important component of the reform process by the World Bank. The World Bank technical report discusses the water rights and states thus: “The APFMIS Act and development of WUAs offers an eventual opportunity for voluntary transactions in water, as practised in Chile and western USA. In Indian circumstances, this might use the WUA and other bulk users as the transacting units (within a WUA, individual farmers could also undertake such transactions with their water rights), and might rely more on part transactions (a portion of water right rather than the whole of it) and leases rather than sales. A WUA could negotiate a larger or smaller share of water with other WUAs or with another bulk consumer such as an industry or municipality. The negotiated price would reflect a lease or sale value mutually attractive and beneficial to both renter and leaser of water. This could facilitate water going to its most viable use. Such options, while potentially attractive, would need careful assessment of experience in the few countries where formal water markets have developed successfully, including examination of regulatory requirements to ensure environmental sustainability and social safeguards.”³⁴ The World Bank therefore exteriorizes water rights as an antecedent to enabling an economy which uses the resource as a tradable commodity.

However, the reforms impact the water rights regime of irrigation in Andhra Pradesh. Firstly, it has an impact on the **usufruct rights** of water users. It vests the usufruct rights in a collective, but the enactments do not create any new rights. It is important, however, to examine the nature of the usufruct rights vested in the WUAs. The first generation of irrigation laws post independence, clearly vests all rights over the water in the command area and the canals in the state. Individual farmers were only granted water use rights on payment of a fee but the timeliness and adequacy of the water that is reached to the farmers was not guaranteed or protected by legislation. The new legal framework in Andhra Pradesh does not alter this legal status. It seeks to only transfer this proprietary usufructuary right of use to a collective called the Water Users Associations. However, it does not explicitly provide that the

32 Gulati, et. al, *see* note 12 above, pg. 182

33 Jayati Ghosh, Privatisation of Andhra Pradesh, *Frontline*, Volume 19- Issue 05, March 02-15, 2002 accessed at <http://www.hinduonnet.com/fline/fl1905/19051020.htm>.

34 World Bank Technical Report, *see* note 4 above, page 59.

WUAs usufruct rights are justiciable or even equitable. In the event of disputes intra-WUA or inter-WUA, it is sought to be resolved internally or by the unit immediately preceding it, in the hierarchy. However, if that were to fail, it is unclear whether an aggrieved individual farmer can use the provisions of the enactment to assert a 'rights' claim, as against the WUA or even the state.

Secondly, it has an impact on the **democratic participatory rights** of water users. As noted above, the APFMIS act which sets up the WUAs, do not seek to redress the possible 'rights' claims that may be denied to political, socio-economic, gender-specific, religious and caste compositions in the access to water and investment decisions at the local level, thus determining the sustainability and effectiveness of the WUAs. Without these rights being formalised through a statute, it is unlikely that the heterogeneous groupings of WUAs will succeed in ensuring equity in the governance structures, thus making them truly participatory. Linked to the issue of equitable and participatory governance structures is the issue of delinking water rights from land rights, so as to give voice to the landless in water management structures. This is vital if irrigation waters are being put to uses other than its primary goal of agricultural production. "Apart from the question about who constitutes the community of water users/right holders, there is the question regarding which rights these right holders hold: rights to water or also rights to participation in decision-making, and which obligation come with the rights?"³⁵

Thirdly, it does not address the issue of **equity and sustainability** of water distribution. Inherent in the irrigation system design, is the concern over the equitable distribution of water, impacting the rights of water users. The resource distribution between the head reaches and the tail enders has been a recurring concern of many committees and commissions that have been set up to study the implementation of the irrigation works.³⁶ The water availability reduces progressively as one heads from the head end to the tail end of a canal system. As Syed Hashim Ali³⁷ notes in his report:

The concept of equity amongst all farmers within a command area in respect of cropping pattern or irrigation supplies has not gone into the planning of projects. Localisation for different types of irrigation which should normally be based on agro-climatic factors, soil types and the cropping pattern prevalent at the time of the project formulation generally becomes an arbitrary exercise. The decisions on intensity of irrigation to extend the canal to more villages, talukas or districts results in large commandable areas at the top end of the canals being left out of localization resulting in large-scale indiscipline by farmers located at the head reaches and within easy reach of water. Thus, if the intensity is decided at 50% this results in 50% farmers in a village getting 100% water for full development of the crop and the remaining 50% being totally deprived, causing an ever growing social and economic imbalance in the village besides inhibiting efficient use of water by the beneficiary farmers.

