Water Policies and Acts

Title	National Water Policy(Draft), 2012		
Date	January 2012		
Jurisdiction	India	Central	All river basins
Timeframe	2012-till date	**Status**	Not implemented till now. For the same the ministry has set a Constitution of Committee for suggesting a road map for implementation of National Water Policy, 2012. The Policy was finalized and adopted on August 9, 2012 but is still under deliberation by the National Water Board.
Issued By	Ministry of Water Resources (MoWR)		
Keywords	Water, India		
Weblink	http://wrmin.nic.in/writereaddata/NationalWaterPolicy/NWP2012Eng6495132651.pdf		
Objectives	The objective of the Act as stated in its Preamble *is to take cognizance of the existing situation and to propose a framework for creation of an overarching system of laws and institutions and for a plan of action with a unified national perspective.*		
Highlights	• Water is recognized as a community resource held by the state. Also after using water to meet the requirements for survival of human beings and ecosystem, water must be used as an economic good. • Climate change adaptation strategies like increasing the water storage various means, better water use efficiency, proper demand management, incorporate coping strategies for possible climate changes during formulation of mega water projects and enhancing the capabilities of community to adopt climate resilient technological options is advocated in the draft. • River basins are to be considered as the basic unit of all hydrological planning. Inter-basin transfers of water to be considered on the basis of merits of each case after evaluating the environmental, economic and social impacts of such transfers. • The Centre would like water budgeting and auditing to be made mandatory and for each state government to put a regulator for water allocation, water use efficiency, and physical and financial sustainability of water resources, with a mechanism to establish water tariff system and fix the criteria for water charges. • A Water Regulatory Authority (WRA) should be established in each State to fix and regulate the water tariff system and charges (on volumetric basis). Water Users Associations (WUAs) should be given statutory powers to collect and retain a portion of water charges, manage the volumetric quantum of water allotted to them and maintain the distribution system in their jurisdiction. • Integrated watershed development activities with Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGA) to extent possible to reduce sedimentation yield and increase water productivity. • The water related services should be transferred to community and/or private sector with appropriate "Public Private Partnership" model. • The cost of rehabilitation and compensation to affected families should partly be borne by project-benefited families through "adequate pricing of water". • The draft policy calls for the abolition of all forms of water subsidies to the agricultural and domestic sectors, but says "subsidies and incentives" should		

	be provided to private industry for recycling and reusing treated effluents. • A permanent Water Disputes Tribunal at the Centre should be established to resolve the disputes expeditiously in an equitable manner. • The draft facilitates international agreements with neighbouring countries on bilateral basis for exchange of hydrological data of international rivers on near real time basis.
Key Issues	• The issue of treating water as an 'economic good' has been criticized by water experts for it being contradictory to the statement of treating water as a community resource. • Even though the "priorities" for water allocation (that broadly included drinking water; irrigation; hydro power; ecology; agro industries and non-agricultural industries; and navigation and other uses) have been discarded in 2012 policy but this flexibility can lead to inappropriate use of water by certain sectors, especially industrial sector. • Management of international waters have not been prioritized considering the ever growing tensions on water sharing. Focus is mainly on entering into international agreements on bilateral basis but nothing is mentioned about the role of enhancing cooperation through the constitution of a regional water governance framework. • Even though the policy talks about the constitution of permanent water dispute tribunal for inter-state conflicts but the already constituted tribunals have been incapable to deliver justice on time and delays have been very prominent. Creation of a permanent Water Disputes Tribunal at the Centre puts questions on the efficacy of already constituted tribunals who have not been successful in adjudicating inter-state water conflicts.

Title	**Model Bill for the Conservation, Protection and Regulation of Groundwater (Draft)**		
Date	2011		
Jurisdiction	India	Central	All river basins
Timeframe	2011-till date	**Status**	Enacted. So far 13 States/UTs[1] have enacted Legislations on the lines of the Model Bill circulated by the MoWR. 16 other States/UTs are in the process of enactment of the Legislation.
Issued By	Central Ground Water Board (CGWB) under Ministry of Water Resources (MoWR)		
Keywords	Groundwater, India		
Weblink	http://www.planningcommission.nic.in/aboutus/committee/wrkgrp12/wr/wg_model_bill.pdf		
Objectives	*The overall objectives of the Model Bill are to ensure the qualitative and quantitative sustainability of groundwater resources, equity in groundwater use, not just within users but across uses as well and efficiency in the use of groundwater as a common pool resource, through an appropriate institutional structure and participatory processes.* Preamble: • *Recognising the unitary nature of water and the integration of surface water*		

[1] Andhra Pradesh (undivided), Goa, Lakshadweep, Kerala, Puducherry, West Bengal, Himachal Pradesh, Bihar, Chandigarh, Jammu-Kashmir, Karnataka, Assam and Dadra-Nagar Haveli have enacted the legislations on the lines of the bill.

	and groundwater; • *Recognizing that natural resources constitute an integral whole and must be treated as such;* • *Recognising the need to realise constitutional guarantees linked to groundwater and whereas the Supreme Court of India has recognised the right to water as integral to the right to life; and further specified variously the corresponding duties of the state;* • *Recognizing the need to strengthen the regulatory powers of gram sabhas, panchayats and municipal bodies related to groundwater in line with Articles 243G and 243W of the Constitution;* • *Recognizing that diverse conditions and needs require different specific solutions and recognising the need to differentiate rural and urban areas, while providing a single legal framework;* • *Recognising the need to resolve contestation and conflict not only between users of groundwater but also between different types of uses;* • *Recognising the common pool nature of groundwater, which has an intricate relationship with rainwater and surface water (through natural recharge) and with surface water (natural discharge);* • *Acknowledging that various levels of groundwater protection are necessary, the highest priority being given to areas demarcated as groundwater protection zones that need to be established and protected, and that shall be accorded the highest priority in both planning and management.*
Highlights	• 'State' has been given the status of a trustee of groundwater in their jurisdiction. It acknowledges groundwater as a community resource to be administered under public trust doctrine by the state. • The bill has highlighted mandatory principles for protection, conservation and regulation of groundwater and has prepared the plan bill after adopting an aquifer based approach to its management. • With regards to the protection of groundwater zones the bill has provided detailed procedure for demarcation and notification of groundwater protection zones, and regulation of the same. • For management, use and protection of groundwater in the rural areas, the bill provides detailed guidelines on the formation and functions of the gram and block level groundwater committee, respectively. For urban areas, functions of ward and municipal groundwater committee have been lucidly elaborated in the draft. • The bill also calls for the formation of State Groundwater Advisory Council. • The bill highlights the need of rainwater harvesting and catchment conservation as per geological conditions. • With regards to groundwater use for irrigation purpose, the bill highlights that major or medium irrigation projects using groundwater shall *be based on a permit system allocated by the appropriate authority in consonance with the groundwater security plan* and extraction based on a price as decided by the Panchayat Groundwater Committee. • The bill also restricts use of groundwater for industrial and commercial use without a permit. • Social and Environment Impact Assessment of groundwater resources needs to carried out by the appropriate authority. • The bill also highlights the offences (which impact the quality and availability of groundwater) and penalties to be imposed on offenders.
Key Issues	• The legislations of the bill has been partly implemented by the states those

