

Views of
Jal
Biradari

SAVE THE RIVERS MISSION



- . Controlling the
Pollution
- . Removal of
Encroachments
- . River Catchment Area
Development
- . Maintaining Ground
Water Balance
- . River Culture and
Society



Controlling the Pollution of Rivers and Lakes of India

Present Condition	14 major river basins total population more than 100 crores provided with 24% sewerage facility (Class I cities) and class – II do not have sewerage at all
Examples of severe river and lake pollution	Mula-Mutha in Pune, Musi in Hyderabad, Yamuna in Delhi, Agra, Ganga in Haridwar, Kanpur, Varanasi etc., Waldhuni in Kalyan, Mithi in Mumbai, Hussensagar and other 169 lakes in Hyderabad, Rankala lake in Kolhapur, Anasagar in Ajmer, Pushkar, Ujjani Reservoir, Umiam lake in Shillong etc.
Issues	<ul style="list-style-type: none"> a. Total failure of existing policies and infrastructure created for pollution control b. Neglecting and failure by urban local bodies- corporations & municipal councils in providing clean water supplies. c. Failure of urban local bodies in collection, conveyance, treatment of wastewaters generated in their notified areas. d. Inappropriate existing standards for waste discharges have completely failed to curb the pollution of streams, rivers and lakes e. Poor implementation of pollution control laws in urban and industrial sectors f. Not only wastewaters but also solid wastes are disposed off near or in the water bodies. g. Encroachment on flood plains of streams and rivers and basins of ponds & lakes by governments and industries has resulted massive changes in cities watershed. h. Severe pollution of ground water near polluted rivers & lakes. i. No honest efforts and support from government in developing and implementing indigenous technologies to revitalize and rejuvenate water resources. j. Poor communities are deprived of livelihood and exposed to various diseases due to chemical and biological pollution especially downstream of the cities.
What is needed?	<ul style="list-style-type: none"> A. Nationwide, statewide and regionwise compilation, verification, documentation of information about quality and quantity of India's surface waters – streams, rivers and lakes B. Restructuring of Development Plans incorporating concepts of reservation of lands for "Protected Green River Zones" and "Waste Management" in every sector like rural, urban, industrial, agricultural, etc considering environmental pollution impacts of development on stream or river or lake C. Efficient administrative and techno-professional institutional mechanism to control and treat the discharges from the industries, agriculture and urban areas to achieve zero pollution discharge target D. Review and modify existing standards considering the ecological quality of streams, rivers and lakes and its impacts on human health and livelihood E. Massive support by the central, state and local governments in developing indigenous decentralized, community driven, water & wastewater technologies F. Initiatives by state and local self governments in maintaining the quality of rivers and lakes G. Strengthening of auditing system in water use & wastewater treatment sectors with societal wisdom and people's participation H. People's active and effective participation especially the women in decision making for allocation of water for use and controlling of waste discharges
Solutions to prevent pollution of rivers, lakes and ground waters	<ul style="list-style-type: none"> 1. Sewage treatment should be based on indigenously developed ecological restoration principles to reduce the ineffective functioning due to frequent electricity failures and machinery breakdowns 2. Decentralized application of eco-technologies, ecological engineering to treat the pollution at the source only 3. Every stream, river and lake shall have an institution with people's participation to monitor the functioning of treatment systems focusing quality watch, ecological health, pollution treatment and human health.

	<ol style="list-style-type: none"> 4. Appropriate budgetary allocations for water and wastewater management to achieve zero pollution discharge into streams, rivers and lakes 5. Polluting of streams, rivers and lakes should be treated as a non- bail able criminal offence
Action Plan	<ol style="list-style-type: none"> 1. Lakes and Rivers Remediation Authority with pollution treatment experts and community participation 2. Water discharge quality monitoring and auditing shall be done regularly by the independent unbiased experts 3. Remediation and Restoration River Authority should be equipped with monitoring laboratory sufficiently manned with scientific and technically competent personnel empowered with to take any action to restore purity and sanctity of streams, rivers and lakes. 4. Financial support for correcting the ecological quality index of water bodies 5. Sustainable Management Plan of lakes and rivers for next 50 years



