Water Resources Department
Government of Kerala

WATER POLICY 2008



I. Background

1.1. Rationale for a Water Policy

Water is a natural resource vital for the survival of life. It is becoming increasingly evident that limited availability of water can impede further progress while its thoughtless exploitation can negate most of our socio-economic achievements. With the availability of water and water-use pattern undergoing constant changes and facing pressures owing to a variety of environmental and human factors, it has become necessary to lay down guidelines and policy parameters for the optimal utilization and proper conservation of this natural resource. There is an imminent need to create greater social awareness about the rights and responsibilities in the use of water and to put in place better management practices in the utilization of this invaluable resource. It is also necessary to ensure people's participation in water sector within the framework of decentralized democratic institutions and to evolve suitable frameworks and strategies for the continual up-gradation of water

environment. Further, it is important to make sure that the right of every citizen to equitable access to water for his or her basic needs is protected and enforced through appropriate policy, legislative and programme initiatives. State Water Policy is, therefore, a necessary prerequisite for proper planning, thoughtful utilisation and sustainable management of water. It calls for a multidisciplinary and holistic approach that considers water as part of the ecosystem for the benefit of all and not as a commodity for the profit of a few.

1.2. Guiding Principles

Access to water is a human right. As water is a common heritage having economic value, the responsibility for its regulated use and conservation is vested with every citizen and community. The ownership of water resides with the State as a publicly owned resource with entitlement for individuals, communities and service providers to use water without owning it. In order to conserve and manage water, micro-watershed have been considered as a basic unit and river basin, as an integrated unit of micro-watersheds, shall

define water rights and regulate water use. This will facilitate a resource-based approach, user participation and a sustainable and equitable water resource management.

1.3. Basic strategies

A policy framework shall be adopted to create an enabling environment for equitable, sustainable and productive management of water resources for ensuring public health, promoting growth and minimizing regional imbalance. This shall include restructuring of roles and relationships of the State and water users for promoting efficient and productive use of water. It is necessary to redesign the present institutional arrangements in order to guide and regulate water use and achieve better stakeholder participation in planning, development and management of water resources at the river basin and micro-watershed levels. With a view to improving efficiency and productivity, high priority shall be given for promoting and supporting the development, adaptation and dissemination of new and appropriate technologies in water resource management.

1.4. Objectives

The major objectives of this Policy are to:

- Adopt integrated and multi-sectoral approach for planning, development and management of water resources.

- Consider micro watersheds as the basic unit for the conservation and optimal utilization of water resources for achieving resource sustainability.

- Integrate the problems and prospects of water resource systems by considering river basin as the basic unit.

- Emphasize the importance of comprehensive watershed conservation and management plan, water quality management plan, long-term sub-basin and river basin operation and monitoring plan and State water resource plan.

- Enable appropriate institutional mechanism and legal measures for sustainable water resource development and management.

1.5. State of Water Resources

There is a mistaken notion that water is abundant in the State. Though the State receives an average annual rainfall of 3000 mm, the undulating topography of the State coupled with deforestation and sand mining in the rivers lead to an accelerated draining of water to the sea. This is evident from the fact that the groundwater recharging has suffered and groundwater levels have steeply declined.. 5 blocks have already been declared as over-exploited while 15 blocks are identified as critical and another 30 blocks as semi-critical. The widespread wetland system too has come under great strain by widespread conversion of paddy fields for non-agricultural purposes, affecting the recharging of aquifers and water bodies. The pollution levels in the water bodies and drinking water sources have gone up at an alarming rate. Factors like unscientific waste disposal, lack of alacrity to protect the rivers and other water bodies and unplanned construction of toilets in areas of high density of population have led to the steady deterioration of water quality. Kerala has not adequately responded with appropriate water-retention techniques and approaches to meet the challenge of the high rate of rundown.

