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**FINANCING RURAL  
DRINKING WATER SUPPLY:  
A CASE STUDY OF  
KARNATAKA**

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# FINANCING RURAL DRINKING WATER SUPPLY: A CASE STUDY OF KARNATAKA<sup>1</sup>

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## ***Abstract***

*Drinking water being the basic requirements of life plays an integral role in maintaining and promoting public health. To meet the targets of Millennium Development Goals India needs roughly Rs. 380 billion. Given pattern of investments, State is making large investment. However, due to lack of coordination cost of investment is increasing and inefficient use of funds is taking place. If the same process continues at grass root level, the possibility of achieving the set goals is difficult.*

## **Introduction**

Investment in water can be an engine for accelerating economic growth, sustainable development, improved health and finally reduction of poverty. Considering these facts, the Millennium Development Goal (MDG) was to “Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation”. To achieve this objective the required investment is roughly Rs.380 billion, is needed during 2000-2015; this translates into roughly Rs.25 billion annually (World Bank Group 2002). Presently, the source of funds provided for investment in drinking water supply varies across countries. However, the larger investments are from the state agencies. For instance, in Asian developing countries, of the total average annual investment of around US\$ 3,044,

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53 per cent was from government agencies during the last decade (1990-2000) (WHO and UNICEF 2000). In recent years the share of government agencies has increased to 75 percent and the private sector, 11 per cent (Mehta 2003), out of this around seven per cent came from international private flows and the rest came from domestic private sector investments (Annamraju et al 2001). Given this background, in the last decade most of the discussions on financing the sector focused on the possibility of meeting the cost through public versus alternative funds, by encouraging investment by making private sector and the beneficiaries. Approaches were designed in many developing countries; the key approach, however was considering water as an economic good. In addition, momentum is gathering towards using the resources effectively and efficiently, making way for transparency. It has been argued that there is need for critical sector reforms.

Similarly in India, the government has committed itself to meeting the MDG. Since independence, the major sources of investment have been government agencies (Central, State and local governments), and contributions from donor agencies have been very marginal. Initially, more funds were provided for urban water supply, but since 1980s, funds for rural water and sanitation were provided largely because of the focus on the "International Decade for Water Supply and Sanitation". Since the First Five-Year Plan (1952-57) a total of US \$6.5 billion was financed for rural water supply, where donor agencies have contributed six per cent of the share. However, due to inefficiency and ineffective investment, not only has the sector requirement increased, the quantum of matching amount invested was less and the targeted number of habitations could not be covered (World Bank 1999).

Presently, the Department of Drinking Water Supply (DDWS) claims that 94 per cent of rural habitations were covered under supply of potable water schemes by 2004. At the same time, however the Tenth Five-Year Plan earmarks huge financial resources and expresses difficulties in mobilizing required resources. Hence, it recommends to shift part of

the cost to the beneficiaries through a demand - driven approach. The demand driven approach encourages the community to share part of the capital cost and own the assets by sharing the complete cost of operation and maintenance. However, it is difficult to predict how quickly states and districts will adopt the reforms and whether the reforms will be successful in terms of the community sharing the cost as mentioned, as some field studies shows that inducing the community to share capital cost has proved to be a futile exercise in couple of villages, due to household inclination for free rides (Veerashekhara 2002; Rajasekhar and Veerashekhara 2003). In this context, Government agencies will continue to play a major role in sector financing. In the absence of required funds, supplementary investment has to be raised from private sector. The domestic private sector is reluctant to participate, as guaranteed returns cannot be expected on the investment due to poor revenue recovery, consequently water services fall in a low-level equilibrium trap, several options were evolved to puncture the low equilibrium trap and pull in private investment. In this regard, the success of the Sri Satyasai Trust of Puttaparthi in Andhra Pradesh is considered for discussion.

Thus, presently it has been proved that, most of the investment for drinking water supply programme was from government agencies and, due to ineffective and inefficient investment, the services are poor and sustainability of the programme is questionable. With this background, an attempt has been made in this paper to examine the institutional framework and policies in mobilising the required investment resources and to see, how best they have been utilized. The paper is based on a larger study undertaken by ISEC, Bangalore supported by the IWMI-TATA programme. The paper is presented in six sections. The first section provides the framework for the paper; the second section reviews the financing of rural water supply at the national level; the third section brings out investment issues at the state level, the fourth section identifies the common critical elements in cash generation service providers at the village level, the field practices observed while the last section brings out some broad conclusions.

## Nature of the good and funding

There has been a debate on the question of whether water is a 'merit or normal good' and it was agreed that it depends on the nature of the use of water. However, it is argued that access to safe drinking water should be recognized as a basic human right and allocating high levels of public finance and subsidies in developing countries are usually justified on this account. In fact, this was 'being necessary because poor people cannot afford to pay' they end up heavily favoring the rich with the inequity directly related to the degree of rationing of the service. But now it has been realized that in the long run this approach cannot be sustained for two reasons. First, governments are finding it difficult to mobilize the required resources to improve or extend the service. Second, lack of appropriate pricing policy has led to inefficient use of water, posing threats to sustainability. Further, states traditionally dominant role in the sector has been rationalized based on the public good characteristics of water. However, the problems with poor quality of service has led to search for alternatives, particularly drawing on organized user participation and emerging market mechanisms (Ruth, Meinzen Dick and Mendeza Meyra, 1996). Thus, over the years there was a change in the concept of water as merit good or commodity. There is a general agreement that the funding to the drinking water supply has to be mobilised through various alternative sources not depending mainly on state.

The above-mentioned reasons cause uncertainty to financing mechanism in achieving the goal of providing access to safe drinking water to preempt this uncertainty, in Dublin Conference (1992), it was commonly accepted that "water has an economic value in all its competing uses and should be recognized as an economic good". In fact, it has been argued that water is both an economic as well as a social good. As an economic good, water supply services needs prices set in relation to its cost to ensure efficiency. As a social merit good, adequate and effective access to water needs to be ensured for all citizens at affordable prices. This debate suggests that there is need to move towards greater cost recovery for services making certain that the poor and disadvantaged receive adequate access to basic services.