Equity is therefore, a matter of concern not only for the engineers and architects, but also the law reformers grappling with rights issues.

Fourthly, the reforms do not take into account the **traditional water rights regime** and their interface with the formal legal system. Though the irrigation systems in the country, provide formal entitlements to the land owners in the command area, the "quantum and periodicity of supplies are usually not specified – both being understood to be contingent on the overall supply in the system. The rules and procedures to be adopted in different contingencies are neither explicit nor transparent. Entitlements are in the nature of incompletely specified use rights. Nor are they recognized as a contract with reciprocal rights and obligations of the supplier and the user that can be legally enforced."³⁸ In the absence of clearly defined enforceable entitlements, a combination of traditional water rights rules and the morphing nature of agrarian relations, determine the contours of the de facto water rights. The reform process does not attempt to acknowledge and incorporate this complexity of the water rights regime.

Fifthly, the reforms do not shed any further light on the process of settlement of rights in the event of disputes. "At all these levels the emphasis in India has been on bureaucratic allocation (legal and administrative decisions reserving X, Y and Z quantities of water for different (sub-) systems and sectors.) Allocation does not

35 Mollinga and Bolding, *see* note 13 above, page 276.

36 Head refers to head of the system, head of the distributory and head of the minor. Similarly, tail end refers to the end of a channel – main canal, distributory and minor.

37 Syed Hashim Ali, *see* note 10 above.

38 A.Vaidyanathan, *India's Water Resources, Contemporary Issues on Irrigation* 134 (New Delhi: Oxford University Press, 2006).

straightforwardly translate into distribution, and allocation mechanisms have given very little protection to tail-enders. More generally, they are not very helpful when disputes arise – when use patterns change, scarcity increases or for other reasons. These disputes are often about the space and time details of distribution, and the quality of the water involved. For resolution, the process of dispute management is also very important. None of these aspects are part of overall quantitative allocations. Workable rights, that is rights that are enforceable and able to deal with real situations, are largely absent in the canal irrigation sector.”³⁹

In many parts of the world, water rights are gaining recognition as a critical “second” generation issue, especially within the current paradigm of irrigation reforms. It is argued that though complete “ownership” of water, including the right to sell or transfer water to others, may not be required, confirming use rights and some kind of control rights over water to user groups can be an effective part of PIM programs.”⁴⁰ This however, is a diluted version of the World Bank framework on rights. It is therefore important to scrutinize carefully the World Bank framework on ‘rights’ for irrigation systems, which has a bearing on the water sector reforms undertaken in the state of Andhra Pradesh.

While emphasizing the need for recognizing and managing water rights, the goal of the World Bank is to transform the “public-usufruct” character of water rights to “private/commodification-ownership” model. In the words of the World Bank:

The essence of this change is that water rights (of individuals and communities, including traditional users) enjoy the same legal certainty as land and other property rights. Once established, such rights give rise to a series of fundamental and healthy changes. First, those requiring additional resources (such as growing cities) will frequently be able to meet their needs by acquiring the rights of those who are using water for low-value purposes. Second, there are strong incentives for low-value water users to voluntarily desist, making reallocation both politically attractive and practical. Third, the establishment of formal water rights gives rise to strong pressures for improving the data required to manage the resource. And fourth, this reduces the pressure of a “race to the bottom,” since those who have rights have a powerful interest in sustainability.⁴¹

An interpretation of the above raises several issues. Firstly, the classification of certain uses as “low-value purposes” raises serious concerns. Such a classification raises questions about the value that is being placed, the determination of policy priorities and more importantly, who is determining this value. Though, not clearly spelt out, it is suggestive that small and marginal farmers, carrying on subsistence agriculture would fit the bill. By placing a lower value on certain uses, this framework validates uses that will ultimately carry a market connotation, thus sidelining uses that may have social, public or even political utility. Consequently, it is conceivable that there is a replication of the situation in some parts of the country today, where groundwater is being extracted and sold by farmers to cities starved of running water. It is also conceivable that the locational advantage of lands adjoining irrigation works is further exploited by “high-value users”, impacting adversely traditional water rights, food security and the cohesive functioning of local collectives such as the water users associations.