	who have adopted it. • The bill provides gram panchayats with the authority for the management and security of groundwater but in India the decisive power of gram panchayats differ from state to state and is not uniform.

Title	**Inter - State River Water Disputes Act 1956 (IWRD)**		
Date	28th August, 1956		
Jurisdiction	India	Whole of India	All internal river basins
Timeframe	1956-till date	**Status**	Implemented on 28th August, 1956. In 2002 the act has gone further amendments.
Issued By	The Parliament of India		
Keywords	Water disputes, Tribunal, States, India		
Weblink	http://wrmin.nic.in/forms/list.aspx?lid=366&Id=4		

Objectives	*With an objective to resolve inter-state water disputes this Act's main purpose is to protect the interests of a downstream state when water resources available in an upstream state are put to additional use.* As per the act: *If it appears to the Government of any State that a water dispute with the Government of another State has arisen or is likely to arise by reason of the fact that the interests of the State, or of any of the inhabitants thereof, in the waters of an inter-State river or river valley have been, or are likely to be, affected prejudicially by-* *(a) any executive action or legislation taken or passed, or proposed to be taken or passed, by the other State; or* *(b) the failure of the other State or any authority therein to exercise any of their powers with respect to the use, distribution or control of such waters; or* *(c) the failure of the other State to implement the terms of any agreement relating to the use, distribution or control of such waters; the State Government may, in such form and manner as may be prescribed, request the Central Government to refer the water dispute to a Tribunal for adjudication.*
Highlights	• Section 4 of IRWD Act provides dispute resolution process in the form of Tribunal, whenever the riparian states are not able to reach amicable agreements on their own in sharing of an interstate river waters. As per section 5.2 of the Act, *the tribunal shall not only adjudicate but also investigate the matters referred to it by the central government and forward a report setting out the facts with its decisions.* • The tribunal's verdict is equivalent to Supreme Court verdict when pronounced in the ambit of IRWD Act. • Year 2002 amendment specifically does not permit altering the prevailing tribunal verdicts issued before the year 2002 (i.e. but not the tribunal awards issued after the year 2002). • Thus this amendment bars the tribunals to give any time period/validity for constituting a new tribunal. This is to keep provision to resolve fresh water disputes which were not addressed by earlier tribunals/ agreements as and when they surface. A permanent water dispute tribunal is contemplated to resolve the growing number of interstate river water disputes expeditiously.

Key Issues	• The central government has set up many water Tribunals[2] for dispute resolution but their enforcement and verdict delivery capacity have not been effective as many inter-state disputes have not been resolved or have got a verdict after years[3]. • The delay has been generally observed in the following stages i) in setting up the Tribunal[4] ii) in the announcement of the award and iii) in implementation of the award.

Title	**State Water Policy of Assam (Draft), 2007**		
Date	2007		
Jurisdiction	India	State	Brahmaputra
Timeframe	2007-till date	**Status**	Implemented
Issued By	Government of Assam		
Keywords	Water, Assam		
Weblink	http://www.ielrc.org/content/e0706.pdf		
Objectives	• *To ensure preservation of all water resources and to optimize the utilization of the available resources;* • *Development of all utilizable water resources, including surface water, ground water and waste water, to the maximum possible extent for optimal economic development and social well-being to maintain water quality, both surface and underground, to established norms and standards;* • *To bring about qualitative improvement in water resource a management with inclusion of users' participation and decentralization of authority;* • *To promote formulation of integrated and multidisciplinary projects as far as and whenever and wherever possible on the concept of basin or treating both surface and groundwater as a unitary resource for different main uses.* • *To emphasize and facilitate rainwater harvesting and recharging of ground aquifers;* • *To ensure ecological and environmental balance while developing water resources by minimizing adverse impacts of water resources development on the natural environmental and on population affected by implementation of projects;* • *To ensure flood management and drainage as integral part of water resource development as well as to assure minimal supplies during drought and drought like situations;* • *To promote beneficiaries' participation in all aspects of water planning and management.* • *To motivate and encourage water conservation through appropriate and socially acceptable water rates, introduction of water-saving devices and practices in all sectors.* • *To advance scientific and technological level of all personnel in the water sector through intensification of applied research, technology transfer,*		

[2] The Krishna Tribunal, the Narmada Tribunal, the Godavari Tribunal, the Cauveri Tribunal, the Ravi, Beas Tribunal, etc. have been set up under this act.

[3] The Cauvery dispute tribunal was constituted in 1990 and the final award was given in 2007, after 17 years. The 2nd Krishna water dispute tribunal, constituted in 2004, gave its final award recently in December 2010. These long delays are partly due to elaborate judicial proceedings and deliberations and also have been overshadowed by interstate shrewd hydro diplomacy.