In fact, the arguments about allocation of scarce resources have been derived from theories of Pareto optimality, second best and where market failures exist, compensation of losers by gainers is a necessity. Given these considerations, state intervention is needed where markets play a minor role making way for the political economy to play a major role. Most people agree that while this conventional approach of supply side management is appropriate, especially when water resources are abundant, it is not suited for an era of growing scarcity, degraded environment, and resource constraints. Hence, there is need for the judicious use of water through an alternative delivery system and in a more decentralized manner. Theoretically, the demand for any normal good is inversely related to its price, and positively related to individual income, *ceteris paribus*. Studies, testing these hypotheses have revealed ample evidence supporting the theoretical propositions, though the magnitude of their estimates varies between studies (Reddy, 1999). The studies based on the theory that consumers face a zero marginal price, have concluded that consumption above the free allowance is more sensitive to price and responds less to social and climatic factors than consumption below the free allowance. Based on this hypothesis, studies provide empirical support for the contention that the presence of the free allowance can result in water wastage and further that its removal would be an efficient way of reducing water consumption (Dandy *et al.* 1997). The consumer behavior with regard to potable water has been examined considering marginal and average price models and has come to the conclusion that marginal price of water is not the only price to which consumers respond (Chicoine and Ramamurthy 1986). This positive elasticity indicates that as the income of the household increases its demand for water also increases. Thus, the price and income elasticity of water demand together implies that the average household considers water as a normal good (Reddy 1999) and that pricing of the water is necessary considering the sustainability of existing systems. However, the increase in price may result in reduction in consumption of other goods by the

poor due to price inelasticity. This problem can be avoided with cross subsidy (Puspangadan and Murgan, 1998). Towards this, the mechanisms to be adopted need to be spread and the message communicated that water is a scarce resource and must be managed as an economic good. In support of this, policies should be enacted at national and state levels to ensure full cost recovery. One of the ways of addressing this problem is to make resource agencies self-financing by linking agency budgets to user fees. Towards this, an appropriate regulatory or contractual framework to manage risks, and institutional forms to ensure sustainable management is necessary.

The above debate brings out the need for legal framework for financing a mechanism, consistent national policy on cost recovery principles for different settlements and consumer classes, and a strengthening of the sector budgeting and monitoring systems (Mehta 2003).

### **Alternative sources of funding**

As mentioned earlier, in India the major source of investment is public finance through budgetary allocation. However, a significant proportion of investment is made from bilateral and multilateral agencies such as DANIDA, KFW, DFID, World Bank, UNICEF, UNDP. Of the total external assistance received by 12 states, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh have received approximately 75 per cent in 1994 (World Bank, 1999). The World Bank lending for the sector has grown significantly, though its share in total investment was not more than six per cent (Rajasekhar *et al.* 2002). It has not been possible to find separate public and private capital investment trends in urban and rural water and sanitation in the past or the likely investments in the future, except for the estimates of the Expert Group Committee on infrastructure Privatization (Water Aid India 2005).

Nevertheless, just after independence, funds from community development projects were made available to provide access to drinking

water in the scarcity-hit villages and to disadvantaged groups. Later in 1954 the Government of India, launched the National Rural Water Supply Programme (NRWSP), and provided 50 per cent of the expenditure as grant-in-aid to the states, and the state governments met the remaining cost with some nominal contributions from the local beneficiaries. At the end of 3<sup>rd</sup> Five Year Plan (1961-66), an assessment was made, based on recommendations the Government of India (GOI) launched the Accelerated Rural Water Supply Programme (ARWSP) in 1972. Under the programme, the states were provided 100 per cent central grant-in-aid. Thus, the first priority for Fourth Five-Year Plan was to meet the drinking water requirement in the low-rainfall and drought-prone areas. During the Fifth Five-year Plan, the priorities were redesigned and norms were introduced in the provision of services in the Sixth Five-Year plan the government adopted a missionary approach, 'National Drinking Water Mission (NDWM), popularly known as technology mission. In fact, the changes brought about during the Fifth and Sixth Five-Year plans could be considered as the first landmarks in the history of rural water supply. With the introduction of the technology mission and the setting up of targets to meet the required expenditure, the expenditure accordingly also increased during the Sixth Five-Year Plan (Table 1), but in the following Seventh Five-Year Plan and Annual Plan the expenditure on rural water supply has reduced. The low-level expenditure was due to less allocation of resources during the respective plans.

Table 1: Total Expenditure on RWS by the Centre and the State

(Rs. Crores)

Plan Period	Amount spent on drinking water supply			Plan outlay rural area (%)
	Total	Share of rural	Share of rural to total in per cent	
1st Plan (1951-56)	11	3	27.3	0.71
2nd Plan (1956-61)	74	30	40.5	0.60
3rd Plan (1961-66)	110.17	18.83	17.1	0.78
Annual Plan (1966-69)	102.75	29.17	28.4	0.29
4th Plan (1969-74)	458.9	208	45.3	1.0
5th Plan (1974-79)	1091.6	552.09	50.6	1.24
Annual Plan (79-80)	389.28	240.39	61.8	1.92
6th Plan (1980-85)	3997.98	1663.45	41.6	2.21
7th Plan (1985-90)	7093.13	4535.32	63.9	1.97
Annual Plan (1990-92)	4086.12	2360.95	57.8	1.97
8th Plan (1992-97)	16682	9366	56.1	2.52
9th Plan (1997-2002)	16720.73	7664.65	45.8	2.43

Source: From various budgetary documents

The Seventh Five-Year Plan was a critique of earlier approaches. According to the plan two factors have contributed to the failure of earlier policy strategies, viz., they were essentially supply driven, top-down approach, which ignored the pattern and intensity of demand for this service. Second, lack of community participation in the provision of service rendered it inefficient and unsustainable. To overcome these problems, it was suggested that community participation be encouraged, and that the community share a part of

the capital cost and pay for services to maintain the assets. And these new concepts have become part of the National Water Policy (1987). Subsequently, the Eighth Five-Year Plan endorsed the concepts and recommended changing the mindset of people by creating awareness through intervention at four stages: (a) Creating awareness; (b) developing an action plan to ensure the authority in decision making and financial management; (c) strengthening the institutions; and (d) improving monitoring, accountability and transparency in all operations.

In support of this, worldwide experiences were cited showing positive correlation between beneficiary involvement, on the one hand, and efficiency of implementation, effectiveness and sustainability of the programme (Harmeyer and Mody 1997; Pushpangadan and Murgan 1998) and old paradigm of centralized decision-making and bureaucratic allocation is fast fading to pave way for a decentralized allocation and stakeholder participation (Saleth and Dinar 1999). These studies support that the philosophy of providing and managing water services by the state may not be appropriate for solving today's water scarcity problem. Hence, there is need for developing an alternative delivery system, by developing new institutional mechanisms for financing the sector. The Ninth Five-Year Plan approach paper (1998-2002) recommends private sector participation as one of the alternative approaches on the lines of the Sri Satya Sai Trust of Puttaparthi in Andhra Pradesh, which has been considered a model of public and private partnership. To test this experience across the country with some modification, a Sector Reforms Programme (SRP) was initiated on a pilot basis in 67 districts. The SRP programme was further modified and extended to the entire nation as Swajaldhara on 25<sup>th</sup> December 2002; however many states are reluctant to adopt this approach, despite the incentives provided (CaG 2003), encourage them to participate them in programme (Annexure 2).