1.6. Issues in Water Sector

Water is an essential resource for drinking and agricultural purposes. According to Census, 2001, about 77% of the rural population and 56% of the urban population draw their drinking water from wells. This implies that a substantial number of open wells and ground water sources which serve as drinking water sources need to be protected from bacteriological and chemical contamination. The demand for piped drinking water is bound to grow in a developing society. The operation and maintenance of drinking water schemes need constant improvement and modernization of the distribution network, treatment technologies and optimization of delivery. The existing demand-supply mismatch has to be addressed by perspective planning and the sustainability of water sources have to be ensured with the participation of stakeholders and Local Self Government Institutions.

The technical support for integrated water resource planning at the level of Local Self Governments is grossly inadequate. This is a major handicap, which prevents the users from

involving and owning water related projects and schemes. There is a shortage of adequate facilities at various levels for testing water quality.This has to be addressed.

The total replacement of traditional systems by piped water supply need not be a goal as long as it is possible to ensure the safety of those sources of water.The 'polluter pays' principle is enforced only in the case of industrial discharges for minimizing contamination of surface and ground water sources. The same approach needs to be extended to other sectors too. The changing water use habits and increased pumping have enhanced the chances of saline water intrusion in coastal terrains.The extent of salinity intrusion in rivers also increased consequent to change in river flow regime.

Irrespective of an irrigation potential of 15 lakh ha (net), the net irrigated area, as on 2004, was only 3.81 lakh ha.The water use efficiency of the existing irrigation distribution system is poor with poor corelation to agriculture production and productivity. The major irrigation schemes have lost their bearing, especially with a fast changing land use pattern. Long

years for completion of irrigation projects and exorbitant costs have alienated them from farmers' priorities. There is a need for greater accountability and transparency in the management and operation of major irrigation projects. This is necessary to redeem their relevance for the farming sector.

The minor irrigation schemes, irrespective of their appropriateness to Kerala conditions, receive less attention with only about 14 to 17% of the overall investment in irrigation sector. The traditional water storages are mostly dilapidated due to negligence. While there is increased spending in the water sector, maintenance has not received adequate attention. Participatory irrigation management is yet to be materialized beyond pilot studies. Availability of water is not considered as a major criterion for industrial zoning. Lack of institutional regimes for water allocation and management at the river basin, sub basin and watershed level leads to sub optimal use of water. The efficiency of repeated utilization of tailrace water from hydroelectric projects needs periodical review. The management of wetlands for sustainable fisheries, tourism, transportation etc. is also inadequate.

II. Policy Parameters and Initiatives

2.1 Water Use Priorities

The State shall follow the following priority for allocating water among the various categories of users. Such a prioritization will be primarily based on the integrity of Ecosystem and will also take into consideration the physical, environmental and social background of the state.

- Domestic use
- Agricultural use
- Power generation
- Agro-based industrial use
- Industrial and commercial use
- All other uses

The necessity of conservation, development and management of water resources based on the concept of watershed is inevitable for maintaining the ecosystem, integrity of rivers and

river basins of Kerala. This is of special importance to Kerala because of the fragility of ecosystems, high density of population, changing water use habits etc. Government shall prioritize the availability of water to vulnerable groups and take steps for the sustainable management and development of each river basin.

2.2. Water Use Entitlement

The absence of clear and enforceable water entitlements at all levels causes service shortcomings, water use inefficiency and conflicts. Therefore, the State shall establish a well-defined transparent system for water entitlements according to the guidelines and prescriptions made and accepted by the public at large. Government shall be guided by the realization that water as a community resource shall be primarily utilized for public benefit and individual's interest shall not be allowed to take precedence over public interest. The commercial exploitation, use and transactions of water by private individuals and establishments shall be regulated.

2.3. Management of Existing Water Resource Projects

In order to analyze and improve the performance of all water resource projects, benchmarking exercise shall be undertaken and completed in a time bound manner. Considering the nagging issues of time and cost overruns of major and medium water resources projects, priority shall be given for completion of pending projects by stipulating cut off dates, pooling and allocating resources and constituting special task forces for close monitoring and public accountability. Short-term (annual) and long-term (five-year) management plans shall be prepared for all the major/medium irrigation and drinking water systems using modern scientific tools. In all irrigation projects, Participatory Irrigation Management (PIM) shall be implemented. In order to ensure efficient implementation of PIM, an exclusive legislation shall be enacted and necessary organizational and procedural changes shall be effected.

