

Dr. S. Sundaravadivelu,  
Special Secretary to Govt. (Env't)

Phone – 0413 -2233344  
Telefax -0413 -2226147



**GOVERNMENT OF PUDUCHERRY**  
**CHIEF SECRETARIAT**  
**OFFICE OF THE SPECIAL SECRETARY (Personnel, GAD, Housing, Science, Technology &  
Environment, Town & Country Planning and Transport)**

---

Dated 6<sup>th</sup> November 2012

**An Appeal**

Department of Science, Technology and Environment in tune with the National Water Policy, 2012 and based on the inputs given in the background note issued by the Ministry of Water Resources, Government of India and after conducting series of meetings with the line Departments, has brought out a draft Water Policy for U.T. of Puducherry and has hoisted it in the home page of the NIC website of Government of Puducherry and also in the Department and Puducherry Pollution Control Committee website.

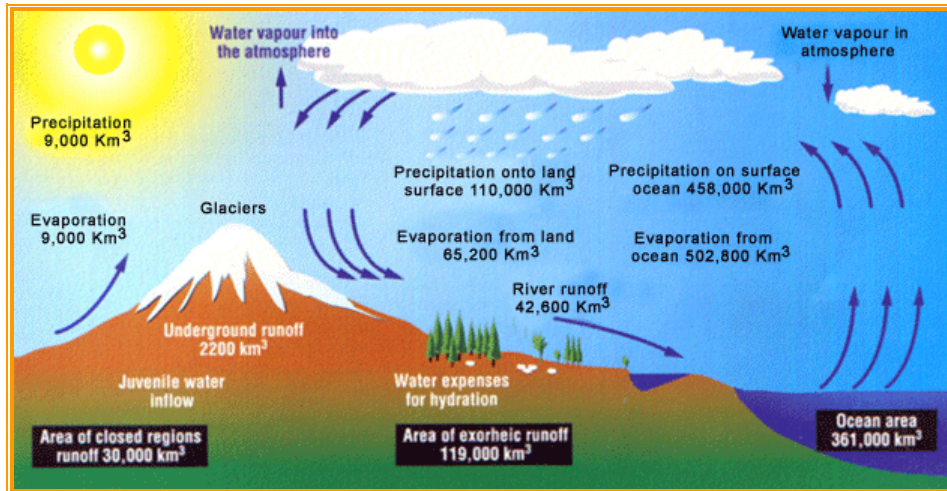
**Suggestions and views are invited from all stakeholders including NGO's and general public. Suggestions / views may be sent on or before 30.11.2012 to the Director, Department of Science, Technology and Environment / Member Secretary, Puducherry Pollution Control Committee, 3<sup>rd</sup> Floor, PHB Building, Anna Nagar, Nellithope, Puducherry – 605 005 either by post or by e-mail to [dste.pon@nic.in](mailto:dste.pon@nic.in) or [ppcc.pon@nic.in](mailto:ppcc.pon@nic.in)**

  
(Dr. S. SUNDARAVADIVELU)  
SPECIAL SECRETARY (ENV'T)/  
CHAIRMAN(PGCC)

Puducherry  
06/11/2012



# DRAFT WATER POLICY OF PUDUCHERRY



(Courtesy: CGWB)

GOVERNMENT OF PUDUCHERRY

## CONTENTS

	<b>Page No.</b>
1. Preamble ... ..	1
2. Information System ... ..	4
3. Water Resources Planning ... ..	4
4. Institutional Mechanism ... ..	6
5. Water Allocation Priorities ... ..	7
6. Project Planning ... ..	8
7. Ground Water Development ... ..	9
8. Rain Water Harvesting ... ..	10
9. Drinking Water ... ..	11
10. Irrigation ... ..	12
11. Financial and Physical Sustainability ... ..	13
12. Participatory Approach to Water Resources Management ...	14
13. Private Sector Participation ... ..	15
14. Water Quality ... ..	15
15. Conservation ... ..	16
16. Climate Change ... ..	17
17. Flood Control and Management... ..	18
18. Land Erosion by Sea or River... ..	19
19. Drought Prone Area Development ... ..	20
20. Monitoring of Projects ... ..	20
21. Performance Improvement ... ..	21
22. Maintenance and Modernization... ..	21
23. Science, Technology and Environment... ..	22
24. Training ... ..	22
25. Conclusion ... ..	22