## **Release of Funds and Utilization**

Both the centre and state governments provide funds for investment through plan and non-Plan allocations. Plan allocations were invested in the creation of new assets and launching of new schemes, while non-plan funds were used to support the recurring costs of

salaries and supplies required for the operation and maintenance of assets or services put in place during the earlier five-year plans. Projects and programmes financed under the plan account typically reverted to non-plan status after five years. As a result, 80 per cent of total government funds consisted of pre-committed expenditures to meet the costs of programmes initiated in the *previous* plans. Accordingly, the Central as well as State government have to enhance the investment to meet any unplanned investment expenditure. Thus, the total allocation to the sector increased from 0.71 per cent to 2.58 per cent in the total budgetary allocation from the 1<sup>st</sup> plan to 9<sup>th</sup> plan. Within that, the share of allocation to the rural areas was increased from 29 to 65 per cent. As mentioned earlier the centre provides funds under ARWS, SRP and Swajaladhara. The funds are provided for specific purposes based on the schemes, such as to invest in the tribal areas or hill areas or area of chemical contaminated zone. For instance, under ARWSP, 35 per cent of funds were earmarked for investing in the area where Scheduled Castes/Scheduled Tribes (SC/STs) are located. Similarly, under SRP, separate assistance was provided for investing on human resources development (HRD) such as information, education and communication (IEC), management information system (MIS), including training,

However, of the total allocations, the state accounts for more than 50 per cent, as the provision of drinking water to the community is a state subject, moreover, the centre releases most of the funds as matching grant. From Table 2, it can be observed that of the total expenditure the state share was higher than the central government. Of the total allocation, in aggregate, 86 per cent of the allocated funds were utilised in the last four years and within that during 2000-01, only 67 per cent of allocated funds were used.

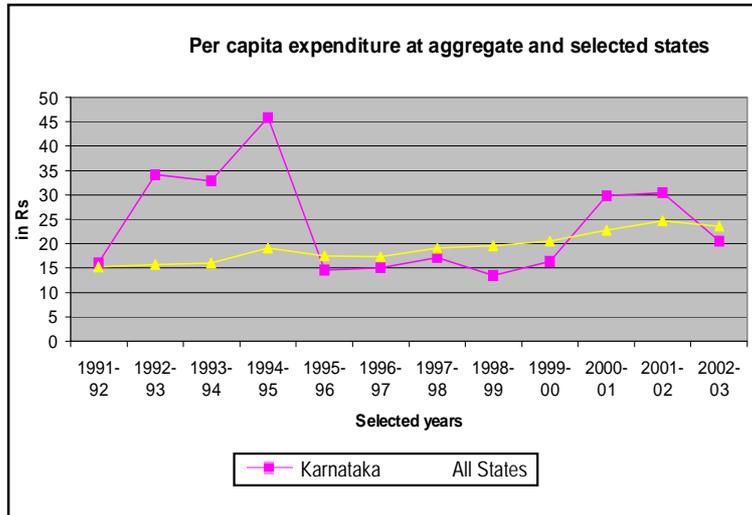
Table 2: Release of Funds by the Centre and State

Year	Release of funds by Center and State			Expenditure (ARWSP+MNP)
	Central (ARWSP)	States' (MNP)	Total (Crores)	
1997-98	41.3	58.7	(100) 3,145.08	92.4
1998-99	42.6	57.4	(100) 3,778.11	96.4
1999-00	38.6	61.4	(100) 4,448.98	92.2
2000-01	43.5	56.5	(100) 4,363.57	67.5
Total	41.5	58.5	(100) 15,735.7	86.4

Source: Audit Report 2001.

Further, it is observed that, though the allocation both from centre and the state increased over the years under ARWSP and MNP, the reason was mainly due to investments made from other sources, among them the donor agencies, from chart 1, it can be observed that the per capita expenditure varies across the year.

Chart 1: Per capita expenditure on water supply in constant prices



As mentioned earlier, the Central government provides funds through matching grants but most of them were linked with norms. States, which could not meet the norms, lost their share of grant provided by the Central Government. Among them, Bihar State lost about 400 crs of Central assistance during the last five years (Table 3).

**Table 3: Utilization of Funds under ARWSP by Bihar State (Rs. in Crores)**

Year	Opening balance	Total funds			Funds spent in the year
		Allocated Year	Released	For the	
1994-95	30.58	54.70	28.04	58.62	38.40
1995-96	20.22	70.99	35.50	55.72	22.74
1996-97	32.98	77.95	31.13	64.11	34.24
1997-98	29.87	93.80	00	29.87	08.67
1998-99	21.20	117.69	00	0	0

Source: <http://planning.commission.nic.in/mta-9702/mta-ch20pdf>.

Further, 100 per cent assistance was provided under reforms to the states for investing on human resources development (HRD), information, education and communication (IEC), management information systems (MIS), including training etc. However, according to the Controller of Audit General (CaG), most states had not used the funds allocated for exclusive purposes provided for creating awareness (GOI 2001). For instance, to create awareness on waterborne diseases and judicious use of water, the Central government released Rs 15.78 cr in 1997-2000, but only 30 per cent was used in the aggregate. Similarly Rs 5,944.55 lakhs were released during 1997-2001 for the purpose of Information technology against which only Rs 17.51 lakh were spent (Table 4). Though the states were provided 100 per cent free grant with matching amount, the states did not utilize the funds fully. Some states such as Haryana, Punjab, Manipur Meghalaya, Assam and Mizoram had not initiated any activity and have not utilised the funds. States such as Kerala and Himachal Pradesh have neglected the time frame for implementation.

**Table 4: Funds Released and Utilized under 100 Per Cent Grant (Rs Crore)**

Year	Information, Education and communication		Information Technology	
	Released	Utilized	Released	Utilized
1997-98	576.70	576.70	2899.00	17.15
1998-99	179.87	2.16	357.00	
1999-00	81.59	0	1283.00	
2000-01	740.0	0	1405.00	
Total	1578.16	578.70	5944.55	17.15

Source : CaG, 2001.

Thus, the states are unable to draw the funds earmarked for them due to their apathy in utilising them. Some states were not willing to take up such activity or did not have any expertise for taking up certain activities, such as IEC, HRD and MIS. According to the state officials, the funds provided for each state were very small and to utilize them one had to follow various procedures, which were very cumbersome. Therefore in the process, the resources became idle and ineffective sample check of the records of various states revealed that in Haryana, Manipur and Meghalaya, no IEC activity was taken up. In Assam and Mizoram, no IEC cell was established. In Punjab, the awareness campaign was not taken up. In Kerala and Himachal Pradesh, the IEC projects were not implemented within the time frame. In Uttar Pradesh no IEC strategy was adopted. Of Rs 80.04 lakh released by the GOI to the UP Jal Nigam for telecasting of awareness programme, Rs 75 lakh remained unutilised with the implementing agency and the State HRD cell (GOI 2001). Similarly, funds meant to improve the information were not properly utilized, for instance, despite of release of funds computers were not purchased by the north-eastern states, due to non-availability of trained staff, non-installation of operating systems, in nine States (Andhra Pradesh, Assam, Haryana,

Karnataka, Kerala, Maharashtra, Mizoram, Nagaland and Rajasthan) have resulted in an idle expenditure of Rs 850.48 lakh.

The above analysis indicates: (a) world wide, the concept of water is changing, it is no more considered a merit good; (b) major investment is from government agencies in the Third World countries in general, and particularly in India; (c) it has been recognized in India that the state is constrained in enhancing investment; there is need to tap alternative sources, such as domestic private source. In the process, SRP was introduced, but the concepts have not percolated states are reluctant to follow new approach, this approach was not much positively received by the community following reforms as is evident from the utilization of funds; d) There is need to strengthen the mechanism in use of funds allocated for different schemes. In fact the center should develop a marketing approach in utilization of funds by the state, like donor agencies under multilateral and bilateral projects.