Removal of Encroachments

Present Condition	Liberalization, rapid urbanization and modernization of cities compelling the population and industries to encroach upon natural expanse of streams, rivers and lakes which should have been normally reserved as “Protected Green River Zones” or “Protected Green Lake Zones”
Examples of encroachments on streams, rivers, lakes, and other water bodies	Dam on Bhagirathi, Ganga Expressway in UP, Commonwealth games village on Yamuna in Delhi and Taj Corridor on Yamuna in Agra, Roads within river bed in Mula-Mutha Pune, Sand mining in Bhima River, Siddhatek to Narsimhapur, Constructions in Mushi river of Hyderabad, Construction of wall, airport, Bandra Kurla Complex on Mithi River of Mumbai, Sabarmati in Ahmedabad, solid waste dumping on Panzara river banks by corporation in Dhule. Such encroachments are found seriously disturbing the flow, health and ecology of all rivers and lakes in all Metros and cities, so much so that not a single urban nallah escapes the encroachments. Religious trusts have been found encroaching river lands thereby setting wrong precedents before the citizens and seriously weakening encroachment removal policies and laws in our secular nation.
Issues	<ul style="list-style-type: none"> k. Total failure of existing polity, policies and administrative set up created to check, prevent and remove the encroachments. l. Current “development-without-conscience” model based on government – industry nexus has resulted in relentless encroachments on lands naturally owned by rivers. Legal validation thus granted to unconstitutional encroachments is serving the interests of land grab mafia eg. Mushrooming of SEZs on rivers and coastal areas, unbridled mining in hills in river catchment, ruthless ecosystem damaging sand mining in riverbeds. m. Neglecting and failure by urban local bodies, corporations, municipal councils, and state governments in seriously implementing policies, laws and development plans with respect to anti-encroachments measures. n. Selective implementation of anti-encroachment instruments to blatantly serve partisan interests thereby catering to establishment-landgrab mafia nexus and political interests. o. Inappropriate existing city and regional plans are unable to protect lands naturally belonging to streams, rivers and lakes from encroachments. p. Not only encroachment on riverbeds, and banks, but also ruthless destruction of forest tree cover results in heavy erosion and siltation in the rivers and dams thereby seriously compromising the carrying capacity of river and hydraulic volume of the dam. This is “hydro-ecological-encroachment” without accountability and with continued incremental ecological and financial losses. q. Encroachment on flood plains of streams and rivers and basins of ponds & lakes by governments and industries has resulted massive changes in cities watershed. r. Severe impairment of ground water recharging processes due to encroachment, which inhibit percolation of water through soil layers by paving, cementing, roads etc. e.g. Pushkar Lake. s. No honest efforts and support from government to the public initiatives against encroachments and conscientious anti-encroachment officers. t. Poor and marginalized communities are displaced from their ancestral lands and deprived of traditional occupations. The record and performance of their resettlement and rehabilitation is abysmal.
What is needed?	<ul style="list-style-type: none"> A. Demarcation maps of lands naturally belonging to rivers and lakes shall be maps in the public domain bearing the sanctity, uniqueness and inviolability of our national map having universal acceptance and respect. B. Nationwide, statewide and regionwise demarcation of all streams, rivers and lakes and all other inland water bodies using modern indigenous technologies and human