# **WATER POLICY FOR U.T. OF PUDUCHERRY**

## **1. PREAMBLE**

1.1 Water, a prime natural resource, an essential environment for sustaining all life forms, is a scarce and precious national asset. Realizing the importance and scarcity it is the most crucial element in developmental planning to develop, conserve and manage the water resources in the country in a sustainable manner guided by the national perspective. Efficient and effective water management with integrated or conjunctive utilization of ground and surface water resources are the immediate need to increase the productivity. On the other hand, as the region of Puducherry is prone to frequent floods, droughts and cyclone, a mechanism with national level coordination is to be setup at all vulnerable places for effective natural disaster management.

1.2 It is the responsibility of any welfare Government to provide permanent, protected and potable water to all with adequate attention to the growing needs. The quality of water is to be preserved by way of eliminating / minimizing all the polluting sources. Improvements in existing strategies, innovation of new techniques, resting on a strong science and technology are needed for effective pollution control.

1.3 The annual and normal rainfall and the population census of 2011 of all the four regions of the Union territory of Puducherry are summarized below:

## RAINFALL

Sl. No.	Years	In Millimetres			
		Puduchery	Karaikal	Mahe	Yanam
1.	2010 – 2011	1834	1841	3005	2307
2.	2011 – 2012 *	1376	1081	3201	676
Normal Rainfall**		<b>1323</b>	<b>1435</b>	<b>3344</b>	<b>1214</b>

Source : Public Works Department, Puducherry

Note : \* For the period upto November, 2011.

\*\* Normal rainfall is the simple arithmetic average of data for 30 years from 1980-81 to 2009-10 (June to May).

## POPULATION – 2011 CENSUS

Sl. No.	Item	In Numbers			
		Puduchery	Karaikal	Mahe	Yanam
1.	Population	946600	200314	41934	55616
Total		<b>1244464</b>			

Source : Director of Census Operations, Puducherry

1.4 The Union territory has achieved one hundred per cent coverage in providing potable drinking water supply in both urban and rural areas.

The present per capita supply and sewage generated are as follows:

### PRESENT PER CAPITA SUPPLY AND SEWAGE GENERATED

Sl. No.	Particulars	Quantity
1.	Urban areas	135 LPCD
2.	Rural areas	70 LPCD
3.	Sewage generation	60 MLD
4.	Sewage treated by PWD*	13 MLD
5.	Mode of disposal	Sea

Note : \* Modernization and expansion of existing Sewage Treatment Plants of Public Works Department with underground sewage transport facilities are in progress.

1.5 The Union territory is mainly dependent on ground water for all uses. There are two major tanks (Ousteri and Bahour) and 86 small and medium tanks in Puducherry. The utility of ground water resources is as follows:

#### **UTILITY OF GROUND WATER RESOURCES**

<b>Total Replenishable Ground Water Resources</b>	<b>Provision for Domestic, Industrial and Other Uses</b>	<b>Available for Irrigation</b>	<b>Projected Net Draft</b>	<b>Balance for Future Use</b>	<b>Level of Ground Water Development</b>
174.6	26.2	148.4	115.5	32.9	77.85%

#### **ESTIMATED WATER REQUIREMENT FOR VARIOUS SECTORS**

<b>Sl. No.</b>	<b>Sector</b>	<b>Quantity (MCM)</b>	<b>Percentage</b>
1.	Domestic	35.35	16
2.	Agriculture	174.70	81
3.	Industrial and Others	7.02	3

1.6 The National Water Policy 1987 was reviewed and updated by the Ministry of Water Resources and the revised policy titled “National Water Policy 2002 was adopted in the 5<sup>th</sup> Meeting of the National Water Resources Council held on 1<sup>st</sup> April 2002. Subsequently, draft National Water Policy, 2012 was unveiled during January 2012 and as recommended by National Water Board in its 14<sup>th</sup> Meeting held on 7<sup>th</sup> June, 2012, revised draft National Water Policy, 2012 was released by the Ministry of Water Resources, Government of India.