### **Financial Resources in Karnataka state**

The financial sources at the state level are budgetary allocation from the centre and the state, external funding, NGOs and user financing. The central and state governments provide funds under plan and non-plan budgetary allocations. In addition, ad-hoc funds are provided from drought management, watershed development programme, and from area development funds made available by MLAs and MPs.

Among the above sources, presently, the most reliable and sustainable sources are budgetary allocations, where government allocates the required funds on estimates made by the department. The release of funds under drought management, watershed and area development depends on the discretion powers of state authorities to meet the crisis. Funds from bilateral and multilateral agencies are very specific and occasionally available, as one time aid-cum-loan from the state government. Under the area development funds, investments are made considering political compulsion rather than need for investment.

However, not much significant funding has been forthcoming forward from private domestic sector and end-users, though policy suggestions were made towards this through the beginning has been made in bilateral and multilateral-funded programmes. The results have not been much encouraging, however policies have to move in this direction. As states often change their funding patterns and programmes, at times programmes are of very short duration or are withdrawn before they become familiar to the implementing authorities and the public at large.

### Investment by Agencies

In Karnataka state, during the last decade (1993 to 2002), the total amount invested from government sources was Rs 2,560 crore, 37 per cent of it was from ARWS and the remaining funding was from the state government. In addition to the above funding, Rs. 618 crs were from bilateral and multilateral agencies. However, within the government, some funds were provided for specific durations and programmes, as shown in Chart 2. Accordingly, there was NRWS and CSS for short durations (three years), which were funded by the central government. Similarly, funds from bilateral and multilateral agencies were also for short durations. Funds provided for short durations were mainly for creating assets and the responsibility for the maintenance of them on the state.

**Chart 2: Proportion of different source of funding**

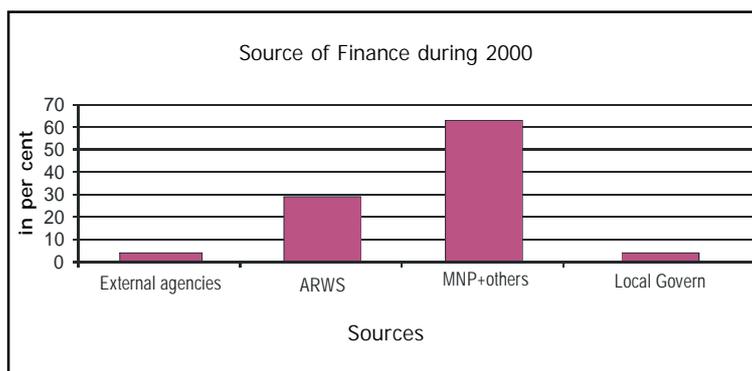


Table 5 provides the share of expenditure incurred on RWS to total State expenditure in the State, which fluctuated between 2.75 and 5.7 per cent. The variation was due to two reasons, the increased allocation during drought situations and funds supplemented by external agencies. As mentioned earlier, the share of Central government was lower than that of the state. This was mainly to meet the increasing crisis. During this time there was continuous depletion of the groundwater, in fact, most of the bore wells drilled during 1998 became defunct. Hence, new sources had to be made available (Raju et al 2004).

**Table 5: Share of Total RWS Expenditure in Karnataka (Rs. Crores)**

Year	RWS expenditure*			Total expenditure #			Exp. per cent
	State	Centre	Total	State	Centre	Total	
1992-93	36.42	28.12	64.54	2032.95	390.48	2423.43	2.66
1993-94	51.25	38.16	89.41	2796.54	457.15	3253.69	2.75
1994-95	60.26	40.26	100.52	2973.34	495.11	3468.45	2.90
1995-96	77.91	57.91	135.82	3390.84	397.09	3787.93	3.59
1996-97	82.79	67.77	150.56	3972.57	491.02	4463.59	3.37
1997-98	98.77	91.47	190.24	4424.48	503.93	4928.41	3.86
1998-99	85.27	94.72	179.99	5649.09	572.57	6221.66	2.89
1999-2000	256.41	113.97	370.38	5231.35	1198.77	6430.12	5.76
2000-01	210.01	107.44	328.45	7353.95	677.41	8031.36	4.10
2001-02	207.46	104.79	312.25	8347.55	818.96	9166.51	3.40
2002-03@	198.55	108.38	306.93	8420.62	904.45	9325.07	3.20
2003-04#	211.65	119.45	331.10	9979.75	890.86	10870.61	3.00
Total	1576.75	972.44	2560.19	64573.03	7797.8	72370.83	

Note: revised estimates, Budgetary estimates

Source: Annual Reports of RDPR; # Economic Survey 1999-00

Of the total, in the last ten years expenditure on revenue account was multiplied thrice, contrary to this the capital outlay did

not increase much, despite investment made from borrowings (multilateral and bilateral agencies). The schemes like ARWSP-DDP and PMGY-RWS contributed to increase in capital investment, but it was very insignificant in overall investment.

Table 6 provides allocation and utilization of funds through different systems. Accordingly, since 2000, allocation was increased to the MWS and PWS systems compared to BWHP. As mentioned earlier, due to depletion of groundwater and non-availability of sources within the location, water has to be drawn from distant sources thus diversifying to MWS and PWS systems.

**Table 6: Utilization of Funds under Various schemes (Rs. In lakhs)**

Years	Hand pump		Mini water supply		Piped water supply	
	Allo- cation	Per- centage	Allo- cation	Per- centage	Allo- cation	Per- centage
1991-92	911.32	73	1051.48	93	2171.25	92
1992-93	1035.30	72	1235.58	118	2474.86	112
1993-94	1513.57	83	1763.43	101	3430.00	101
1994-95	1714.24	88	1620.00	112	3019.00	116
1995-96	2666.26	82	1847.39	124	3696.99	119
1996-97	2966.03	91	2492.99	111	5196.26	87
1997-98	3598.45	88	3307.38	109	6354.94	101
1998-99	3201.50	80	3601.87	100	5487.49	95
1999-00	2832.14	50	2283.97	65	3861.52	75
2000-01	2622.23	53	3174.96	89	4534.00	76
2001-02	2680.12	47	3278.11	88	5317.34	83
2002-03	2525.33	78	3315.29	93	5066.36	87

The delay in execution of the programme was evident not only in state-sponsored projects, but also in multilateral and bilateral projects. The World Bank was the major investor, followed by DANIDA and the Netherlands. Similar to regular programmes, these programmes were delayed in implementation. Spillover of the time was mainly attributed to conflicts between government and NGOs and lack of coordination. For instance, the NGO which had agreed to take up the work at Raichur, Gulburga and Hassan districts, later withdrew blaming government's inefficiency. Government later appointed non-government individuals (NGI) to carry out the work. Similarly, different districts and habitations faced various problems in executing the externally sponsored programmes, because of new concepts and involvement of several players. It has been observed in many villages that norms were not followed while implementing the programme and huge amounts were thus spent on implementation (Veerashekhappa 2002). The delay in implementation had a cascading effect on the cost of the project. Thus, the intervention of government in the process of implementation has contributed to inefficiency and ineffectiveness and increased the cost of projects.