The Dam Safety Authority of the State shall be equipped and strengthened for organizing scientific studies pertaining to dam safety, dam break analysis, disaster management and

emergency preparedness planning etc. Safety monitoring as well as safety aspects of the structures shall be made transparent. In order to have periodical evaluation of resource sustainability and assess the corrective measures required, if any, water audit shall be made compulsory for all the projects.

2.4. Water Resources Planning

The sustainable development of water resources of the State calls for an ecosystem approach and it shall be facilitated through micro watershed based planning and intervention. In the case of groundwater aquifers, the assessment and development shall be made based on the specific characteristics of respective aquifers.

Detailed database on water at the micro watershed level shall be prepared in a participatory mode and water balance shall be estimated at the watershed, sub basin and river basin levels. A state-level master plan for water resource development and management shall be prepared by compiling the status and action plans in each micro watersheds, subbasins and river basins in a hierarchical form. The master plan, so prepared,

shall form the basis for development interventions and sectoral prioritization ensuring sustainability, equity and participation.

The overall responsibility of implementation, management and maintenance of small and medium drinking water supply and irrigation schemes shall be shared with appropriate Local Self Governments and State Government based on specific guidelines. In order to improve the resource use efficiency, all the irrigation projects shall be considered as multi-purpose projects. The possibility of raising resources through alternate means and ensuring social equity through decentralized mode of intervention in water sector under Local Self Governments shall be utilized.

In water resources projects, especially in irrigation sector, the future thrust shall be on medium and small schemes. The groundwater exploitation by pumping shall be regulated based on yield tests of wells. The concept of conjunctive use of surface and ground water resources shall be encouraged in command areas and farmlands. In order to optimize the utilization of groundwater, awareness creation and capacity

building shall be resorted to on the complexity and advantages of groundwater development and management.

The conservation and management of traditional water resources structures with stakeholder participation shall be adopted as an important practice. Artificial groundwater recharge measures shall also be promoted. Effective measures shall be adopted to prevent the physical, chemical and biological loading into wetlands. The paddy fields in the State shall be preserved for their environmental functions as well as agricultural values. Integrated management action plan for all the wetlands and their drainage basins shall be formulated and implemented.

The Fisheries and Water sectors are inalienably related. Protection of water bodies to sustain traditional fishing activities will receive a high priority. Appropriate measures for protection and development of water bodies will be adopted with a view to augmenting fish stocks and ensuring livelihood security to the fishing community. Participation of the stake holders, departments and agencies engaged in this sector will be ensured in these efforts.

Rainwater harvesting shall be given priority and promoted especially in the coastal and high range regions. Special incentives and support shall be extended to Local Self Governments and institutions for popularizing rainwater-harvesting structures. The desalination of water, though a costly option, shall also be adopted in critical areas after ruling out other alternatives.

Adoption of appropriate technology shall be made compulsory for water resource projects considering its environment friendliness, economic efficiency, technical feasibility, safety and adaptability for enabling faster transition to a dispersed production system. While planning projects, alternate plans shall be explored and their environmental viability examined for selecting the most optimal proposal. Environmental viability of projects shall be ensured using environmental impact assessment and implementation of environmental management plans. Disaster management plans shall be made essential for major projects. Periodical environmental auditing shall also be made practice for ensuring the system sustainability.

Alternate mechanism for financing water projects shall be considered, where appropriate, in order to introduce new technology and innovative financing, obtain management expertise and improve the quality and cost-effectiveness of water services after ensuring accountability and equity. A detailed rehabilitation and resettlement policy shall be necessarily formulated for the State and commissioning of a project shall be done only after implementation of rehabilitation and resettlement plan, if applicable.

2.5. Implementation of Water Resources Projects

Documentation and monitoring shall be made compulsory for project implementation with a view to ensuring timely realization of project benefits and sustainability. In order to enable fast decision-making, speedy implementation and involvement of stakeholders in project implementation and management, necessary procedural changes and amendments to the existing codes and regulations shall be made.The gaps in existing organizational setup for project implementation shall be identified and necessary changes adopted.