1.7 In tune with the draft National Water Policy, 2012, Government of Puducherry has decided to formulate a State Water Policy with an operational action plan in order to achieve the desired objectives.

## **2. INFORMATION SYSTEM**

2.1 For proper planning and effective implementation of the projects, rehabilitation and preservation of the resources, efficient management with adequate training in operation and maintenance of the systems, it is a prime requisite to establish a well developed management information system. A standardized information system with a network of data banks and data bases will coordinate with the organizations of Central and neighboring State Governments promoting free exchange of data among various agencies. Advanced information technology and standard procedures will be introduced by the above referred system which will not only study the water availability and actual usage but also project comprehensive and reliable data of future demands of water for diverse purposes. The “Union territory of Puducherry Hydrology Organization” a society run by Government of Puducherry” will develop a water management information system, comprising of surface, ground and meteorological data relating to water. State Hydrology Organization along with State Groundwater Authority will develop a system for the sustainability of operating the Society created for World Bank Hydrology Project beyond 2014. The services of the other institutions or organizations and technical expertise from the academic institutions will be made use of whenever required.

## **3. WATER RESOURCES PLANNING**

3.1 This Water Policy is applicable to all the water resources in the Union territory. A Water Resources Control Management and Review Council or Committee will be constituted to monitor the implementation of the Policy.

3.2 Effective systems for the flow of data from the field to the Management Information System and vice versa will be established.

3.3 Water balance studies and master plan will be prepared. Water resources available in the State shall be brought within the category of utilizable resources, to the maximum possible extent.

3.4 Puducherry Ground water Authority constituted under Act No.2 of 2003 will deal with ground water and its conjunctive use.

3.5 The encroachment in all the water courses and water bodies will be removed.

3.6 The water bodies will be rehabilitated and their storage capacity will be increased or at least restored to their original capacity.

3.7 The systems will be modernized and the losses will be minimized.

3.8 Recycling and reuse of water will be promoted wherever possible for alternative usages by appropriate measures.

3.9 Water management in the Irrigation Sector will be improved by way of adopting modern methods.

3.10 Water shed management will be improved by way of afforestation, soil conservation and constructing check dams in order to minimize soil erosion and sedimentation.

3.11 Augmentation of water resources will be made by way of creating new tanks, constructing bed dams and regulators across rivers and canals, desilting of tanks and ponds and also artificial recharging of ground water.



3.12 Rain water harvesting by the individuals and organizations will be encouraged and has been made mandatory through Building Byelaws and regulations. Rain water harvesting in commercial, industrial and agricultural sector shall be improved and strengthened by implementing year wise monitorable targets by Puducherry Planning Authority and Agriculture Department.

3.13 Possibilities of utilizing sea water for drinking and industrial purposes after desalination will be explored.

3.14 The quality of water will be monitored at frequent intervals as per the legal provisions of the Environment (Protection) Act, 1986.

3.15 Over exploitation of ground water will be prevented through Legal measures.

3.16 Continuous efforts will be taken to protect river banks and seashore from erosion.

3.17 Economic instruments will be judiciously employed to curb wasteful use of water.

#### **4. INSTITUTIONAL MECHANISM**

4.1 In order to ensure effective planning and management of water resources on a hydrological unit basis, along with a multi-sectoral, multi-disciplinary and participatory approach as well as integrating quality, quantity and the environmental aspects, the existing institutions at various levels handling water

resources will be appropriately reoriented/reorganized in the absence of which even new institution will be created, if necessary. More importance will be given to the schemes related to maintenance of water resources and the systems.

4.2 The Ground Water Authority constituted under the Pondicherry Ground Water (Control & Regulation) Act, 2002 will be strengthened with required legal, administrative and financial support so that the Authority will effectively and efficiently control and regulate the extraction of Ground water in any notified area, since sea water intrusion due to over exploitation of ground water resources is a serious concern in the Union territory, posing threat to the future generation. Even the existing wells will be brought under the control of the Authority. A new Department in the name of Water Resources Department may be created by amalgamation of Irrigation Division of Public Works Department, State Ground Water Authority and State Ground Water Unit.