**Table 7: Details of Bilateral Projects.**

Period	Agency name	Amount (Crores)	Districts	Villages/ habitations covered
1993-2000	World Bank	506	12	1104
1994-2002	Netherland	88.71	5	201
1993-1997	DANIDA#	63.63	5	719
Total		658.34	22	2024
2002-2006	DANIDA II	120	2	410
2002-2007	World Bank II	1035	11	2100

Note: \*. Habitations,#.Scheme

## Financial Requirements

Despite huge funding and investments made by various agencies, most of the habitations and households are still denied accessibility to and adequate supply of drinking water. For instance, in Gujarat also, as in Karnataka, the data provided on the type of coverage, by various agencies are conflict with one another. However, according to *Gujarat Jal-Disha 2010* and *Socio Economic Review* of Gujrat State and GOK, RDPR, 5 and 35 per cent habitations in Gujarat and Karnataka have to be covered fully, thus Gujarat is in a better position compared to Karnataka.

**Table 8: Coverage of Habitations in Gujarat and Karnataka 1993-2003**

Year	Gujarat				Karnataka			
	FC	PC	NC	Total	FC	PC	NC	Total
1993	66.0	29.7	4.4	100	47.2	34.8	18.0	100
1995	72.7	21.6	5.7	100	54.3	38.4	7.2	100
1999	83.2	15.3	1.4	100	54.3	44.2	1.5	100
2000	84.0	11.3	4.7	100	61.0	39.0	0.0	100
2002	93.8	5.9	0.3	100	63.1	36.9	0.0	100
2003	95.9	4.0	0.1	100	64.8	35.2	0.0	100

Source: *Gujarat Jal-Disha 2010* and *Socio Economic Review*, various issues and GOK, RDPR for relevant years.

The technology adopted in provision of water supply is common in both the states, except Mini Water Supply (MWS) in Karnataka and simple dug wells in Gujarat, which are mutually exclusive. It has been estimated that to provide potable drinking water to all households according to the norms the amount required is Rs 12,825 crs (Jal-Disha, 2000). As mentioned earlier, the Narmada Water Supply and Water Supply Department (NW & RWSD), is the key institution at state level. The Gujarat Water Supply and Sewerage Board (GWSSB) follow this with a decentralized organizational structure at the district and taluka level, which is responsible for regulating, development and maintenance of multi-village schemes. The single village scheme is operated and maintained

by the respective panchayat. However, the GWSSB is facing problems in maintenance and policing of pipelines because of the large distances it has laid down. Similarly, Karnataka State estimates Rs. 26, 489 million for covering partially implemented and quality-affected habitation (GoK 2000), The huge amounts estimated considering the replacement of old sources opening up of new sources due to non functioning of the system and depletion of the water table. There are number of empirical studies based on field surveys highlighting a large number of failed borewells that are non-functional due to the negligence of agencies while, drilling borewells, without taking into consideration the field situation, and lack of technical guidance resulted in borewell failure. For instance, a single habitation was listed as partially covered, in spite of drilling a new borewell every six months for three years. This shows that there is no accountability on the part of planners and executives in providing water supply.

## **Operation and Maintenance Expenses**

### **Source of Finance**

The capital investment in this sector though huge, is a one-time investment, whereas the investment on operation and maintenance is a recurring one. This always contributes to increase non-plan expenditure. In fact, every new system is added to the pool of maintenance expenditure, and this takes away a large chunk of budgetary allocation. This has been due to lack of recovery of user charges; in fact no system meets the cost of entire operation and maintenance from the collection of user charges. In the absence of adequate cost recovery, the government is responsible for making adequate funding to O&M requirements (World Bank 1999). The Government of Karnataka has transferred the responsibility of maintenance of PWS and MWS schemes to GPs and wide powers were provided to GP in operation and maintenance of drinking water supply<sup>5</sup>.

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<sup>5</sup> PRAct Section 58 (1), 77,78,82,85 and 86 makes GP to perform various functions including : Construction, repairs and maintenance of drinking water wells, tanks and ponds Power of GPs to make bye-laws regarding provisions of water supply: ng bye-laws for conserving; and Maintaining water supply works either on its own or by annual contract by generating adequate resources.

But, lack of sufficient financial support at the GP level, the state shares the maintenance cost along with the GP.

Article 243G of the constitution, empowers the State legislatures, to provide the panchayats with powers and authority to function as institutions of self-government<sup>6</sup>. Literature on decentralization also supports the view that in the water supply sector, design of infrastructure investment, which is usually highly technical in a world of rapid technological progress, can continue as a Central/State government responsibility; Operation, maintenance and regulation of the facility, which is often the most important function in the provision of the service, can and should be decentralized.

The Government of Karnataka has transferred the responsibility of maintenance of PWS and MWS schemes to GPs and wide powers have been provided to GPs in operation and maintenance of drinking water supply<sup>7</sup>. Accordingly, the finances required by the rural local bodies for augmentation, rejuvenation and maintenance of water mainly comes from grants and user charges. State or Union government gives grants for this purpose. Under decentralized governance, Zilla panchayats and Taluk panchayats do not have a tax base or power, they depend on grants for provision of service under various State and Central schemes. The last tier of decentralized governance, the Gram Panchayat can levy user charges on water supply and can also levy water connection fee for individual household connections for maintenance of the existing systems at the GP level. Thus the GPs are expected to meet the operation and

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<sup>6</sup> Further, such law may contain provisions for the devolution of powers and responsibilities with respect to: a) the preparation of plans for economic development and social justice. b) The implementation of schemes for economic development and social justice as may be entrusted to them, including those relating to matters in the Eleventh schedule, which include drinking water and maintenance of community assets.

<sup>7</sup> PRA Act Section 58 (1), 77,78,82,85 and 86 allows the GPs to perform various functions including construction repairs and maintenance of drinking water wells, tanks and ponds. Power of GPs to make bye-laws regarding the provisions of water supply bye-laws for conserving and maintaining water supply works either on its own or by annual contract by generating adequate resources.

maintenance expenditure without adequate financial resources or adequate autonomy (World Bank 1999).

Box 1.1.

Section 58 (1)

Schedule – I (Item VIII, XXXI) Item VIII

Drinking Water

1. Construction, repair and maintenance of drinking water wells, tanks and ponds
2. Prevention and control of water pollution.
3. Maintenance of rural water supply schemes

Section 77 – Power for providing adequate drinking water supply, pure and sufficient water

Section 78 – Power of GPs to make bye-laws regarding provisions of water supply: Making bye-laws for conserving

Section 82 – Powers and duties in regard to sources of water supply.