[4] It has been noted that the states have faced hurdles to have a dispute referred to a Tribunal unless the central government is satisfied that states in dispute are in no position to resolve dispute within them and no negotiated settlement is possible, which generally causes delay.

	training and education. • *To facilitate private initiative in development, operation and management of water resources projects.* • *To provide a substantive legal framework for management of water resources.* • *To provide a mechanism for the resolution of conflicts between various users.*
Highlights	• It adopts integrated water resource management as a core strategy by looking at the river basin as a whole, based on the principles of water as a finite resource, need to use a participatory approach, the crucial role of men and women, ensuring clean water for human health and looking at water both as an economic and social good. • The policy highlights watershed management and minor irrigation projects would be allowed throughout participatory management by the local communities (in the tribal and hilly area), with support from the government and NGOs. • Adoption of suitable policies, operational and managerial steps, disaster preparedness, flood forecasting, ecological measures and international river water sharing agreements will be undertaken for flood protection, management and incurring minimal losses. • Adoption of a rotational water distribution system and supply of water on a volumetric basis to Water Users' Associations (WUAs) subject to certain ceilings for equitable and fare distribution of water for irrigation purpose. • Promotion of micro, mini and small-hydro schemes, up to 20 MW, which involve negligible storage, no considerable negative environmental impacts and no resettlement and rehabilitation problems. Encouragement of private Sector participation in the same. • Promoting interstate water cooperation by frequent information & data sharing, and by promoting mutual accommodation and political climate for good neighbourliness.
Key Issues	• The policy has vaguely addressed the issue of climate change, its mitigation and adaptation measures. • Even though the policy highlights the role of community in water management but it does not specify at what stage the decentralization will be done and how the community will be a part in the process of decision making. • Use of water for industrial purpose and the issue of depletion of water quality by commercial sectors are not elaborated upon. Moreover the offences and penalties for degrading water resource are elusive and not in-depth. • No emphasis on the gender aspect.

Title	**Punjab State Water Policy (Draft), 2008**		
Date	2008		
Jurisdiction	India	State	Indus
Timeframe	2008-till date	**Status**	Implemented
Issued By	Department of Irrigation, Govt. of Punjab		
Keywords	Water, Punjab		
Weblink	http://www.ielrc.org/content/e0805.pdf		
Objectives	• *To ensure need based protected and safe drinking water supplies for humans and livestock;* • *To ensure a judicious and equitable distribution and efficient use of available water resources in a most sustainable and sound economic manner by*		

	different sectors; • *To develop all utilizable water resources to the maximum possible extent, including surface water (both internal and external), groundwater and waste water for equitable economic development and social well-being after properly identifying the suitable source of water and the quality of water required for different sectors;* • *To initiate corrective measures to control, regulate, manage, conserve and augment the declining over-exploited ground water resources for its development on long term basis with the involvement of all stake holders;* • *To treat the problems of rising water table/water logging and salinity/quality of water resources, which deserve special treatment with appropriate technology based on the local conditions, soil texture, structure and topography;* • *To promote and encourage participation of beneficiaries, Panchayati Raj Institutions (PRIs), Municipal Bodies, NGOs and the private sector in all areas of water development, planning, operation and management;* • *To ensure sharing of costs of public investments in irrigation, water supply, sanitation and environmental control works at micro level with beneficiaries, Panchayati Raj Institutions, Municipal Bodies, NGOs and private organizations/agencies;* • *To encourage investment in technology, research and development and promote efficient and cost effective uses of water to ensure maximum yield and return per unit of water;* • *To promote awareness about the need for conservation of water;* • *To introduce systematic irrigation reforms for its improvement and efficient management.* • *To improve and upgrade the existing hydrology infrastructure and develop a scientific hydrological information system for compilation, collation and analysis of all water related validated data*
Highlights	• Efforts to provide safe adequate drinking water to the public with the effective participation of community, NGOs, local government agencies, PRIs and private organizations. • Promoting conjunctive use of surface and groundwater for enhancing production per unit of water. • State Pollution Control Board to look after the quality of surface and groundwater and impose penalties for polluters. • Introduce demand oriented approach for water use for irrigation by adopting a rotational water distribution system and supply of water on a volumetric basis with an objective to avoid disparities in the availability of water between head-reach and tail-end farms and between large and small farms by fixing certain ceilings and rational pricing. • Implementation of Ground Water Recharge Projects for counterbalancing consequences of over-exploitation. • Segregating/zoning the state as following: Drinking water zones; Groundwater depletion zones; Flood-affected zones; Waterlogged zones ; Salt affected zones; Water quality deterioration area zones; Drought-prone zones; Watershed protection zone; and Environmental conservation zones.. • Promotion of water harvesting and groundwater replenishment techniques, flood and drought management practices through technological adoption and upgradation. • A distinction shall be maintained in pricing and cross subsidization of water for drinking, irrigation, industrial and commercial purposes. Water rates shall be based on volumetric measurement of water consumption in all sectors.

	• The State shall endeavour to develop and manage its river systems in accordance with the internationally accepted riparian principles. The needs of riparian/basin states should be the basis for sharing/distribution of river waters. • The policy discourages inter-basin transfer of water from a deficit basin to a surplus basin.
Key Issues	• The policy has not clearly mentioned the decentralization of water resources management. • With regards to prioritising source wise water allocation, groundwater-which is mostly privately owned and controlled, is out of the preview of this priority. • The question arises on how policy of prioritizing water allocation will work when groundwater-exploited even by industrial sector, is excluded from the prioritisation? • Even though the policy segregates Punjab into different water zones but no specific water zone strategy is mentioned or talked about. • Groundwater development and management have been elusively explained and the prime issue on how and who will regulate over exploitation of this resource is not addressed wholesomely. There is a strong need to integrate economic policy, agricultural policy, and industrial policy with the groundwater policy. • The policy has not addressed the issue of climate change. • Gender aspect is totally missing.

Title	**Uttar Pradesh State Water Policy, 1999**		
Date	1999		
Jurisdiction	India	State	Ganges
Timeframe	1999-till date	**Status**	Implemented
Issued By	Irrigation Department, Govt. of Uttar Pradesh		
Keywords	Water, Uttar Pradesh		
Weblink	http://irrigation.up.nic.in/state_water_policy.htm		