Importance of time lines and quality control in project implementation shall be recognized and appropriate mechanisms for ensuring quality of works and timely implementation shall be strengthened. In order to monitor the effectiveness of adopting the environmental management plans, periodic environmental monitoring shall be made compulsory.

The factors that lead to abnormal cost escalation should be identified and necessary precautions should be taken to avoid this, by bringing about more accountable and transparent practices and social audit and concurrent evaluation at every stage.

2.6. Water Quality Management

The correlation of water quality with public health is self-evident. Suitable preventive and corrective measures, with active public participation will be taken up under this policy to ensure the safety of drinking water.

The quality of water for designated uses shall be appropriately ensured. Regular water quality upgradation programs shall be

undertaken, with the support of Local Self Governments, for the protection of water bodies under perpetual dangers of pollution. The protection of existing water bodies shall be achieved by adopting appropriate measures based on polluter pays principle. Community based water quality monitoring and surveillance of all drinking water sources of the state and timely remedial interventions shall be undertaken on a continuous basis. Special drive for sanitizing all wells and improving their recharge shall be promoted. Effective steps shall also be taken to coordinate with the Agricultural Department for reducing the use of chemical fertilizers, pesticides and weedicides to reduce land and water pollution.

2.7. Environmental Interventions in Water Sector

Prevention of salt water intrusion into drinking water sources as well as low-lying cultivable lands will receive adequate attention. Vulnerable areas will be mapped and prioritized for taking up remedial measures.

There shall be specific plan of actions for implementing location specific sewerage system in all urban areas and appropriate sanitation systems in all rural areas. In order to overcome second-generation issues in sanitation sector,

appropriate sanitation sub policy and action plans shall be formulated and implemented. The potential for recycling and reusing of water shall be recognized and all water users shall be directed to adopt measures through recycling for incremental reduction in water extraction. The storm water drainages shall be rejuvenated based on urban watershed master plans.

Drought prone areas shall be delineated and prioritized for every river basin depending on the drought characteristics. Drought mitigation plans shall be given priority in the watershed master plans of such areas. Concurrently, the operations of reservoirs shall be scheduled in consultation with stakeholders, taking into consideration the meteorological predictions for the year.

Protection, conservation and management of wetlands shall receive special attention of the Government through legal and programme initiatives. The management of wetland shall include its utilization, maintenance and development within a conservation framework. The legislative measures shall address the aspects of regulation, administrative mechanism, enforcement, participatory management, punitive measures etc.

The watershed master plans of reservoir catchments shall be conservation oriented and prepared in a participative manner for preventing deforestation and excessive sediment yield.The summer flow in the rivers shall be enhanced by extensive watershed conservation measures, river management actions and appropriate reservoir operations.

Conservation of forests assumes great significance while implementing the Water Policy as the rivers of the State originate in the Western Ghats. River management and regeneration programmes will be undertaken in keeping with the sprit and approach of the State Forest Policy.

The weaknesses in planning for a river system as a whole shall be corrected by revamping the present piecemeal approach, which is mostly, based on engineering solutions. Multidisciplinary approach shall be adopted to find holistic and sustainable solutions. Master plans for the major rivers of the Sate shall be prepared which will form the basis of any river-based project.

The lowering of riverbeds is due to excessive extraction of sand beyond the replenishment rate.This leads to curtailment of the base flow, reversal of the groundwater gradient, lowering of the groundwater table, drying up of the wells and rivers during summer and enhancing saline water intrusion. The riverine ecosystem has been highly tampered with adverse impact on its biological productivity and assimilative capacity. The effectiveness of existing regulatory measures brought about for controlling sand mining may be reviewed and made more effective and participatory in nature. This shall be done after exploring the possibility of making available construction aggregates and alternate building materials from other areas or within the state without affecting the environment.

The implementation of projects for mitigating the problem of coastal erosion shall be undertaken based on detailed coastal zone management plan and in consultation with the respective Local Self Governments.

The coastal protection measures should be planned well in advance and transparently to avoid emergency measures and minimize wasteful expenditure.