Section 85 – Power to prohibit use of water from sources

Section 86 – Penalty for using water for certain purposes and

Section 87 – Abatement of nuisance from foul water

The cost of operation and maintenance of the system depends largely on the type of system established, because the cost of each system varies, for instance, a piped water supply scheme costs between Rs.10 to 15 lakhs, depending upon the location, population covered, distance of the water source and spread of the distribution network. Similarly, a mini water supply scheme costs between Rs.1 lakh to 2 lakhs and a bore well with a hand pump costs between Rs.30,000 to Rs. 40,000. The annual maintenance cost of these schemes is between 5 to 10 per cent of their capital cost (Table 9). However, the major constraints observed about the 'Mission approach' are the lack of finance for O and M of potable water sources, reflecting the inefficiency of the State in mobilizing funds (Veerashankarappa 1999; Ravichandran and Boopathi. 2002). The need for rationalizing the tariff structure of both the house-service connection and the property tax to raise revenues is important. In most of the rural

areas, people are not charged for the service provided, as water is considered a social good and not an economic good.

**Table 9: Expected cost in provision of different services.**

Costs	Piped water supply scheme	Mini water supply scheme	Borewells with handpumps
Per capita investment costs	10 - 15 lakhs	1- 2 lakhs	30-40 thousand
Operation and maintenance costs	5-10 percent	5- 10 percent	5-10 percent

Table 10 provides the share of costs of operation and maintenance in Karnataka State. Accordingly, 1/3<sup>rd</sup> of the total expenditure was incurred on operation and maintenance during 1993-94 and this has increased over the years, during 1998-99, it increased up to 64 per cent, and the amount left for implementation of new schemes has reduced. Considering the crunch of funds for new schemes in the following year, the allocation for water supply has doubled. Thus, the share of expenditure on operation and maintenance remained constant at 1/3<sup>rd</sup> of the total expenditure incurred on water supply.

**Table 10: Expenditure on O & M (Rs. Crores)**

Year	Total	Operation and maintenance	
		Actual	Per cent
1993-94	89.41	31.38	35.10
1994-95	100.52	42.20	41.98
1995-96	135.81	64.94	47.82
1996-97	150.56	61.16	40.62
1997-98	190.24	97.73	51.37
1998-99	179.99	115.89	64.39
1999-2k	370.38	110.81	29.92
2000-01	328.45	108.24	35.9
2001-02	312.25	112.45	36.01
2002-03	306.93	116.28	37.79

The source of finance for operation and maintenance, apart from budgetary allocation, was provided under the head "ARWS Grants" and "Additional support to ZP". Norms set up for maintenance cost per annum were Rs. 600 and Rs. 8000 per BWH and power pump respectively. Considering the above constraint, the GOK, under the KPR Act, allowed the GPs to levy and collect tax on various activities. However, presently, the tax sources are property tax, water rates and other taxes<sup>1</sup> under Section 199. To supplement the GPs revenue, the State Finance Commission recommended for transferring certain portion of its own revenue<sup>2</sup>, to PRIs. However, the State has not implemented this recommendation. Instead, to supplement the expenditure, the State has provided a lump sum amount for each GP to meet general expenditure including expenditure on electricity water charges, sanitation and other welfare schemes.

The per capita water charges collected and the per capita grants provided for water supply in Karnataka vary among the districts. Some of the districts where water charges are effectively collected have been Mysore, Kodagu, Chikmagalur, Mandya and Gadag. However, there is a positive relationship between PWS source and recovery of charges, with the exception of one or two districts (Amarnath and Vani 2003).

### **Field Practices**

Insights into the situation at the field level give us an idea about the hard facts that hinders plans and making them ineffective. Plugging these loopholes would make further progress in management of financial resources feasible.

**Poor co-ordination between the Central and State governments** - Although money is allocated to the sector, most of the states do not use the allocated funds. As mentioned earlier, officials' specified only the bare facts. Funds were released at the end of the financial year and were provided to cover certain localities in habitations, where water sources were not available. Hence, nothing could be done. Freedom to utilize released funds and ways to use them based on the field situation is important as the norms set while releasing the funds are

not suitable. Contrary to this, the elected representatives expressed that executives were inclined to implement the PWS and MWS, as the amounts involved in those schemes were normally high and there was every chance to create surpluses for themselves.

**Variation in utilisation of funds between States - District** - Similarly, the utilization of funds varied across districts, some have negative balances and others had unspent balances. For instance, in the year 2001, the opening balance was in aggregate Rs 30 crores of unspent amount. Gulbarga and Gadag districts had recorded unspent amounts, whereas the districts of Mandya and Bangalore had negative balances. Discussions reveal that strong political leadership in the latter districts and easy accessibility to state capital has contributed to the release of funds in advance and the chance to use them promptly. In fact, the release of funds to water supplies depended more on the proximity of strong local political connectivity with higher ups, than conforming to the norms. Based on political pressure the norms were often ignored or waived.

**Private Investments** – Private investments are being made in most of the states to meet emergency needs but the degree and type of investment varies. For instance, in Gujarat, contrary to Karnataka, apart from state and other agencies, the community has funded the installation of sources in rural areas at the micro level, which is rarely observed at the all-India level. During the field work it is observed, an NGO in Pipodra village of Dharpur taluk has installed three hand pumps for which the concerned households have paid an amount of Rs. 2500 per hand pump. Similarly, the BAIF Foundation, Lachchakadi has been working on a watershed programme in the area and has installed around 17 hand pumps among the sample villages to meet demand for drinking water supply. Thus, apart from the formal institutions and agencies, other agencies such as NGO and user groups do finance drinking water supply to meet a crisis, but these sources have not found their place in official documents.

**Nature of data available is of poor quality** – Making sense out of the data available itself poses a constraint. Where the data are made available, the same are deficient in several respects. There is no common format or method of data maintenance in different districts. Apart from this, there is no functional classification of expense items in different districts. Most often the format remain blank and are never filled.

**Contribution is not uniform:** Information gathered on capital contribution and O and M charges at the GP level provide few insights about the dimensions of the problem. There are inter and intra-variation in the contributions made by households across villages towards initial investment in the project (Table 11). There are a few who totally abstained from paying also. Although the idea is to collect 30 per cent of contribution, it remains different at the field level.

**Table No: 11. Villages where Contributions were made by the People**

Karnataka			Gujarat		
Scheme	Number of villages	Contribution (in Rs.)	Scheme	Number of villages	Contribution (in Rs.)
Sector Reform Programme (SRP)  Lawachha:	4	300 1000 2000	Sector Reform Programme not paid	3	Digadi: (51-1,051) 16,000  (50-1,000) 160,000 Kasturbadham: (500 per hh) 134,500
World Bank Scheme (KIRWSS)	3	100 to 500, 200 to 500 100 to 300	WASMO	2	Mithi Virdi: (125 per hh) 20,000 Virani: (500-1000) 40,500
Danida implemented scheme	2	100 to 400 300			
Independent society	1	2,000 to 10,000			

Note: For Gujarat, figures in brackets indicate range of payment and the following figures indicate actual amounts collected.

The initial deposits varied between Rs. 100/- and Rs.2,500/- apart from increases at different points in time. Levy of a specific charge towards contribution was not known clearly to the people in the village nor were they clear about their roles and responsibilities with respect to O and M. All they knew was that the contribution would help them in obtaining better water supply.