Objectives	• *Ensure preservation of the scarce water resources and to optimise the utilization of the available resources.*
	• *Bring about qualitative improvement in water resource management which should include user's participation and decentralization of authority.*
	• *Maintain water quality, both surface and underground, to established norms and standards.*
	• *Promote formulation of projects as far as and whenever possible on the concept of basin or sub-basin, treating both surface and the ground water as a unitary resource, ensuring multipurpose use of the water resource. This would inter alia consist of the following main uses:*
	  ○ *Provide adequate water for drinking and domestic use.*
	  ○ *Providing water for irrigation.*
	  ○ *Maximize hydro power generation within the constraints imposed by other users.*
	  ○ *Provide water for industries including Agro industries.*
	  ○ *Provide water for navigation, recreation, health and for other uses.*
	• *Ensure ecological and environmental balance while developing water resources.*
	• *Promote equity and social justice among individuals and groups of users in*		

	water resource allocation and management. • *Ensure self-sustainability in water resource development.* • *Ensure Flood Management and drainage as integral part of water resource development.* • *Provide mechanism for the resolution of conflicts between various users.*
Highlights	• Water allocation priorities are as follows: Drinking water, Irrigation, Hydro & Thermal Power, Agro- industries/non-agricultural industries, Navigation & other uses. • Exploitation of unused water resources for irrigation by implementation of long terms multipurpose projects. Emphasis on conveyance management and field management for increasing water efficiency has been highlighted. • The policy highlights the importance of water resource planning by establishing networks of data bases, strengthening central and state level agencies on data sharing and also by developing technologies for comprehensive and reliable projections of future demands of water. • The policy recognises the importance of water harvesting by devising projects for increasing surface water availability and recharging groundwater. • The policy has laid down a perspective plan for flood and drought management. • Recognising the depleting groundwater levels in the state, the policy states demand side management and conservation through the spread of efficient irrigation technologies and augmenting artificial groundwater recharge by applying various appropriate recharge techniques. • Emphasis on participatory approach to water management by involving various stakeholders- government, CSOs, WUAs, gram panchayats, etc. • Constitution of a State Water Board. • Accelerating the process of constructing new hydropower projects and increasing the thermal-hydel mix to 60:40.
Key Issues	• The policy has totally cornered out the issue of rational pricing of water by different user sectors. • Even though the policy apparent the need of harnessing hydropower from Nepal but it has totally neglected the issues of resolving water disputes on international waters. • The policy has totally neglected the impacts of climate change on water resources. • Issue on how decentralization of decision making authority will be done at the grassroots level is a point that needs greater explanation. • No emphasis on the gender aspect.

Title	**West Bengal State Water Policy, 2011**		
Date	2011		
Jurisdiction	India	State	Ganges and Brahmaputra[5]
Timeframe	2011-till date	**Status**	Implemented
Issued By	Department of Irrigation, Government of West Bengal		
Keywords	Water, West Bengal		
Weblink	file:///C:/Users/AKSHAT/Downloads/State%20Water%20Policy_Irrigation_28_09_11.pdf		

[5] Brahmaputra drains the northern part while Ganges drains the central & southern part of West Bengal in India.

Objectives	• *Re-assessment water resources potential both surface and ground water basin wise, region wise, district wise.* • *Preparation of plans for integrated development and management of water resources by all agencies.* • *WUAs/Local Bodies/Beneficiary Committees and Institutions at various levels are to be created for giving effect to the planning, development and management of the water resources along with a multi-sectoral, multi-disciplinary and participatory approach.* • *Minimization of the adverse environmental and social impact of water resources project.* • *Reduce the gap between irrigation potential created and utilized through proper command area development programme.* • *Maximize hydropower generation.* • *Legislation for development and regulation of the exploitation of the ground water and prohibiting ground water abstraction in coastal zones.* • *Optimize the use of water by adopting suitable cropping patterns and appropriate irrigation techniques.* • *Promotion of traditional means of rain water harvesting by the community.* • *Water use and land use policies should have close integration Revision of the Irrigation Acts to provide legal support to Water Users' Associations/beneficiary Committees and the Institution to regulate water use, levy and collect the water users' charges.* • *Encourage private sector participation in planning, development and management of water resources projects.* • *Provide a Management Information System (MIS) for effective monitoring of policy implementation.*
Highlights	• Establishment of a standardized State level water related data information system for improving the quality of the data, its collection, processing, retrieval and compilation. • Promotion of watershed management through extensive soil conservation, catchment area treatment, preservation of forests and construction of check dams. • The policy highlights prioritisation of water allocation for industrial purpose over irrigation from water harvesting projects in some areas. • Setting up of a cohesive multi-disciplinary unit for conjunctive use of surface water and ground water for irrigation purpose. • Proliferation of groundwarer recharge projects through scientific means and prohibition of groundwater exploitation in coastal areas for averting saline intrusion into the ground water aquifer. • Adoption of rotational system of water distribution and command area development programme for optimal utilization of water for irrigation purpose. Focus on increasing irrigation efficiency by proper canal conveyance management. • Creation of Tariff Regulatory Body for pricing of water for irrigation purpose. • Promotion of participatory irrigation management by involving various stakeholders at different stages. • Construction of embankments and dykes etc. for flood protection and management and also through preparation of action plan for disaster management. • The policy calls for ratification of the existing Inter-State Water Dispute Act, 1956 for the specific state needs. • Promotion of research and development in various areas including

	hydrometeorology; river morphology and hydraulics; crops and cropping systems; etc.
Key Issues	• Even though the policy mentions about the impacts of climate change on water resources in the state, an action plan to tackle the issue has not been put forward. • The policy has cornered out the issue of water sharing with neighbouring riparian countries, mainly Bangladesh. The policy is devoid of international character. • Gender dimension of water is also missing in this policy.

Title	**Bihar Water Policy 2014 (Hindi Version)**		
Date			
Jurisdiction	India	State	Ganges
Timeframe		**Status**	
Issued By			
Keywords			
Weblink	http://wrd.bih.nic.in/irrigation_bulletin/water_policy.pdf		
Objectives			
Highlights	•		
Key Issues	•		

Title	**Policy for Sustainable Ground Water Management in Uttar Pradesh**[6]		
Date	18th February, 2013		
Jurisdiction	India	State	Ganges
Timeframe		**Status**	Not implemented
Issued By	Groundwater Department, Govt. of Uttar Pradesh		
Keywords	Groundwater, Uttar Pradesh		
Weblink	http://gwd.up.nic.in/pdf/gwenglish.pdf		
Objectives	• *To ensure regulated exploitation and optimum & judicious use of ground resources.* • *To initiate National programme of aquifer mapping and aquifer based management in the state in a planned way for overall ground water management.* • *To implement ground water recharge programme on a large scale in an integrated manner and to bring over-exploited/critical blocks into safe category in a time bound manner.* • *To effectively implement conjunctive use of surface water and ground water.* • *To promote efficient methods of water use in the stressed areas.* • *To give priority to the river basin/watershed approach in ground water management planning and conservation.* • *To identify ground water polluted areas in order to ensure safe drinking water supplies.* • *To implement ground water conservation and recharging programmes by the*		