## **5. WATER ALLOCATION PRIORITIES**

5.1 In the planning and operation of systems, water allocation priorities will be broadly as follows:

1. Drinking Water
2. Irrigation
3. Industries
4. Ecology
5. Navigation
6. Power

However, the priorities could be modified or added if warranted by the area specific considerations.

## **6. PROJECT PLANNING**

6.1 Water resources development projects will as far as possible be planned and developed as multi-purpose projects. Provision for drinking water should be the primary consideration.

6.2 The study of the likelihood of impacts of a project during constructions and later on human lives, settlements, occupations, socio economic conditions, environment and other aspects shall form an essential component of project planning.

6.3 In the process of planning, implementation and operation of a project the preservation of the quality of environment and ecological balance should be the primary consideration. The adverse impacts on the environment, if any, should be minimized and should be set-off by adequate compensatory measures. The project should be sustainable.

6.4 There should be an integrated approach to the planning, formulation, clearance and implementation of projects including catchment area treatment, environmental and ecological aspects, rehabilitation of and compensation for affected people, command area development, soil erosion, drainage systems and economy. Special attention will be paid in Project planning to promote the socio- economic status of disadvantaged groups.

6.5 Time and cost overruns and deficient realization of benefits characterizing most water related projects should be overcome by upgrading the quality of project preparation and management. Public Works Department will define and include target (Year-wise / 5 Years) based Transmission and

Distribution losses. Adequate funding of projects should be made available on priority basis for early completion.

6.6 Participation of beneficiaries and farmers with involvement in all stages of the project from planning to implementation and also in the operation and maintenance should be encouraged.

## **7. GROUND WATER DEVELOPMENT**

7.1 As all the four regions are located in the coastal area, assessment and monitoring of the valuable and replenishable ground water resources will be undertaken by the Agriculture Department, Public Works Department and State Ground Water Unit during the year 2013.

7.2 In any water based project preparation, integrated and co-ordinated development of surface and ground water resources and their conjunctive use will be envisaged.

7.3 Areas of ground water resources will be identified and ground water modeling prepared so that future planning and monitoring could be more effective and economical.

7.4 Ground water samples will be collected periodically and monitored for its water quality for contamination, if any.

7.5 Artificial recharging of the ground water resources will be undertaken wherever possible in a scientific manner and also through regulations.

## **8. RAIN WATER HARVESTING**

8.1 All efforts will be made to store the surplus rain water in the canals, ravines and rivers by way of constructing small beddams or regulators.

8.2 In order to increase the utilizable water resources, traditional water conservation practices of rain water harvesting including roof top rain water harvesting will be mandated through appropriate regulations and be practised. Periodic awareness campaign will be carried out by all the related Departments and Statutory Bodies. State Ground Water Unit will encourage ten best Rain Water Harvesting Structures thro' certification each year.

8.3 In order to augment the ground water resources, suitable and appropriate rain water harvesting systems will be designed taking into consideration the hydrogeology, soil condition, rainfall and run off. All the public buildings will be provided with roof top rain water harvesting systems. With respect to roof top rain harvesting system and reuse of waste water, necessary amendments in the Puducherry Building Bye-laws and Zoning regulations have already been made by issuing Government Order. Compliance of rain water harvesting structures in the occupancy certificate as to be ensured. Puducherry Planning Authority will examine the possibility of amending the Government Order for non-compliance of rain water harvesting for making it as a compoundable offence. Fiscal and tariff policy interventions will be made to encourage the individuals and Institutions for construction of such systems in their own premises. The old dug wells will be utilized for the purpose of harvesting rain water and recharging the ground water through appropriate schemes.

8.4 In selected areas, erection of farm ponds to store the rain water and use at the time of scarcity will be encouraged by way of financial assistance.

## **9. DRINKING WATER**

9.1 As the Government is aware that providing potable, protected and permanent drinking water facilities to the entire population is its responsibility, irrigation and multipurpose projects will invariably include a drinking water component wherever there is no alternate source of drinking water. Drinking water needs of human beings and animals will be the primary charge of any available water. Assessment of Transmission and Distribution losses in the distribution of pipelines, water auditing, proposal to avoid wastage and effective usage, annual Transmission and Distribution reduction targets and study to identify strategy for reduction of losses during transmission shall be carried out by Public Works Department and Agriculture Department. Tariff increase can be considered and water pricing to be enhanced by Local Administration Department.