**Lack of regularization in setting up rules and regulations of GP as an institution** - It has not been possible for the GP's to raise the finances for O and M while some GP's are reluctant to take over the responsibility and hence their dependence on the government continues. For instance, in Gujarat, at the village level, a single agency is taking care of all the expenditure involved in operation and maintenance. In Karnataka, multiple agencies are meeting the expenditure involved in O&M, as GPs are unwilling to shoulder the responsibility due to their inability to raise the required revenue from user charges. Of all the GPs, on an average 20 percent do not levy any user charges and another 42 per cent levy very nominal amounts of only Rs. 5 to Rs 10 per month. Hence, the GPs have to depend on the grants received from the government. The question is whether the grant is enough to meet the expected expenditure. According to estimates of various studies, the maintenance cost is around 10 per cent of the investment cost. If we consider on an average Rs. 20 lakh per village as investment, the approximate annual maintenance cost is about Rs. 250,000, per system; if the GP has more than one system, the maintenance cost will increase accordingly. On an average, the GPs total budget is be around Rs.5 to 7 lakhs, including the grants. Out of this the major amount is spent on electricity charges and drinking water, other development activities are affected. Thus, the grants and revenue from the GP are never not be enough to meet the expenditure of O&M. The alternative is to meet the operation and maintenance cost by raising the user charges to cover the entire operation and maintenance cost.

**Low water supply fees and poor recovery:** Charges are not based on the cost incurred towards operations and maintenance but are based on the discretion of the GP or the VWSC. In reality, the cost of O and M is much higher than the amount charged. Charges were being paid in 14

villages. However, the collections vary from 45 to 90 per cent. The monthly charges and the collection vary between villages, the monthly charges varied between Rs.10 and Rs.75.

**User charges are not based on any scientific calculation:**

It was observed that the GPs are unable to meet total cost of operation and maintenance from the amount derived as user charges. Various mechanisms have been adopted in fixing water tariffs at the village level. However, it was noticed in many sample villages, attempts were not made to revise the tariff over the years or levy the charges. For instance, among the selected sample villages, four do not levy user charges and charges levied in other villages vary from Rs 10 to 75. This variation is due to non-revision of the tariff in the first seven villages (Table 12). This had serious financial implications especially when number of users refused to pay (even the low tariff), in five villages the power bills are not cleared since last 30 years.

**Table No 12: Water rates Village Wise in Karnataka ( in Rs)**

Karnataka					
Water( rates for obtaining) tariff for household connections (in Rs.)	Villages collecting charges	Households with connection	Monthly demand (in Rs.)	Annual demand	Collection in percentage
10	2	307	3070	36,840	45
20	3	1238	24,760	297,120	50
25	2	62	1550	18,600	75
30	4	1025	30,750	3,69,000	80
40	1	130	5200	62,400	80
60	1	70	4200	50,400	90
75	1	65	4875	58,500	70
Not charged*	4	Nil	Nil	Nil	Nil

\* Two villages are facing severe scarcity and are not getting water, one village has no household connection and one village has no authority to collecting charges.

**Service efficiency not guaranteed with regular payment of charges:**

Charges levied do not have any direct influence on water supply efficiency. It was observed in a couple of villages from the selected samples that the user charges did not have any influence in efficient functioning of the systems. This was observed between and within villages. Villages who were paying charges also faced problems of scarcity and inadequacy accompanied by inaccessibility. This was due to various reasons like source, management, distribution and power problems. Hence, people complained that, even though they paid the water charges, they were not happy with the service while some accepted that the GP also could not do anything about it, while others felt that some solution had to be sought, for instance, in villages where higher tariffs are levied and collected, inadequate and untimely water is provided. Thus, the tariff is collected against bad services. Among the selected districts, except D.Kannada, in all other districts, more than sixty per cent of the households expressed their willingness to pay for the water, if services are efficient.

**Willingness to pay but unwillingness to charge -**

Accordingly, 80 per cent of households expressed willingness to pay. In fact, most of the households expressed that they are already incurring expenditure equal to more on than this. In Gujarat, private parties most of the households on the present water sources managed by private persons. Further, most of the households have not been informed about the water charges that they are required to pay, which are as meagre as Rs.14 per annum. Thus, it is observed in the field that each village has to be addressed separately to make them pay user charges, for which the bottom-up approach is advocated (Table 13).

**Table 13: Willingness to Pay for Water Supply in Karnataka**

Details	Household (%)
WTP	80.5
Unwilling to pay	22.5
Total	100.00

In Karnataka all sample households have expressed the willingness to pay, but the amount they mention as acceptable varies from Rs 50 to more than 150 per annum. However, more than 57 per cent of sample household expressed that per annum they can pay less than Rs 100, which is less than Rs 10 per month, which is very inadequate (Table 14). The Karnataka government recommends Rs 750 per annum as the proper rate. Thus more than 50 per cent sample household are expressed to pay 17 per cent of the amount fixed as tariff. This variation is associated with adequate and quality water only received by villagers. For instance, in Bangalore Rural, Chitradurga and Gulbarga, the households expressed willingness to pay up to Rs 100 per month, in Chitradurga 65 percent of households were willing to pay between Rs.100 and 150. Thus, the village and household information brings out that the villagers are rational in paying user charges. However, there is need to educate them further on the relation between quality of water and health profiles of the household members.

**Table 14: Per annum Willingness to Pay (in Rs)**

Karnataka		
Amount (Rs.)	Number of households	Percentage of recommended rate
<50	120	39
51-100	88	28
101-150	55	18
151>	43	15
Total	306	100

### **Gram Panchayats' grievances**

Huge outstanding power bills - The GPs are facing the problem of paying up electricity bills, due to poor recovery over the years. Discrepancies in power charges in most of the villages do not have proper meters due to various problems (theft and wrong reading of meters), for

them a certain amount is fixed as monthly charge irrespective of the power consumed. DANIDA (funding agency) made an attempt to rectifying by using time as proxy. The GP is asked to maintain the hours of power supply per day and calculate the number of units based on the number of hours power is available; this method has reduced the power bills of GPs considerably. Looking at the meager finances of GPs and the huge bills for electric supply, to ease the situation the Karnataka government waived interests in 1998. Out of the principal amount, government paid 50 per cent and the remaining 50 per cent had to be paid by the concerned GP.

Poor flow of funds from the ZP: Insufficient funds were provided for operation and maintenance. The grants provided per annum to maintain PWS is Rs.8000/-, MWS- 3500/-, borewells Rs.600 respectively in Karnataka. The records show that, GPs receive 70 to 80 per cent of grant untimely. Thus, the grant is not regularly provided and not released fully in time.

Inefficient investments: Investments made have not been well thought out as wasted investments in villages prove the failure of the system. Installing a PWS in a village where the water table is depleting fast makes little sense. Added to this, mismanagement, poor administration and poor quality construction result in poor sustainability of huge investments made. All these factors led to poor supply of water and are not able to meet the target of 55 lpcd. In toto, this has led to a chain of negative effects and low equilibrium situation, leading to inefficient services.

### **Private initiatives in making investments**

There have been private initiatives at local levels, sharing investment costs and also O and M costs. This has been observed among the selected sample villages of Turvannur and Bajpe, where a group of 4 to 10 households together invest on a borewell and share O and M expenditure, with each household taking turns in managing the day to day operations too. The investment varies from Rs.10,000 per family to Rs. 20,000, while the operations and maintenance would be around Rs.50 to Rs.100.