[6] The U.P. government also drafted the Uttar Pradesh Groundwater Conservation, Protection and Development (Management, Control and Regulation) Bill, 2010 but it has not been enacted till now. The bill can be accessed by clicking on the following link: http://www.indiaenvironmentportal.org.in/files/UP%20State%20Groundwater%20Bill_2010_Draft.pdf

	concerned departments through participatory management approach in a co-ordinated and integrated manner.
Highlights	• The policy highlights adoption of a national programme of aquifer mapping and aquifer based management on a big scale for management of ground water resources. • Closer of existing tube wells in the major cities withdrawing ground water from the stressed aquifers and new tube wells to be constructed in second aquifer group, based on the recommendations of Central Ground Water Board. • Promotion of surface water based schemes for reducing pressure on groundwater for drinking purposes. • Implementation of roof top rain water harvesting system on buildings along with 'Combined Recharge System'. • Preparation and implementation of specific "Water Management Plan" for every district based on the local hydrogeological conditions. • In rural areas, promotion of pipe irrigation system by minor irrigation department for reducing water distribution loss. Also promotion of conjunctive use of ground and surface water for irrigation purpose. • Promotion of sprinkler and drip irrigation system, low water consuming crops in tandem with the policy of the agriculture department. • Maintenance of data by development of GIS based efficient "Ground Water Data Bank and Information System" with the help and coordination of other departments like Minor Irrigation, Irrigation, Jal Nigam, Pollution Control Board, Rural Development, Urban Development, Housing & Urban Planning Department and other concerned departments.
Key Issues	---

Title	**Bihar Groundwater (Regulation and Control of Development and Management) Act, 2006**		
Date	29th January, 2007		
Jurisdiction	India	State	Ganges
Timeframe	2006-till date	**Status**	Bihar Ground Water (Regulation & Control of Development and Management) Act, 2006 enacted and notified on 29.01.2007.
Issued By	Govt. of Bihar		
Keywords	Groundwater, Bihar		
Weblink	http://www.cseindia.org/userfiles/bihargroundwater.pdf		
Objectives	*To regulate and control the Development and Management of Ground Water and matters connected therewith or incidental thereto.* *To provide for the management, control and regulation of the conservation, protection and development of groundwater in the State and for matters connected therewith or incidental thereto.* *WHEREAS uncontrolled and rapid extraction of groundwater has resulted in alarming situation of declining groundwater levels and depletion of groundwater reservoirs in many parts of the State, both in rural and urban areas;* *AND WHEREAS development of groundwater is the need of the State, its management, control and regulation specially in overexploited and critical areas is also the need of the hour for protection and preservation of this precious resource;* *AND WHEREAS it is also expedient to provide for conservation, protection and*		

	development of groundwater resources for the purpose of proper recharge of groundwater and to prevent the pollution thereof in the State ; *AND WHEREAS the State Government has, after careful examination of all aspects, decided that it is expedient and necessary in the public m interest to manage, control and regulate the extraction and use of groundwater in any form and to conserve and recharge groundwater in the State.*
Highlights	• User of groundwater has been segregated into two categories: "commercial user of ground water" and "bulk user of ground water". • Formation of an authority to regulate the groundwater under the supervision of the state government. Formation of WUAs in rural areas and Resident Welfare Association in Urban Areas- to look into groundwater act violations and mass awareness & sensitisation on this issue. • Guidelines for registration of existing and new bulk groundwater user-mainly construction of wells will require to get permission and have to proceed forward as mentioned in the certificate. • Groundwater users in over-exploited/critical areas need to get registered. • Complete ban on the construction of new wells (both private & govt.) in notified over-exploited/critical areas expect for constructing wells for withdrawing water for human consumption/drinking water. • Adoption of rain water harvesting techniques (recharge pits, trench, construction of gully plugs, contour bunding, Gabion structure, check dam/weir, percolation tank, recharge shaft etc.) for groundwater recharge in urban and rural areas. • Various offences and penalties have been mentioned in the act for the violators.
Key Issues	• Besides a cursory mention of raising public awareness and training programmes, the act does not stress upon community participation in conservation of groundwater and rain-water harvesting. • Water use has not been prioritized in the act. • Also, there is no mention of a social audit[7]. • The Draft model bill says that offences under the act shall be cognizable; however the state act states that no prosecution of any offence under this act shall be instituted except with the consent of the State Level Authority. This puts an additional and a severer requirement for filing a complaint regarding an offense.

Title	**Punjab Preservation of Subsoil Water Act, 2009**			
Date	28th April, 2009			
Jurisdiction	India	State		Indus
Timeframe	2009-till date	**Status**	Enacted	
Issued By	Govt. of Punjab			
Keywords	Subsoil Preservation, Groundwater, Punjab			
Weblink	http://www.ielrc.org/content/e0922.pdf			
Objectives	*To provide for prohibition of sowing nursery of paddy and transplanting paddy before*			

[7] As per the draft Model bill on Groundwater, social audits of activities will be undertaken in pursuance with this Act shall be conducted in every twelve months.

	the notified dates, and for matters connected therewith or incidental thereto. The act has been implemented after taking into consideration the degrading impact of paddy sowing and transplanting on the states groundwater sources.
Highlights	• Famers are forbidden to sow nursery of paddy before 10th Day of May and transplant paddy for 10th day of June of the agricultural year or any other date notified by the government. • The prohibition is relaxed for any research project undertaken by Punjab Agricultural University, any other research institute; and any other notified water logged area in the state of Punjab. • Authorized officer have the right to destroy defaulters' nursery of paddy. • Penalty in terms of cash fine will be imposed to farmers who are contravening the provisions of the act.
Key Issues	-----