9.2 There is no scope for constructing mega reservoir in this Union territory. Hence, micro water shed development like bed dams, tail end regulators, new tanks, increasing the storage capacity of existing tanks and reservoirs will be undertaken for optimum rain water harvesting to mitigate water scarcity. Conjunctive use of surplus surface water collected in the tanks and dams along with the available ground water will be explored.

9.3 Even though the process of desalination is quite expensive, the desalination plants may be considered on pilot project basis under proper monitoring in selected areas where there can be economic and social justification for the use of such high cost water for industrial and drinking purpose.

## **10. IRRIGATION**

10.1 There is continuous decline in the extent of irrigated lands due to several reasons such as,

- (i) Non-availability of water during the appropriate period.
- (ii) Poor maintenance of canals and tanks.
- (iii) Urbanization / Industrialization.

By way of rehabilitation of the existing systems, stabilization and development of command areas, concerted efforts will be made to ensure that irrigation potential so created is preserved and fully utilized.

10.2 All the 84 tanks in Pondicherry region were desilted and the total storage capacity has been increased from 35m cum to 75m cum. Public Works Department shall revive and sustain the Tank Rehabilitation Project Puducherry. Possibility of forming a Lake Conservation Development Authority be considered. These tanks will be periodically desilted and maintained. Also the existing surface water bodies in all regions will be desilted and maintained.

10.3 New tanks will be created wherever possible for augmentation.

10.4 Improving the irrigability of land, introducing cost-effective irrigation from all available resources of water and implementation of modern and appropriate techniques for optimizing water use efficiency will be taken into account in irrigation planning.

10.5 There will be a close integration of water-use, land-use and industrial policies.

10.6 Water allocation in an irrigation system will be done with due regard to equity and social justice. Disparities in the availability of water between head reach and tail-end farms and between large and small farms will be obviated by adoption of a rotational water distribution system and supply of water on a volumetric basis subject to certain ceilings and rational pricing.

10.7 As the irrigation sector is consuming the largest quantum of water resources, scientific water management, farm practices and sprinkle / drip system of irrigation will be adopted wherever feasible.

10.8 Reclamation of water logged /saline affected land by scientific and cost effective methods will be a part of command area development.

10.9 Recycling and reuse of water wherever possible will be attempted through regulations for augmentation of water resources. This will include reclaiming of useable water from sewerage after treatment and raising crops.

10.10 Based on cropping pattern, crop calendar method of irrigation water budgeting will be framed taking into account the availability, extent of command and deficit management.

10.11 The use of open wells and village ponds will be encouraged for rainwater harvesting purposes. The existing open wells will not be allowed to be filled up or abandoned.

## **11. FINANCIAL AND PHYSICAL SUSTAINABILITY**

11.1 To ensure physical and financial sustainability of the systems so created, water charges will be levied atleast to meet out the cost of operation and



maintenance at the initial stage and a part of capital investment subsequently. This is in order to create awareness among the users on the precious value of the resource and sense of economy in its use.

11.2 The subsidy on water rates will be discouraged. However, poorer sections of the society will be well protected by cross subsidizing the cost.

11.3 For implementing various activities, programmes and projects the line Departments / Statutory bodies will have to make provisions in their respective heads of expenditure allocated to the respective Departments / Bodies.

## **12. PARTICIPATORY APPROACH TO WATER RESOURCES MANAGEMENT**

12.1 The beneficiaries will be involved in all stages of planning, implementation and operation and maintenance of the systems. Special efforts will be made for the provision of participation of women in all the activities. Income generating activities will be initiated as gender entrepreneurial objective. Water Users Associations and the local bodies will be involved in the management of water bodies and such systems. Public Works Department along with Agriculture Department and Krishi Vigyan Kendra shall develop 84 local tank committees for operation and maintenance of Tank Rehabilitation Project Puducherry. Necessary legal and institutional changes will be made at various levels for the purpose.