Secondly, converting water rights into “tradeable rights” without adequate safeguards and protections impact the fundamental and human rights to water resources. A discussion of rights in somewhat absolute terms, devoid of the necessary restrictions and caveats that factor in equity and social justice, needs to be forestalled. The concept of ‘tradeable water rights’ thus, needs to be reimagined to fit water scarce countries. Thirdly, the assumption that conferring of “rights” would ensure sustainability and conservation of the ‘fugitive resource’, is flawed. In fact, the converse would be true. While ‘incentives’ for low-value users to exploit the resource would be high, the consumer of the water resource is distanced from the source so as not to be staked in its everyday conservation efforts.

It is therefore, imperative that the rights framework pertaining to the irrigation sector be reviewed more carefully by policy analysts. Water rights in the irrigation sector needs to be made the core component of the all the reforms being undertaken in the country. Such an approach would bring to fore issues of equity, sustainability and democratic participation. Clarity in the access and control of irrigation waters has larger implications for water resources management and equitable agrarian relations, in the country.

39 Mollinga and Bolding, *see* note 13 above, page 277.

40 A.Narayanamoorthy and R.S. Deshpande, *see* note 14 above, page 198.

41 The World Bank Water Resources Sector Strategy, page 16 accessed at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2004/06/01/000090341_20040601150257/Rendered/PDF/28114.pdf.

V. WHITHER THE TRAJECTORY OF LEGAL REFORMS?

The Andhra Pradesh experiment with irrigation sector reforms, particularly the accompanying legal framework, has been touted as a “success”, the world over. As Mollinga and Bolding, state “promising success is a structural element of the donor world. Consultants tendering for project contracts, or development funding agencies designing the conditionalities of a loan, need to suggest that within a given time frame, say three or five years, problem can be solved. The existence of successful models helps to convince those involved of feasibility of the undertaking.”⁴² Once termed “successful”, these models are replicated all around the country. It is therefore important that independent studies reviewing and evaluating the implementation of the reforms and the enactments, is crucial to determining the direction in which reforms need to be pointed.

It is important to take the long view of the legal changes that are sought be effected through the reforms. In focusing on the areas that need reforms, more particularly, on the water rights framework, a distinction between the private and public goods that accrue as a result of the surface irrigation works is necessary. “This is so even when water for irrigation is viewed as an economic good, to be priced in relation to volume consumed or benefit derived thereof.”⁴³ It is important that the “public goods”⁴⁴ aspect find prominence in the policy statements of the legal reforms.

As evidenced by the field studies, the reforms in Andhra Pradesh have led to a capture by the rural elite of the reform process. The problem of equity continues to haunt the sector. It is imperative that newer institutions are envisioned with a clear strategy for their integration into existing socio-political structures. The creation of a centralized Water Resources Development Corporation brings with it, a different set of dynamics. “Legal reforms that further concentrate all powers regarding the water sector in the hands of a single regulatory authority may tend to bring back dependency on the functionaries with a vengeance.”⁴⁵ Presently, the reality of the Andhra Pradesh reforms is characterized by ill informed, unmotivated water users associations, an elite capture of power of the newly formed decentralized units, a bureaucracy that is opposed to change and an overall top down approach to changes that are being effected. It is important that we look beyond the limited World Bank vision of reforms, to incorporate issues of democratic participation, human rights, conservation, environment and sustainability in tandem with the goals of participatory management, tradeable water rights and cost recovery concerns. It must be firmly stated here that the traditional goals of irrigation viz., flood and famine control, food security and water management for agriculture purposes are goals that have been largely unmet and continue to be relevant, even today.