Title	**West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005**		
Date	15th August, 2005		
Jurisdiction	India	State	Ganges and Brahmaputra
Timeframe	2005-till date	**Status**	Enacted
Issued By	Govt. of West Bengal		
Keywords	Groundwater, West Bengal		
Weblink	http://www.ielrc.org/content/e0502.pdf		
Objectives	*An Act to manage, control and regulate indiscriminate extraction of ground water in West Bengal and to provide for matters connected therewith or incidental thereto.* *WHEREAS it is expedient to manage, control and regulate indiscriminate extraction or use of ground water;* *AND WHEREAS it is further expedient to provide against the widespread contamination of ground water with arsenic, fluoride, chloride, iron, other heavy metals or metalloids, organic and inorganic pesticides, fungicides, and rodenticides.*		
Highlights	• Groundwater authorities in three different levels-State (the apex), District and Corporate are vested with the responsibility of enforcing the regulatory tools provided by the relevant statutes to ensure sustainable use. The power and duties of all the respective authorities have been mentioned in the act. • No user is allowed to sink ay well for extracting or using groundwater without obtaining a permit issued by the State, District or Corporation level authority. • The decentralized institutional mechanism emphasise on preparation of district-wide groundwater profile periodically. • The Act in its preamble stated that maintenance of quality of groundwater as an objective and this mandate is to be considered while granting permit or certificate of registration. • While granting certificate of registration the Authority shall consider the groundwater balance, the quality and quantity of groundwater available in the locality. • The Act also imposes a legal obligation on the District or Corporation Level Authority to keep a regular vigil on the quality and quantity of water available from the ground water resources in the district or the corporation, as the case		

	may be, and promptly bring to the notice of the State Level Authority any sudden deterioration in ground water resources or contamination of ground water resources with poisonous metals or chemicals or otherwise. • Offenders are liable to be compounded by the State Level Authority.
Key Issues	• The Draft model bill says that offences under the act shall be cognizable; however the state act states that no prosecution of any offence under this act shall be instituted except with the consent of the State Level Authority. This puts an additional and a severer requirement for filing a complaint regarding an offense. • Water use has not been prioritized in the act. • The act does not contain any substantive provisions for protection of groundwater from pollution.

Title	**National Water Policy 1999, Bangladesh**		
Date	1999		
Jurisdiction	Bangladesh	Central	Ganges and Brahmaputra
Timeframe	1999-till date	**Status**	Implemented
Issued By	Ministry of Water Resources, Government of the People's Republic of Bangladesh		
Keywords	Water, Bangladesh		
Weblink	http://www.mowr.gov.bd/images/pdf/National%20Water%20Policy%20(English).pdf		
Objectives	• *To address issues related to the harnessing and development of all forms of surface water and ground water and management of these resources in an efficient and equitable manner;* • *To ensure the availability of water to all elements of the society including the poor and the underprivileged, and to take into account the particular needs of women and children;* • *To accelerate the development of sustainable public and private water delivery systems with appropriate legal and financial measures and incentives, including delineation of water rights and water pricing;* • *To bring institutional changes that will help decentralise the management of water resources and enhance the role of women in water management;* • *To develop a legal and regulatory environment that will help the process of decentralisation, sound environmental management, and improve the investment climate for the private sector in water development and management;* • *To develop a state of knowledge and capability that will enable the country to design future water resources management plans by itself with economic efficiency, gender equity, social justice and environmental awareness to facilitate achievement of the water management objectives through broad public participation.*		
Highlights	• The policy highlights the pertinence of river basin management and enhancing regional cooperation on water sharing between co-riparian countries. • It clearly points out the importance of working with co-riparian countries to establish a system for exchange of information and data on relevant aspects of hydrology, morphology, water pollution, ecology, changing watershed characteristics, cyclone, drought, flood warning, etc., and to help each other understand the current and emerging problems in the management of the shared water sources.		

	• The Water Resources Planning Organisation (WARPO) has been vested upon the authority to prepare the National Water Management Plan (NWMP). As per the plan, various government agencies have been given the responsibility to manage water resources in the country. • Owing to high flood risk, the government will entitle flood risk zones and take appropriate measures to provide desired levels of protection for life, property, vital infrastructure, agriculture and wetlands. • Promotion of public-private partnership for water management. • Promotion of minor irrigation projects, surface and groundwater development for irrigation for improving resource efficiency, crop diversification programmes for efficient water utilization. • Mini-hydropower development schemes may be undertaken provided they are economically viable and environmentally safe • With regards to water for environment certain guidelines have been issued under the policy which includes- adherence to a formal environmental impact assessment (EIA) process, as set out in EIA guidelines and manuals for water sector projects. • Promotion of following water saving activities: conjunctive use, water-saving agricultural and industrial technologies, water harvesting, water transfers, and water recycling, both within and between sectors. • Rational pricing of water will include a system of cost recovery, pricing, and economic incentives/disincentives is necessary to balance the supply and demand of water.
Key Issues	• The policy has not addressed the issue of climate change on water resources and its management. • The policy has not mainstreamed gender dimension into Bangladesh's water resources development.

Title	**Bangladesh Water Act, 2013**			
Date	6th November, 2013			
Jurisdiction	Bangladesh	Central		Ganges and Brahmaputra
Timeframe	Nov-till date	**Status**	Enacted	
Issued By	Ministry of Water Resources, Government of the People's Republic of Bangladesh			
Keywords	Water, Bangladesh			
Weblink	http://www.warpo.gov.bd/pdf/WaterActEnglish.pdf			
Objectives	*An act to make provisions for integrated development, management, abstraction, distribution, use, protection and conversation of water users.* *WHEREAS it is expedient and necessary to make provisions for the integrated development, management, abstraction, distribution, use, protection and conservation, of water resources.*			
Highlights	• Covers all forms of water resources, i.e., surface water, ground water, rain water, sea water etc. • 'State', on behalf of the people, has been vested with all rights over the water resources. • The Act calls for the establishment of a 'National Water Resources Council' which shall serve to create policies to serve the objectives of the Act. The Council may also advise the government regarding matters of regional cooperation.			

	• The Act recognizes and makes provisions for international and regional cooperation. The government may co-operate with regional organizations to assess information and data, conduct research and other activities to prevent water pollution, take measures for fulfilment of the objectives mentioned in the preamble, and conduct educational and training activities etc. • Under the Act, a periodical 'National Water Policy' may be adopted by the government. Similarly, the formulation of a 'National Water Resource Plan' has also been envisaged under the Act. • A reflection of sustainable development is visible in the Act wherein the Plan is stipulated to cover matters of *present and future use of water resources, assessment of availability of water, analysis of environmental impact of water resources* etc. The Act has also highlighted the need for maximum utilization of rainwater under the Plan. • The Act also calls for the formation of an 'Executive Committee' which shall assist and advise the Council, take initiatives regarding inter-sector coordination on water resources, monitor the National Water Policy and National Water Resource Plan. It can also issue 'compliance orders' and 'removal orders' for a violation of certain provisions of the Act and/or for violations of the conditions mentioned in the clearance certificate. • Under the Act, the government has the authority to declare any area (including any land area connected to a water resource) as Water Stress Area, for the management of which, restrictions can be imposed. For such areas, a list for preferential use of Water has been given in the Act. • The natural flow of water has been given the paramount importance; however, certain structures can be created in the interest of development and/or to prevent erosion. • Any area can be classified into certain water zones, viz., industrial, agricultural zone etc. and can be regulated accordingly. • Storage of water in an artificial reservoir is prohibited except with the permission of the appropriate authority. • Violation of compliance orders, protection orders or of the provisions of the Act can attract punishment in the form of imprisonment and monetary penalty.
Key Issues	• The maximum fine that can be imposed under the Act is Tk. 10,000 ($1291 approx.), which is not a high enough amount to sufficiently deter violations. • In the provision for preferential use of water in Water Stress Areas, use of water for power generation has been given a very low priority. • Specific provision for prevention of water pollution haven't been laid down under the Act, instead the Bangladesh Environment Conservation Act, 1995 is applied in such matters.