### **13. PRIVATE SECTOR PARTICIPATION**

13.1 Private sector participation will be encouraged in planning, development and management of water resources projects wherever feasible, as such participation will help in introducing innovative ideas, generating financial resources and corporate management and improving service delivery efficiency and accountability to users.

### **14. WATER QUALITY**

14.1 Periodical monitoring of both ground and surface water quality will be invariably carried out. An area based program will be undertaken for improvements in water quality.

14.2 Discharge of effluent and solid waste into natural streams and water bodies will be monitored so as to ensure that they are treated to the acceptable norms. Puducherry Pollution Control Committee which carries out monitoring of quality of ground and surface water through “National water Quality Monitoring” will carry out the monitoring of surface water discharge also. Further, Puducherry Pollution Control Committee will expand its activity and widen its scope by carrying out water quality study at Kombakkam, Mettupalayam and Sederapet in addition to the existing sampling locations. To avoid duplication of work collection of water samples shall be co-ordinated between Public Works Department, Agriculture Department and Puducherry Pollution Control Committee.

14.3 Principle of “polluter pays” will be followed in management of water resources.

14.4 Necessary Government Orders will be issued for preservation and protection of water bodies thereby preventing encroachment and deteriorating water quality.

14.5 The Union territory of Puducherry Hydrology Organisation will be the Nodal agency to Collect, Collate and disseminate all data relating to water especially its quality.

14.6 The State Level Water Quality Review Committee constituted vide G.O.M.S.No.6 of LAD & PWD dated 10.3.2003 will periodically meet and monitor water quality.

14.7 State Level Environment Impact Assessment Authority will consider water use of the Industry as an important term of reference under Environmental Impact Assessment Notification, 2006.

## **15. CONSERVATION**

15.1 An awareness will be created that water is a scarce and precious resource and NOT an ordinary and cheap material. Conservation consciousness will be promoted through education, regulation, incentives and disincentives and awareness to all stakeholders through documentary films by Agriculture Department.

15.2 Efficiency of utilization will be improved through -

- (i) Modernization and rehabilitation of systems including tanks.
- (ii) On farm development
- (iii) Conjunctive use of surface and ground water.

- (iv) Recycling and re-use of water including treated urban sewage water.
- (v) Minimizing evaporation losses from storage.
- (vi) Evolving cropping pattern for devising optimal benefit per unit of water.
- (vii) Monitoring and minimizing losses in water distribution in rural areas by Local Administration Department.
- (viii) Water use tariff regime.
- (ix) Installation of digital meters in rural areas in all overhead tanks and bore-wells by Local Administration Department and Public Works Department.

## **16. CLIMATE CHANGE**

16.1 Climate change is likely to increase the variability of water resources thereby affecting human health and livelihoods. Therefore, adaptation to Climate change is essential as all the four regions of the U.T. of Puducherry are situated along the coast.

16.2 Climate change may increase the sea levels. This may lead to salinity intrusion in ground water aquifers / surface water bodies and increased coastal inundation in coastal regions thereby leading to change in agricultural strategies and cropping patterns.

16.3 Techno aspects and adaptation strategies include increasing water storage at micro level through soil moisture conservation, reviving and sustaining of ponds including farm ponds, lakes, tanks and ground water which provides a mechanism for dealing with increased variability because of Climate change.

16.4 Land – Soil – Water management from location specific research and academic institutions to evolve different agricultural strategies and cropping

patterns, reducing soil erosion and improving soil fertility, water shed management has to be developed.

16.5 Likely impact of Climate change needs to be reduced by increasing plantation and forest cover as carbon sink and industries emitting global warming gases shall account for carbon credit.

## **17. FLOOD CONTROL AND MANAGEMENT**

17.1 A master plan for flood control management for each region will be prepared by Public Works Department in co-ordination with Revenue Department.

17.2 Sound water shed management through extensive soil conservation, catchments area treatment, preservation and increasing the forest area will be promoted.

17.3 Construction of check dams which will not only reduce the intensity of floods but also serve as micro level water storage structures will be encouraged.

17.4 Adequate flood cushion will be provided in water storage projects wherever feasible to facilitate better flood management.