	<p>resources with public participation for definitive mapping uniformly shared across every related ministry, departments, planning divisions, media and citizens' societies.</p> <p>C. Continued compilation, verification, and documentation of information about encroachments. The lands belonging to rivers and other water bodies shall be notified and declared as "Protected Green River Zones" and "Protected Water Body (Streams, Lakes, Estuarine, Coastal, Wetland) Zones". River Zone protection policies must be developed on the lines of sensitivity and seriousness involved in defining reserved forest protection policies.</p> <p>D. Restructuring of Development Plans incorporating concepts of reservation of lands for "Protected Green River Zones" and "Waste Management" in every sector like rural, urban, industrial, agricultural, etc considering impacts of encroachments on lands belonging to stream or river or lake</p> <p>E. Efficient administrative and techno-professional institutional mechanism to prevent and comprehensively remove the encroachments from the notified protected river and water body with time bound implementation programme</p> <p>F. Review and modify existing policies, definitions, laws, rules, regulations and guidelines for anti-encroachment measures with inputs from all affected stakeholders especially the women and poor, marginalized populations</p> <p>G. The central, state and local governments shall extend massive support and empowerment of the administrative personnel deputed for the task of preventing and removal of encroachments of river lands.</p> <p>H. Personnel discharging the duties of removal of encroachments shall be publicly recognized and rewarded.</p> <p>I. Responsibility and accountability of existing state and local self governments in time bound implementation of prevention and removal of encroachments of lands belongings to streams, rivers and lakes</p> <p>J. Strengthening of auditing system for evaluation of implementation of anti-encroachment measures by ensuring involvement of societal wisdom and people's participation</p> <p>K. Local factors affecting the health of river and water body lands unique to an area and identified by societal wisdom and local population must also be considered under the anti-encroachment laws and rules.</p> <p>L. Encroachment of notified and protected lands belonging to streams, rivers and lakes shall be treated as criminal offence. Anti-encroachment laws, rules and regulations shall be framed and modified to include provisions to prosecute the encroacher as a criminal attracting non-bail able warrants.</p>
<p>Solutions to prevent Encroachment of lands belonging to streams, rivers, lakes and other water bodies</p>	<p>6. Definitive demarcation of river lands in the unique comprehensive map must be represented distinctly and visibly on the ground on the both banks of the river through embedded colour coded RCC markers with details of nature and measurements of the river land boundary. The general population must be thoroughly educated and alerted to the significance of above RCC markers as people's resource to immediately report encroachment upon protected river lands.</p> <p>7. Evolution of stringent legal instruments to empower and protect, from land grab mafias, anti-encroachment programme and personnel, entrusted with the field duties for identification and removal of encroachments on the lands belonging to the rivers.</p>
<p>Action Plan</p>	<p>6. Review and upgradation, if needed, of existing anti-encroachment laws, rules and regulations with definitive time bound programme in consultation with local and affected population</p> <p>7. Hierarchical distribution of responsibilities (identified, allocated and notified for immediate action) to protect the lands of streams, rivers and lakes</p> <p>8. Punitive measures for the agency or department failing to take action against encroachment on stream, river or lake lands</p> <p>9. Record keeping, regular auditing of record keeping by social groups working on anti-encroachment issues</p> <p>10. Demarcation of stream, river and lake lands on ground with visible colour coded RCC markers with scheduled patrolling by anti-encroachment personnel under strict instructions to alert instantly with core groups of local people and concerned</p>