Title	**National Water Policy 2005, Pakistan**		
Date	2005		
Jurisdiction	Pakistan	Central	Indus
Timeframe	---	**Status**	Not implemented.
Issued By	---		
Keywords	Water, Pakistan		
Weblink	http://pc.gov.pk/mtdf/27-Water%20Sector/27-Water%20Sector.pdf		
Objectives	• *Providing adequate and safe drinking water for all;* • *Providing food security for all in Pakistan and feed security for livestock;*		

	• *Providing hygienic sanitation facilities for urban and rural population;* • *Maintaining water quality and protecting water resources by preventing their* • *pollution;* • *Treatment and possible reuse of waste water – domestic, agricultural and industrial;* • *Restoring and maintaining the health of the environment and ecology;* • *Flood management to mitigate floods and minimize flood damages;* • *Hydropower development for economic growth.*
Highlights	• Water priorities have been classified as follows: drinking (including requirement for livestock) and sanitation, irrigation including land reclamation, industry, hydropower, fisheries, navigation and so on. • Adoption of integrated and unified River Basin Development. • With regards to irrigation the concept of "More Crop per Drop" shall be pursued by, among others, the following: o A national plan to enforce improved irrigation methods and practices; o Extensive research in developing crops with high yields and lower water consumption and water saving techniques. Optimal development of potential water resources • Rational pricing of water for rural (at affordable rates) and urban areas with emphasis on private sector participation for service delivery. • Industry shall be required to carry out in house treatment, of their wastewater before transfer to municipal sewer and the "Polluter Pays" principle shall be strictly enforced. • Development of low-head hydropower projects on canals for distribution of Power at local level. Promotion of private sector participation in this sector. • Steps to minimize time and cost overruns in completion of water sector projects • For groundwater management, groundwater recharge shall be promoted wherever technically and economically feasible. Abstractions from the aquifer shall be restricted to the sustainable level that balances the recharge and boundary flows. Moreover measures to reverse rapidly declining groundwater levels in low-recharge areas will be applied. • The policy has laid down guidelines for flood management; drought management; water logging and salinity; & quality management. • The water available in the national waterways, and Pakistan's share in the international rivers system, shall be shared by the Federating Units (Provinces) in accordance with the agreements between the Provinces, and ratified by the Council of Common Interests (CCI). • Water at the delivery point shall be realistically priced according to a general • principle that :- o For production sectors of the economy, full cost recovery shall be effected; o For social uses, the concept of affordability shall be applied; o For environmental and ecological needs, water supply shall be free of cost; o Wherever subsidy becomes inevitable, it shall be carefully estimated and the source of its financing clearly indicated; further provided that the source shall be such as to have adequate resources for subsidy financing; further provided that the extent of subsidy shall be periodically reviewed and adjusted. • Institutional reforms to make the managing organizations more dynamic and responsive

	• Emphasis on demand management of water. As per the policy demand Management Plans shall be prepared for all uses, specifying measurable targets, and shall be rigidly enforced.
Key Issues	• The recognition of the climate change phenomenon is totally missing. The policy is silent regarding the impacts of global warming and changing climates on water resources. • The policy has not extensively incorporated the management of water on international rivers. It states that the water will be managed as per the agreements between provinces (domestic) and countries (internationally). It does not lay down mechanisms to resolve internal water conflicts within provinces. • No emphasis on the gender aspect.

Title	**Nepal Water Plan, 2005**		
Date	September 7, 2005		
Jurisdiction	Nepal	Central	Ganges
Timeframe	2005-till date	**Status**	Implemented
Issued By	It was approved by the Council of Ministers, Govt. of Nepal		
Keywords	Water, Nepal		
Weblink	http://www.moen.gov.np/pdf_files/national_water_plan.pdf		
Objectives	• *To help reduce the incidence of poverty, unemployment and under-employment;* • *To provide people with access to safe and adequate drinking water and sanitation for ensuring health security;* • *To increase agricultural production and productivity, ensuring food security of the nation;* • *To generate hydropower to satisfy national energy requirements and to allow export of surplus energy;* • *To supply the needs of the industrial and other sectors of the economy;* • *To facilitate water transport, particularly connection to a sea port;* • *To protect the environment and conserve the biodiversity of natural habitat;* • *To prevent and mitigate water-induced disasters*. Policy Principles: • *Development and management of water resources shall be undertaken in a holistic, systematic manner, relying on integrated water resources management.* • *Water utilization shall be sustainable to ensure conservation of the resource and protection of the environment. Each river basin system shall be managed holistically.* • *Delivery of water services shall be decentralized in a manner that involves autonomous and accountable agencies (e.g., public, private, community and user-based agencies).* • *Economic efficiency and social equity shall guide water resource development and management.* • *Participation of and consultation with all the stakeholders shall constitute the basis of water sector development.* • *Sharing of water resource benefits among the co-riparian countries shall be on an equitable basis for mutual benefit.* • *Institutional and legal frameworks for coordination and transparency shall be*		