17.5 While continuously taking up the physical flood protection works like embankments and dykes, increased emphasis will be laid on non-structural measures such as forecasting and warning, flood plain zoning, and flood proofing for the minimization of losses and to reduce the recurring expenditure on flood relief.

17.6 There will be strict regulation of settlements and economic activity in the flood plain zones along with flood proofing to minimize the loss of life and property on account of floods.

17.7 The flood forecasting will be modernized, value added and extended to other uncovered areas. Flood forecasting will be instituted for their effective regulation.

## **18. LAND EROSION BY SEA OR RIVER**

18.1 A Comprehensive Coastal Zone Management Plan keeping in view the environmental and ecological impact will be prepared to regulate the developmental activities in conformity with the Coastal Regulation Zone-2011 issued by the Ministry of Environment and Forests by the Town and Country Planning Department by 31<sup>st</sup> December 2012.

18.2 Indiscriminate occupation and exploitation of coastal strips of land will be discouraged.

18.3 All economic activities in areas adjacent to the sea will be regulated.

18.4 Considering the density of Coastal population and its vulnerability to the elements of nature, adequate measure will be taken to safeguard the safety interest of the inhabitants.

18.5 River bank protection measures will be taken.

## **19. DROUGHT PRONE AREA DEVELOPMENT**

19.1 Failure of monsoon is also a recurring event of nature in the territory causing severe drought. Drought-prone areas should be made less vulnerable to drought associated problems through soil moisture conservation measures, water harvesting practices, minimization of evaporation losses, development of ground water potential including recharging and the transfer of surface water from surplus areas where feasible and appropriate. Pastures, forestry or other mode of development which are relatively less water demanding should be encouraged. In planning water resource development projects, the needs of drought-prone areas should be given priority. Forecasting about droughts and appropriate adaptation programme shall be communicated to farming and its allied sector. Subsidy for deepening of wells shall be provided by the Agriculture Department at the time of drought.

19.2 Relief works undertaken for providing employment to drought-stricken population should preferably be for drought-proofing.

## **20. MONITORING OF PROJECTS**

20.1 A close monitoring of all related projects to identify bottlenecks and to adopt timely measures to obviate time and cost overrun should form part of planning and execution. A Steering Committee under the Chairmanship of the Chief Secretary can be constituted to monitor the projects implemented under Water Policy at quarterly intervals.

20.2 There will be a system to monitor and evaluate the performance and socio-economic impact of the project through the State Environment Impact Assessment Authority.

## **21. PERFORMANCE IMPROVEMENT**

21.1 Greater emphasis will be laid on the improvement of performance of the existing systems than on creation of and expansion of infrastructures for diverse uses.

21.2 Priority will be given to the needs of development, operation and maintenance of the systems while allocating funds under water resources sector.

## **22. MAINTENANCE AND MODERNIZATION**

22.1 The age-old systems and the new assets created will be properly maintained. Adequate funds will be provided every year for maintenance.

22.2 There will be a regular monitoring of structures and systems and necessary rehabilitation will be undertaken on priority by the Public Works Department.

22.3 Modernization with modification of structures, construction of new regulatory structures, lining of stretches where losses are heavy, strengthening of bunds, increasing storage capacity, interlinking channels enabling integrated system operation, bank protection, improving the drainage system on farm development will be undertaken.

22.4 Water Users Associations with authority and responsibility have been constituted to facilitate the management including operation and maintenance of irrigation and distribution systems within their jurisdiction in a time bound manner.



## **23. SCIENCE, TECHNOLOGY AND ENVIRONMENT**

23.1 For effective and economical management of our water resources, the frontiers of knowledge need to be pushed forward in several directions by intensifying research efforts in various areas.

23.2 The Department of Science, Technology and Environment, Government of Puducherry will encourage research by funding relevant need based projects in the core areas as applicable.