	<p>government department</p> <ol style="list-style-type: none">11. Orientation, sensitization, and field training for capacity building of all personnel from all types of local self governments, MLAs, MLCs and MPs (LS & RS), Self Help Groups to protect the lands of streams, rivers and lakes12. Quarterly compulsory public hearing on the subject of encroachments to be conducted by people's representatives in presence of local and affected populations, NGOs, Print and Cable Media and concerned department/(s)13. Involvement of educational institutes and religious trusts as watchdog and sensitizers for protecting the lands of streams, rivers, and lakes
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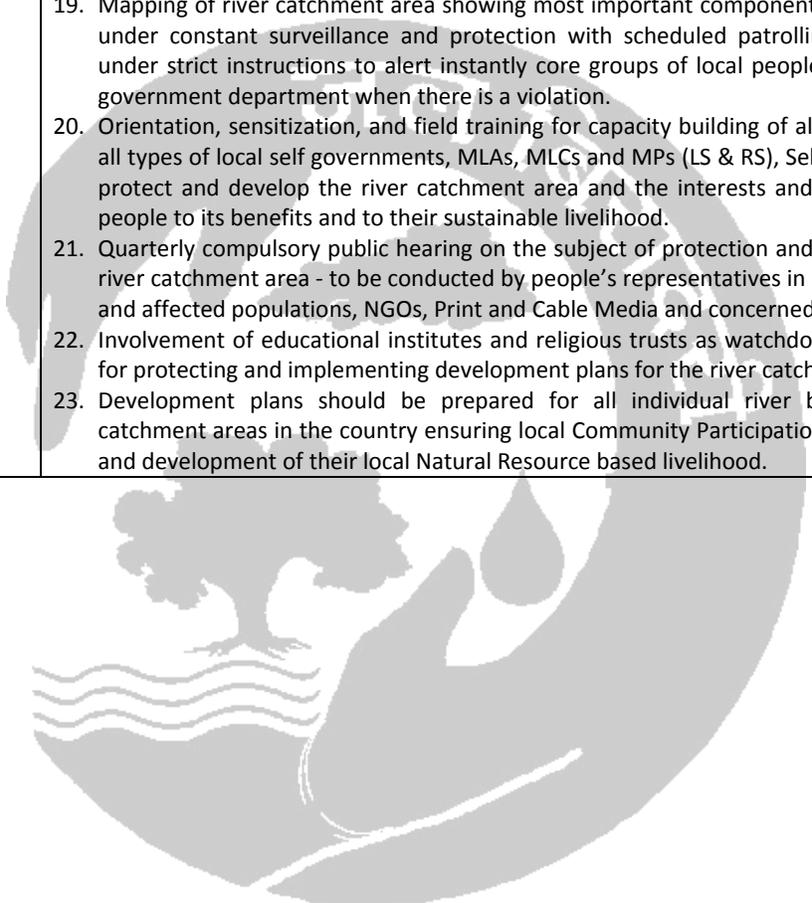


River Catchment Area Development

Present Condition	Sustainability of the river catchment area under pressure due to imbalance in developmental and subsequently environmental processes having far-reaching adverse impacts in time and space especially resulting in natural-rural-urban conflicts
Examples of adverse impacts of skewed developmental model on river catchment area	60% population of Pune's urban and industrial area is on 4% of Pune district land due to abundant water from 5 dams in Mula river catchment. Farakka Barrage is known for siltation problem resulting in major shifting in river courses and destabilization and displacement of population and their livelihood. Urbanization through satellite cities in the catchments of Powai Lake, Mumbai, Sahara City near Lonavala and Lavassa on Varasgaon Reservoir etc. Mining in Sariska, Massive deforestation in Himalaya ranges for various reasons leads to siltation of rivers and seriously compromises the capacities of dams. Highly polluting industries like paper, distillery, textile, chemicals in the catchment areas like Vashishti in Konkan, Kanpur, Noyyar river, Tirupur, Hindan river Bhilwada
Issues	<ul style="list-style-type: none"> u. Absence of holistic river basin vision resulting in inadequate plans, policies and implementation for catchment area development. v. Current "development-without-foresight" model of ad-hoc development based on limited river basin vision ignoring the equitable sharing of benefits by entire population. w. Concentration of wealth by a few and deprivation of many in the river catchment area due to non-inclusion of each individual as a resource consumer and/or resource dependent entity. x. Absence of integrated interstate catchment/reservoir management leads to disastrous floods and subsequent losses y. Neglecting, ignorance and failure by urban local bodies, corporations, municipal councils, and state governments in seriously implementing/updating policies, laws and development plans with respect to catchment area development. z. Selective implementation of catchment area protection instruments to blatantly serve partisan interests thereby catering to establishment-privatization and political interests. aa. Inappropriate existing city and regional plans are unable to protect forests and streams, in the catchment. bb. Ruthless destruction of forest tree cover in river catchment area results in heavy erosion and siltation in the rivers and dams thereby seriously compromising the carrying capacity of river and hydraulic volume of the dam. This is "hydro-ecological-imbalance of catchment area" without accountability and with continued incremental ecological and financial losses. cc. Encroachment on urban watershed by governments and industries has resulted in severe impairment of ground water recharging processes. dd. No honest efforts and support from government to the public initiatives against deforestation, encroachments in catchment area. ee. Poor and marginalized communities are displaced from their ancestral lands and deprived of livelihood due to skewed catchment area development. The record and performance of their resettlement and rehabilitation is abysmal.
What is needed?	<ul style="list-style-type: none"> A. Scope of river catchment area development, policy and planning must include – river culture, river science, river engineering, river technology and objective evaluation of sustainable livelihood and growth of every stakeholder inclusive of man, ecosystem and river body. B. Demarcation of river catchment area using modern indigenous technologies and human resources with public participation for definitive mapping uniformly shared across every related ministry, departments, planning divisions, media and citizens' societies. C. Continued compilation, verification, and documentation of information about developmental processes significantly altering the river catchment area. D. Integrated water resources conservation and management for achieving the water