Finally, the reform process, including the legal reforms, requires a more diverse process. Donor driven reforms must have a more participatory approach with greater engagement of the community and the civil society. Legal reforms in Andhra Pradesh in the last decade have focused on cost-recovery, transfer of irrigation management to

42 Mollinga and Bolding, *see* note 13 above, 4.

43 S.J. Phansalkar, Private Sector Participation in Financing and Managing Surface Irrigation, page 6 accessed at <http://www.ide-india.org/ide/resource/attachment.php?s=5423bcaababf411e3e5fd4cd6f9e836a&attachmentid=86>.

44 The types of benefits that can accrue from a dam are as follows (adopted from the Report of the Commission on Water and Irrigation (Chitale Commission) Chapter 16, GOM 1999).

Private goods are:

- Facilitation of cultivation of crops in the second and the third season in the command area;
- Production of electricity where the hydro-electric project facility is a part of the project;
- Production of fish in the reservoir;
- Supply of water for domestic and industrial purposes to nearby townships/industrial estates; and
- Creation of recreational possibilities in the reservoirs and in the gardens on the embankment.

Public goods are:

- Avoidance or significant mitigation of floods in the downstream areas and hence avoidance of consequent loss to life and property;
- Avoidance of famine-like conditions and consequent acute distress to a mass of population by creating the potential for providing protective irrigation to staple crops;
- Avoidance of acute distress arising out of paucity of water in dry seasons as the stored water can and often is used for the supply for drinking purpose to human settlements;
- Accretion in ground water storages arising out of seepage of surface water and return flows; and
- Generation of employment as a result of direct effect on double cropping as well as indirect, secondary and multiplier type effects.

It is not possible and certainly not desirable to even remotely “privatize” at least the famine and flood and drinking water distress avoidance benefits of the surface water infrastructure. Technically it is difficult to measure and attribute the second order economic effects.” S.J. Phansalkar, Private Sector participation in financing and managing surface irrigation, *see* note 40 above, 10.

45 Phansalkar, *see* note 43 above, 10.

farmers and corporatisation of the public sector agencies. While better governance is a desirable goal, issues of equity, sustainability and social justice needs to be an essential component in the next stages of the reform process. Greater participation, transparency and accountability have been a continuing demand of the civil society in all post liberalization reform processes. That demand is germane to the ongoing irrigation sector reforms, too. More importantly, in the zeal to experiment with newer paradigms of development and growth, the wisdom of traditional knowledge systems and the insights gained from the field over several decades of the functioning of the surface irrigation systems, is not lost sight of.

CONCLUSION

From this case study, is evident that the reforms being carried out in Andhra Pradesh are dominated by a hegemonic discourse that promotes market as the solution to the problems of water resources management. As this study demonstrates, there is a clear need to shift the emphasis from pricing and “participatory irrigation management” to concerns of the ‘water rights’ discourse. The content of the rights discourse needs to incorporate issues of equity, sustainability and inclusiveness, alongside socio-political concerns of effective decentralization and substantive empowerment of all water users. Further, the inevitable contestation between traditional rights, common property rights and rights acquired “due to access to resources”⁴⁶ highlights the need for a clearly defined rights framework.

Learning from the experiences of the sub-national, the larger debates on legal issues at the global level, needs meticulous reevaluation. While much of the debate in popular literature on irrigation focuses on water rights as essential for the larger goal of commodification of water, it maybe important to highlight that water rights from a human rights perspective, is equally needed. The ongoing debates on human rights within the national and international framework need an irrigation specific focus. A more comprehensive approach keeping in mind local complexities, as opposed to a “one size fits all” prescription, is vital to better water resources management in the country.

46 A. Rajagopal and S. Jankarajan, *Water rights and participatory irrigation management in India: The case of surface water sector in Tamilnadu State*, 2 accessed at [http://www.water-2001.de/datenbank/546076235.41368.14/WATER RIGHT PAP.doc](http://www.water-2001.de/datenbank/546076235.41368.14/WATER_RIGHT_PAP.doc).

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