Similar attempts are observed at Yanegudde, a cluster of habitations in the coastal area of Udupi district. People would walk long distance (approximately 1.5 kms) for water depending on the location of their houses. Three years ago, with the effort of some villagers under the right leadership, the village was connected to a PWS. It was agreed mutually that all the household would contribute Rs.2500 per household irrespective of their economic background, some household paid more than the prescribed amount. An overhead tank of 50,000 litres capacity was built and all the households are now provided with PWS. The Bill Collector collects the money and issues a bill to the respective households. People pay Rs.60/- per month uniformly for the water supply.

## **Conclusions**

Investments for regular supply of water can be an engine for accelerated economic growth, sustainable development, improved health and reduced poverty. Investments in rural water supply are largely made by government agencies. However, due to inefficient investment by most agencies, the per capita investment is increasing. The type of technology chosen for investment is capital-intensive even though the per capita investment has increased, the coverage is not commensurate.

Considering the above constraint, planners and service providers are now thinking of introducing efficient alternative investment systems, where the capital as well as recurring costs are to be reduced. Presently, large amounts are being spent by institutions that are delivering the services are unable to obtain enough sources to meet the required expenditure, such as electricity charges. Considering the inability of the GPs, government has waived the accumulated losses of electricity charges a couple of times. A demand-driven approach has been initiated, but has not picked up sufficiently, lack of political will and the reluctance of bureaucracy to implement it. For instance, in a few villages where the demand - driven approach project is being implemented, most of the beneficiaries are still not willing to pay any charges on the advice of political bosses who tell them that such services should be free of cost.

Owing to the resource crunch, new schemes cannot be implemented as most of the financial allocations are diverted to meet the recurrent expenditure rather than capital investment. Capital investments are made quite often on borrowed funds and the support of donor agencies and special allocations to meet a crisis. From the Seventh Five-Year Plan onwards it has been advocated for tapping alternative funds for investment is recommended. In this regard, attempts are being made to tap private investment and user financing, though the former hesitate to participate. Given the low equilibrium trap, the exercises carried out on making users pay have brought about mixed experiences. The alternative is to opt for private participation, bringing reforms into the system through commercial approach and at the same time making allowance for cross subsidy to protect the genuine poor.

To implement this type of programme, regulatory powers and provision of services have to be separated. GPs have to be made responsible for regulatory powers and the provision of services has to be assigned to agencies. Legalization of user charges will meet, to a large extent, the revenue expenditure, while capital expenditure can be met by budgetary allocation. This may contribute to sustainable water supply in rural areas.

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### Endnote

<sup>1</sup> Tax on entertainment other than cinematograph shows; tax on vehicles, other than motor vehicles; Tax on advertisement and hoarding; pilgrim fee on persons attending jattras, festivals, etc., where necessary arrangements for water supply, health and sanitation are made by the Grama Panchayat; Market fee on persons who exhibit their goods for sale in any market place; Fee on the registration of cattle brought for sale in any market place; fee on buses and taxies and auto-stands provided adequate facilities provided for travellers by the Grama Panchayat; and fee on grazing cattle In grazing land.

<sup>2</sup> The first State Finance Commission recommended a share of 30.6 per cent of the State's own revenues to rural PRIs. The shares of GPs, TPs and ZPs were placed at 25%, 25% and 40 % respectively. Distribution of funds across the PRIs was based on the indicators of (i) population, (ii) area and (iii) social and economic indicators of backwardness as indicated by illiteracy rate, road length per sq. km area and number of persons per hospital bed.

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## Annexure

**Annex1: Percent of Households with Different Sources of Drinking Water**

Type of Source	1981			1991			2001		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tap	10.29	63.24	23.03	20.6	65.06	32.26	24.3	68.7	36.7
Well	61.63	20.4	51.71	38.00	15.91	32.23	22.2	7.7	18.2
Tubewell/ Handpump	16.21	11.82	15.16	34.9	16.32	30.04	48.9	21.3	41.3
Tank, Pond, Lake, River, Canal, Spring	8.31	1.6	6.69	4.27	0.66	3.33	3.5	0.7	2.7
Others	3.56	2.94	3.41	2.17	2.04	2.14	1	1.5	1.2
Safe Source of water	26.5	75.06	38.19	55.5	81.38	62.30	73.2	90.0	78.0

Source: Census - 1981, 1991, and 2001

## Annexure 2: Norms of Swajaldhara and role of state government

1. Reform principles of Swajaldhara are: a) demand responsive approach along with community participation at every stage b) full ownership of drinking water assets with appropriate levels of panchayats /communities to have powers to plan, implement, operate, maintain and manage; c) partial cost sharing (cash, kind, labour or a combination) and complete Operation and Maintenance by users; d) partial cost sharing (cash, kind, labour or a combination) and complete Operation and Maintenance by users; e) an integrated service delivery mechanism; f) promotion of water conservation measures; g) shift in government's role towards service delivery to that of planning, policy formulation, monitoring and evaluation and partial financial support.

2. (i) Panchayat Raj Institutions (PRIs) are to be vested with functions and finances as nodal agency at the village level. (ii) Village Water and Sanitation Committee to be made as extended arm of Gram Panchayat. (iii) States would need to enact and implement required laws. (iv) Institutional strengthening and capacity development activities to be created and supported all the level.. (v) State Government should integrate water conservation and rainwater harvesting schemes at the administrative unit level. Under this programme, the state governments are provided with incentives for implementation of reforms.

**Annexure 3: RWS Expenditure in Karnataka by Major Heads (Rs. Crores)**

Major Heads	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
NRWS	0.8	-	-	-	-	-	-
	(0.89)	(-)	(-)	(-)	(-)	(-)	(-)
C. S. S	3.11	2.89	0.18	-	-	-	-
	(3.48)	(2.88)	(0.13)	(-)	(-)	(-)	(-)
Bilateral Assistance	9.72	12.72	35.91	58.54	36.86	13.77	14.83
	(10.88)	(12.65)	(26.44)	(38.88)	(19.38)	(7.65)	(4.00)
Additional Support to ZP	1.07	0.5	2.96	4.02	3.02	8.64	3.45
	(1.20)	(0.50)	(2.18)	(2.67)	(1.59)	(4.80)	(9.31)
ARWS – Grants (CSS)	30.05	40.65	61.98	57.14	94.71	107.25	107.36
	(33.61)	(40.44)	(45.64)	(37.95)	(49.78)	(59.59)	(28.99)
Maintenance	0.26	1.05	-	-	-	-	-
	(0.29)	(1.04)	(-)	(-)	(-)	(-)	(-)
Others	44.39	42.71	34.78	30.86	55.65	50.33	244.74
	(49.65)	(42.49)	(25.61)	(20.50)	(29.25)	(27.96)	(66.08)
Total	89.4	100.52	135.81	150.56	190.24	179.99	370.38
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Source: Compiled from Budget Documents of GOK for different years

Note: (1): Break up is not available; (2) Figures in brackets are percentages to total