	<p>balance by implementing afforestation, rainwater harvesting, water recharge, and pollution treatment to avoid inter basin transfers and linking of rivers.</p> <p>E. Efficient administrative and techno-professional institutional mechanism to involve the entire river catchment area populations and organizations in catchment-friendly lifestyle.</p> <p>F. Review and modify existing policies, definitions, laws, rules, regulations and guidelines for catchment conservation, protection and development measures with inputs from all affected stakeholders especially the women and poor, marginalized populations.</p> <p>G. In the wake of limited success of conventional technologies and chemical intervention in maintaining the river clean for sustainable development, the natural ecoremediation potential in the river catchment area must be harnessed and optimized.</p> <p>H. The central, state and local governments shall extend specific support and empowerment for the tasks/projects like – terrace-farming of hill slopes to check erosion and optimize land use, control of encroachments of river lands, afforestation, protection of biodiversity hotspots in the catchment area, revival of ecological health of the river, sensitizing and awakening of river-basin populations to catchment-friendly life-styles and the rehabilitation of displaced and affected population’s livelihood etc.</p> <p>I. Personnel discharging the above project duties of sustaining and protecting catchment area eco-logical health shall be publicly recognized and rewarded.</p> <p>J. Responsibility and accountability of existing state and local self governments in time bound implementation of industrial siting, township locations and agricultural cropping and pricing patterns to ensure intergenerational equity and sustainability.</p> <p>K. Strengthening of auditing system for evaluation of river-catchment area development projects/initiatives by ensuring involvement of societal wisdom and people’s participation</p> <p>L. Local geo-cultural factors affecting the health of river catchment area unique to a river basin and identified by societal wisdom and local population must also be considered under the catchment-protection and development laws and rules.</p> <p>M. Violation of rules and regulations of notified and protected river-catchment-areas and components shall be treated as criminal offence. Laws, rules and regulations shall be framed and modified to include provisions to prosecute the violator as a criminal attracting non-bailable warrant.</p>
<p>Solutions to achieve ecological health and water balance within the river catchment area, leading to protection of livelihood and to sustainable growth</p>	<p>8. A definitive shift, in the perceptions/planning, decisions/policy-making and actions/implementations of individuals, institutions and governments, from a limited view of catchment-components to a holistic, inclusive and integrated vision of entire river catchment area as a planning unit. This vision, based on effective publication and dissemination of developmental space-time maps of the catchment, must be seeded into the consciousness and conscience of the entire river-catchment area population through schools, colleges, cultural, general educational and media initiatives which are time-bound and include feedback mechanisms to check the actual impact on the health of the river catchment area under consideration. The general population must be thoroughly educated and alerted to the significance of above river-catchment-area maps as people’s resource to immediately report disruption or disturbance of river-catchment eco-system.</p> <p>9. Evolution of stringent legal instruments and accountability audits to precisely implement plans and policies which are intended to ensure the holistic development of the river-catchment area.</p> <p>10. The choice of technology and planning tools should be governed by a study of the natural self-restoration potential of the river-catchment area, the societal memory and wisdom of the local inhabitants and an openness to experienced innovative field-implementation of the above in the light of current local circumstances.</p>
<p>Action Plan</p>	<p>14. Framing of new and the review & up gradation of existing river-catchment area protection and development laws, rules and regulations with definitive time bound programme in consultation with local and affected population</p> <p>15. Hierarchical distribution of responsibilities (identified, allocated and notified for immediate action) to implement tasks/projects like – terrace-farming of hill slopes to check erosion and optimize land use, control of encroachments of river lands,</p>