2.8. Inter State Water Sharing

Performance evaluation of all inter state water sharing arrangements shall be carried out periodically by the State and necessary action initiated to protect the interests of the State. Any further inter state water sharing shall be mandated by the Legislature.

2.9. Institutional Mechanism

The existing institutions for governing water resources shall be reviewed with a view to attending to water resources on the basis of river basins and watersheds so as to ensure responsibility for protection, conservation, development and management of the resources of rivers.

There shall be a State Level River Authority, under which there shall be River basin and Sub basin organisations. A wetland authority shall also be established in order to ensure protection, conservation, development and management of wetlands in the State. The reconstitution shall be done in such a manner that it facilitates technical support to Local Self Governments in water sector. Water Users Association/

Group and such other informal organizational mechanisms shall be considered for facilitating sustainable and equitable distribution of water resources.

Effective functioning of the institutional set up shall be ensured through multi disciplinary and participatory approach.

2.10 Data Management and Information System

A system for periodical collection, compilation and utilization of data pertaining to water resources shall be established at the river basin and state level. The role of R&D Centres and academic institutions shall be recognized while establishing and operating the modern Database Management System for water resources sector. There are also other agencies involved in the collection of data pertaining to water sector including the National Hydrology Project set up. The operational practices of data collection and management shall be standardized and streamlined and subjected to periodic evaluation, correction and calibration. The data generated shall be put on the public domain, in order to ensure better

transparency, utility and accountability. The advancements in the field of information technology shall be utilized fully for the Database Management System. State level institutional mechanisms should be evolved to ensure that data available with different agencies are suitably pooled, shared and harmonized.

2.11. Research, Development and Training

The frontiers of knowledge in water and allied sectors shall be pushed forward through focused action research, development and promotion of state-of-the-art technology and training for effective and economic management of water resources. The services of Centre for Water Resources Development and Management, other R&D Centres and training institutions shall be utilized appropriately. The requirement of earmarking at least half per cent of the annual budget of local governments and other user departments for S&T activities, action research programmes, training and awareness campaigns related to water sector shall also be recognized.

2.12. Management competence of State Water Services

The technology transfer shall be encouraged on all technical assistance and consulting services. The training and R&D institutions in the water sector shall be strengthened to meet the technology requirements for supporting watershed/river basin planning and development. The need for capacity building, education and access to information for enhancing the effectiveness of water management shall be recognized. A master plan for training the apex-functional-community level stakeholders shall be developed to materialize the vision of the State Water Policy. In-service training and constant up- gradation of human resources shall be pursued with a sense of urgency.

Appropriate training programmes shall be instituted for updating the knowledge, vision and management skills of professionals, bureaucrats and other officials involved in the water sector. The capacities of existing institutions available in the sector shall be shared and upgraded for this purpose. The Panchayati Raj institutions shall be capacitated for fulfilling their responsibilities in water and sanitation sector as envisaged in the Constitutional amendments. The functioning

of Kerala Engineering Research Institute (KERI), Peechi shall be revamped and strenthened to enable it to carry out these tasks.

The policy and operational issues in water and sanitation sector shall be periodically evaluated and solutions arrived at through a holistic approach cutting across departmental boundaries using appropriate mechanisms involving the best expertise available in the state and the country. Information, Education and Communication (IEC) programmes on a continuous basis shall be organized to raise the awareness level of the community and other key stakeholders, to participate in developing watershed based action plans as envisaged in the State Water Policy.

The facts and figures of state water sector and means and methods for sustainable utilization of water and water conservation shall be included in the school syllabus and curriculum. The message for protecting the water resources as a community property shall be continuously propagated in the State by imaginative measures and through suitable institutional mechanisms.

2.13. Financial and Physical Sustainability

The water charges for various uses shall be fixed in such a way that they cover at least the operation and maintenance charges for providing the service. The subsidy on water rates to the disadvantaged and poorer sections of the society shall be continued. The rates for irrigation water shall be decided in such a manner that it conveys the scarcity value of water to users and foster motivation for economy in water usage. The water rates shall be rationalized with due regard to the interests of small and marginal farmers. It shall be accompanied by volumetric measurement of water consumption.