## **24. TRAINING**

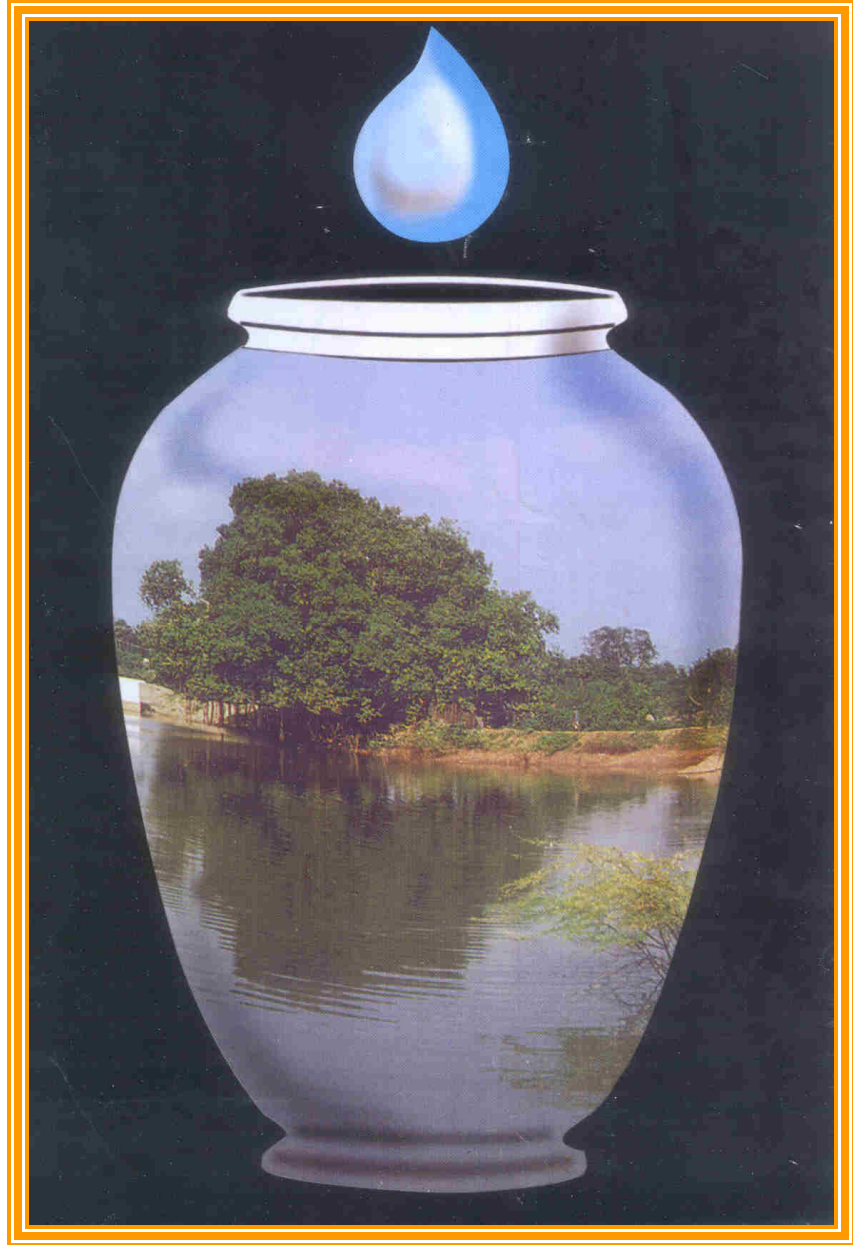
24.1 A perspective plan for standardized training will be an integral part of water resource development. It will cover training in information systems, sectoral planning, project planning and formulation, project management, operation of projects and their physical structures and systems and the management of water distribution systems. The training will extend to all categories of personnel involved in these activities as also to the farmers.

## **25. CONCLUSION**

25.1 The world can never exist without water as rightly appreciated by Thiruvalluar in the Kural “Neerindri Amaiyadhu Ulagu”. The resource is scarce and limited. But the demand for water is increasing day by day. Taking into account the vital importance of water for all living creatures, for preserving ecological balance and for economic and developmental activities of all kinds, and also considering its increasing scarcity, the planning and management of water resources and its optimal, economical and equitable use has become a matter of utmost urgency. Community participation in planning, implementation

and management will be encouraged for achieving the desired objectives of the water policy successfully. A time-bound operational action plan will be formulated. The water policy may be reviewed and revised periodically as and when need arises.

-:☺:-



*SAVE WATER FOR FUTURE*