	an essential feature of water sector management. • *Wider adoption of the best existing technologies and practices, and rapid innovation and adaptation of both institutional arrangements and new technologies, shall be ensured.* Apart from the above mentioned principles, a set of social, economic and environmental principles have been laid down in the plan.
Highlights	• The plan covers all the aspects related to usage, management, protection and governance of water resources. • The plan highlights integration of all water-related programmes to be carried out from the lowest level of river basin entities. Water users' groups (WUGs) will be formed in each of the sub-river basins, based on the needs of the basin. Focus is on decentralization of power authority for effective water services. • With regards to disaster preparedness the policy highlights formulation of a water induced disasters (WID) mitigation policy with reference to upstream, downstream linkages. • The plan highlights implementation of the Environmental Action Plan. • Various programmed have been listed in the plan to improve rural and urban water supply for sanitation. • For irrigation purposes, the plan highlights implementation of Integrated Programme for Irrigated Agriculture which includes Improved Management of Existing Irrigation Schemes, Improved Planning and Implementation of New Irrigation Systems, etc. • The policy highlights harnessing hydropower by developing large projects for export purpose, whereas small and medium hydropower projects will cater to the domestic needs. • The plan apparent the need of enhancing regional cooperation on the water domain. It highlights expanding power exchange activity to 150 MW by 2007 and to 400 MW by 2017, forming Mahakali River Commission to implement the Pancheshwar Project; activating the Nepal-India Joint Commission under the 1987 agreement; etc.
Key Issues	---

Title	**Nepal Water Resource Act, 2049 (1992)**		
Date			
Jurisdiction	Nepal	Central	Ganges
Timeframe	1992-till date	**Status**	Implemented
Issued By	Water and Energy Commission Secretariat (WECS)		
Keywords	Water, Nepal		
Weblink	http://www.moir.gov.np/pdf_files/Water_Resources_Act_2049-english.pdf		
Objectives	The objectives of the Act as stated in its Preamble are *to make arrangements for the rational utilization, conservation, management and development of the water resources that are available in the Nepal in the form of surface water, underground water or in whatsoever form,* and *to make timely legal arrangements for determining beneficial uses of water resources, preventing environmental and other hazardous effects thereof and also for keeping water resources free from pollution.*		
Highlights	• 'Nepal' has been vested with the ownership of all water resources in its territory.		

	• Under the Act, persons who wish to make use of water resources collectively, can form and register a 'Water Users Association' which shall be a body corporate. • The Act has laid down a priority order for the use of water resources. Use for generation of hydro-electricity features after domestic use, irrigation and other agricultural use. • A license has to be obtained for conducting surveys or utilizing water resources. • Under the Act, the government of Nepal has the authority to acquire water resources and other structures being utilized under the Act, for the purpose of 'extensive public use' as defined under the Act. • The government, under the Act, has the authority to turn over any water project over to a 'Water Users Association'. • The government may enter into a contract with national or foreign companies for utilization of water resources • A licensee under the Act can acquire the land and/or house of any person for performing functions such as construction of a dam, canal, water tank, laying down pipes etc. However, licensee has to submit an application to the Government of Nepal for the same. • The Act stipulates that the government of Nepal may fix the quality standard of water resources, by publication in the Nepal gazette. Similarly, the government may prescribe a pollution tolerance limit. • While utilizing water resources, environment may not be adversely affected substantially. • For contravention of the provisions of the Act, the prescribed officer may cancel the license, realize compensation from the person for the damage caused, and impose a fine of upto Rs. 5,000. • If person causes harm to water resources with *mala fide* intention, such person can be punished with imprisonment upto 10 years and compensation can be realized according to the value of the damage caused.
Key Issues	• The Act does not make any substantial provisions for preservation and conservation of water resources such as groundwater, rainwater etc. • No specialized agency is created under the Act to deal with matters relating to water resources.

Title	**The Water Act of Bhutan, 2011**		
Date	5th July, 2011.		
Jurisdiction	Bhutan	Central	Brahmaputra
Timeframe	July 2011-till date	**Status**	Implemented
Issued By	The Parliament of Bhutan		
Keywords	Water, Bhutan		
Weblink	http://faolex.fao.org/docs/pdf/bhu106322.pdf		
Objectives	Overall, the Act seeks to conserve and manage water resources in an economically and environmentally efficient way, keeping in mind the needs and interests of the people. Preamble: • *Recognizing the seasonal and local scarcity of water for drinking and agricultural purposes, despite the country being endowed with abundant water resources;*		

	• *Being mindful that rapid socio-economic development results in increasing pressure on the environment including water resources; Recognizing the threat from climate change in addition to increasing anthropogenic threats on water resources and watershed conservation even with the existing policy of sustainable management of natural resources;* • *Protect the environment and human health through integrated water resources management in pursuit of Gross National Happiness and the age old tradition of living in harmony with nature;* • *Realizing the need for a comprehensive legislation, which shall also foster institutional linkages to guide various water user sectors in the best interest of the nation and the people?*
Highlights	• Under the Act, all water resources are the property of the 'State'. • The Act envisages the formulation of a 'National Integrated Water Resource Management Plan' for *coordinated development and management of water resources.* • The Act emphasizes on community participation in the conservation and management of water resources. • The Act recognizes the applicability of the 'polluter pays' principle. • To discharge the functions under the Act, a statutory body called the 'National Environment Commission' shall be established. • Bhutan Electricity Authority is the competent authority for governing matters relating to hydro-electricity. • The Commission shall set the minimum environmental flow of watercourses to conserve the habitats of flora and fauna. • River Basin Committees shall be established by the Commission for the management of water resources. The Committee shall also formulate a River Basin Management Plan. • To manage water supply sources, a group of beneficiaries may constitute a 'Water Users' Association'. • To check water seasonal scarcity of water, Competent Authorities may harvest groundwater, rainwater or any other source. • Prior Environmental Clearance of the Commission has to be taken by anyone seeking to abstract water. However, customary practices have to be taken into consideration while applying this provision. • Water use has been prioritized under the Act. Use for drinking and sanitation has been given the topmost priority followed by agricultural use, and energy generation. • The Act provides for various rules regarding Watershed Management. • The Commission has to seek the approval of the government before entering into international agreements relating to water resources. • Violations of the provisions of the act shall constitute offences and the Commission may issue administrative orders, impose penalties, realize compensation for such offences. • Under the Act, certain grave offences such as abstraction of groundwater or discharging effluents without obtaining Environmental Clearance etc., have been deemed felonies in accordance with the Penal Code of Bhutan. Similarly, other offences have been declared misdemeanours and petty misdemeanours.
Key Issues	• Regional cooperation over water resources has not found significant mention under the Act. • The authority of determining the amount of penalty is vested with the commission which shall take into consideration various factors as stipulated in

	the Act. No minimum penalty has been laid down by the legislation.