	<p>afforestation, protection of biodiversity hotspots in the catchment area, revival of ecological health of the river, sensitizing and awakening of river-basin populations to catchment-friendly life-styles and the rehabilitation of displaced and affected population's livelihood etc.</p> <ol style="list-style-type: none"> 16. Punitive measures for the agency or department failing to take action against violators of revised river-catchment area protection and development laws and regulations. 17. Record keeping, regular auditing of record keeping by social groups working on river-catchment area protection and development issues. 18. Change in syllabus of schools, colleges and general educational initiatives to include active participation as an intelligent-unit in realizing the holistic vision of sustainable river-catchment areas. Every such intelligent-unit must understand and get a reflection of – changes in the river catchment area, impact of these changes and the personal and team responses needed to restore the balance. 19. Mapping of river catchment area showing most important components which must be under constant surveillance and protection with scheduled patrolling by personnel under strict instructions to alert instantly core groups of local people and concerned government department when there is a violation. 20. Orientation, sensitization, and field training for capacity building of all personnel from all types of local self governments, MLAs, MLCs and MPs (LS & RS), Self Help Groups to protect and develop the river catchment area and the interests and rights of all the people to its benefits and to their sustainable livelihood. 21. Quarterly compulsory public hearing on the subject of protection and development of river catchment area - to be conducted by people's representatives in presence of local and affected populations, NGOs, Print and Cable Media and concerned department/(s) 22. Involvement of educational institutes and religious trusts as watchdog and sensitizers for protecting and implementing development plans for the river catchment area. 23. Development plans should be prepared for all individual river basins and river catchment areas in the country ensuring local Community Participation and protection and development of their local Natural Resource based livelihood.
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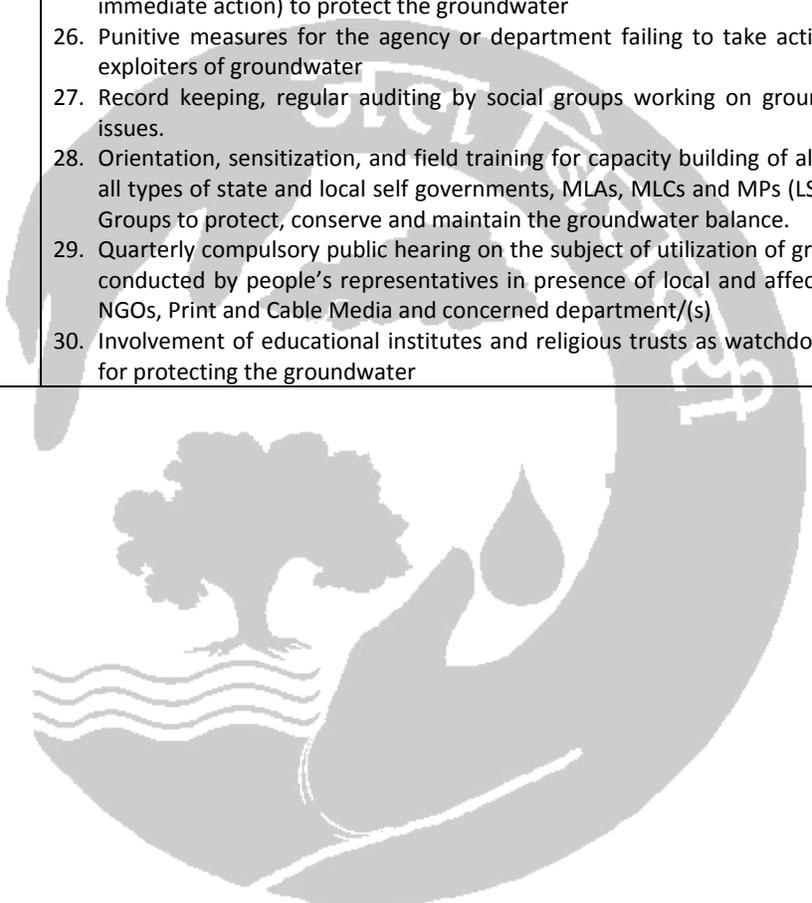