There shall be direct public investments to locally planned and implemented programs to increase regional water self-sufficiency. Inter-departmental financial resources linked to water sector shall be pooled for funding capital investment. A revolving fund shall be created for prioritized activities in select areas. Government shall strive to achieve a paradigm shift in the management of water resources sector, with emphasis on the development and expansion of water resource infrastructure for diverse uses and improvement of

the performance of existing water resource facilities. Allocation of funds under the water sector shall be re-prioritized to ensure equitable and sustainable development of water resource and operation and maintenance of the facilities created. A Citizen's Charter shall be developed and published with a view to guaranteeing quality, efficiency, transparency and accountability in the delivery of drinking water and irrigation water. The prioritization for incurring expenditure shall be for completion of on-going and committed projects, modernization and rehabilitation of existing systems and promoting participatory irrigation management.

2.14. Gender

The crucial role that women play in the water resources sector shall be recognized. Active involvement of women in the management of projects and protection of resources shall be ensured.

The concerns of women in water management shall be duly addressed. The administrative arrangements and decision making processes dealing with water resources management shall mainstream gender and be gender sensitive at all levels.

2.15. Legislation

The provisions and adequacy of different regulations enacted in the water sector shall be reviewed and modified, if necessary. Wherever necessary, suitable legislations shall be enacted. Some of the aspects to be brought under new enactments are the water rights, prioritization of water use, groundwater exploitation, bulk supply, water harvesting, transfer of irrigation systems to users, use of irrigation water for drinking purpose, water pricing and subsidy norms, water conservation and harvesting, reconstitution of institutional mechanism etc.

2.16. Conclusion

The policy statement shall be supplemented with implementation strategies and operational action plans for realizing the objectives of water policy.

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കേരള സർക്കാർ

സംഗ്രഹം

ജലവിഭവ വകുപ്പ് - സംസ്ഥാന ജല നയം, 2008 അംഗീകരിച്ച് ഉത്തരവ് പുറപ്പെടുവിക്കുന്നു.

ജലവിഭവ (ഐ.എസ്. ഡബ്ല്യു. സി) വകുപ്പ്

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ഉത്തരവ്

സംസ്ഥാനത്തിനുവേണ്ടി ഒരു ജല നയം രൂപീകരിക്കേണ്ടതിന്റെ ആവശ്യകത സർക്കാരിനു ബോദ്ധ്യപ്പെടുകയും അതിനുവേണ്ടി സംസ്ഥാന ജലവിഭവ കൗൺസിലിനെ ചുമതലപ്പെടുത്തുകയും ചെയ്തു. സംസ്ഥാന ജലനയം തയ്യാറാക്കുന്നതിനായി മേൽ പരാമർശം ഒന്ന് പ്രകാരം ഒരു ഡ്രാഫ്റ്റിംഗ് കമ്മിറ്റി രൂപീകരിക്കുകയും പരാമർശം രണ്ട് പ്രകാരം ഡ്രാഫ്റ്റിംഗ് കമ്മിറ്റി പുനഃസംഘടിപ്പിക്കുകയും ചെയ്തു. പ്രസ്തുത കമ്മിറ്റി സമർപ്പിച്ച ജല നയം,2008 സംസ്ഥാന ജലവിഭവ കൗൺസിൽ ഭേദഗതികളോടെ സർക്കാരിന്റെ അംഗീകാരത്തിനായി ശുപാർശ ചെയ്യുകയും ചെയ്തു.

സർക്കാർ ഇക്കാര്യം വിശദമായി പരിശോധിക്കുകയും ഇതിനോടനുബന്ധമായി വച്ചിട്ടുള്ള സംസ്ഥാന ജലനയം,2008 അംഗീകരിച്ച് ഉത്തരവാകുകയും ചെയ്യുന്നു.

ഗവർണറുടെ ഉത്തരവിൻ പ്രകാരം,
കെ. ജയകുമാർ
അഡീഷണൽ ചീഫ് സെക്രട്ടറി