Maintaining Ground Water Balance

<p>Present Condition</p>	<p>Liberalization, rapid urbanization and modernization of our country has compelled the population, agriculture and industries to extract ground water extensively without adequate recharging practices causing ground water imbalance and damage to local geological features over a period of time. There is a need to pay attention to quality of ground water which is being contaminated due to seepage of sewage, industrial effluents and agricultural chemicals.</p>
<p>Examples of Ground Water Imbalance</p>	<p>*Alarming ground water depletion in North Indian states as per studies published by NASA and authenticated by Indian Authorities, Deeper bore wells by farmers and co-operative industries like sugar, distillery etc., inequitable exploitation of ground water by stakeholders like Coca Cola in Maharashtra and Kerala, cash crop growers with large land holdings as compared to small and marginal land holders, traces of pesticides and other chemicals in bottled waters extracted from ground water as per studies Center for Science and Environment is a e.g. of ground water contamination. use of bore wells to dispose of untreated effluents – chemical corridor of Western India, 400 bore wells were dug at site of Dow Chemicals in Shindewadi, Chakan, Pune, which has been forced to be closed due to peoples uprising.</p>
<p>Issues</p>	<p>ff. Over exploitation of groundwater without maintenance of any scientific records and documentation</p> <p>gg. No monitoring and regulation to maintain the groundwater balance. Bore-well width, depths and numbers in given area/region depending on the quality and quantity of available groundwater resources, is not monitored and regulated.</p> <p>hh. Total failure of Groundwater Survey and Development Agency (GSDA), urban local bodies, corporations, municipal councils, and state governments in seriously implementing policies, laws and development plans with respect to groundwater quality, balance and protection.</p> <p>ii. Public appeasement policies like free distribution of electricity, unbridled exploitation of ground water by the state and central government</p> <p>jj. Inappropriate existing city and regional plans compromise on open spaces and hence restrict recharging eco-spaces and thereby reduces groundwater replenishment.</p> <p>kk. Ruthless destruction of forest tree cover results in reduction in infiltration, moisture holding capacity of soils and as well as groundwater recharging thus disturbing the eco-hydrological cycle of the region and ground water balance</p> <p>ll. Technological developments have led to deeper and wider bore wells being dug. These bore wells are not only being used for water extraction but are also used as dumping sites for hazardous chemicals and toxic industrial effluents to evade the strictures from regulating authorities. It causes severe irreversible contamination and pollution of groundwater thereby depriving entire communities of clean water supply e.g. Bhopal gas tragedy of union carbide and subsequent inaction in suitably disposing of the hazardous waste thereby causing ground water contamination.</p> <p>mm. Public health issues like serious body deformities and malfunctioning due to fluoride contamination in ground waters in Marathwada (Maharashtra), some regions in Gujarat and Rajasthan, arsenic pollution in West Bengal, radioactive and nuclear pollution in Jaduguda (Jharkhand), and agrochemicals pollution of ground water in Punjab, Haryana, western Maharashtra (sugar belt) and Karnataka.</p> <p>nn. There is no policy about the failed and defunct bore wells and wells. Such sites become vulnerable for contamination and fatal accidents.</p> <p>oo. No honest efforts and support from government to the public initiatives on rainwater harvesting with the help of methods and structures like johads, anicuts, small check dams, green dams for groundwater recharging.</p>

	<p>pp. Groundwater is a common community and precious ecological resource. Community has naturally endowed moral right besides the constitutional guarantee of the governments to provide clean drinking water. However, overzealousness by state and central governments to hand over the rights of groundwater extraction in large quantities to private operators for reaping obscene profits (water bottling plants, distilleries, sugar factories etc.) is resorted to thereby working against the natural principle of people's and ecological welfare.</p> <p>qq. Poor and marginalized communities are deprived of clean groundwater in urban and rural sectors.</p> <p>rr. Drying of rivers, streams, lakes and other bodies is mainly due to serious depletion of groundwater and forest cover.</p>
<p>What is needed?</p>	<p>A. Mapping of groundwater resources and flows with quantity and quality of water shall be prepared using indigenous latest technologies and made available in the public domain bearing the sanctity, uniqueness and inviolability of our national map having universal acceptance and respect.</p> <p>B. Nationwide, statewise and regionwise mapping of all groundwater resources having links with streams, rivers and lakes and all other inland water bodies using modern indigenous technologies and human resources with public participation for definitive mapping uniformly shared across every related ministry, departments, planning divisions, media and citizens' societies.</p> <p>C. Continued compilation, verification, and documentation of information about groundwater. These groundwater resources shall be notified and declared as "Protected Groundwater Resource for Community and Ecological Welfare". Groundwater protection policies must be developed on the lines of sensitivity and seriousness involved in defining reserved forest protection policies ensuring community participation.</p> <p>D. Restructuring of Development Plans incorporating sites and open spaces having access to aquifers for recharging groundwater in every sector like rural, urban, industrial, agricultural, etc.</p> <p>E. Implementation of policy "Over Exploiter Pays" on the similar lines of Polluter Pays principle to effectively curb exploitation tendencies and commercialization of groundwater.</p> <p>F. Evolving, defining, fixing, and notifying the scientific region-specific norms of groundwater utilization scale (say from 0 – 1 lakh litres per day, 1-5 lakhs litres per day etc.) to identify over exploiter.</p> <p>G. Efficient administrative and techno-professional institutional mechanism to comprehensively prepare and monitor area-wise, region-wise, state-wise and central list of over-exploiters considering the norms fixed as above and evolve suitable policy and action plan to deal with such exploitation.</p> <p>H. Review and modify existing policies, definitions, laws, rules, regulations and guidelines for maintaining groundwater balance with inputs from all affected stakeholders especially the women and poor, marginalized populations.</p> <p>I. Responsibility and accountability of existing state and local self governments in time bound implementation of maintaining groundwater balance</p> <p>J. Strengthening of auditing system for evaluation of maintaining groundwater balance by ensuring involvement of societal wisdom and people's participation</p> <p>K. Over exploitation of ground water shall be treated as criminal offence. laws, rules and regulations shall be framed and modified to include provisions to prosecute the over exploitation of ground water as a criminal offence attracting non-bail-able warrants.</p>
<p>Solutions to maintain ground water balance</p>	<p>11. Definitive unique comprehensive mapping of groundwater resources and flows must be made available in public domain. The general population must be thoroughly educated and alerted to the significance of maintaining the groundwater balance and immediately report exploitation leading to imbalance.</p> <p>12. Evolution of stringent legal instruments to control over exploitation of groundwater.</p> <p>13. Recharging of groundwater with community participation in urban as well as rural areas using traditional wisdom and geo-cultural knowledge for establishing regional water balance including streams, rivers and lakes</p>

	<p>14. Water – intensive cropping patterns, extensive use of agro-chemicals to be replaced by water economic cropping patterns and organic farming techniques to relieve the pressure on groundwater resources.</p> <p>15. Check, monitor, control use of wells and bore wells as dumping sites for hazardous chemicals and toxic industrial effluents and punishing these criminals severely.</p> <p>16. Government initiative and active help in creation of community driven groundwater protection squad (Bhujal Janahit Parishad)</p> <p>17. Incentive schemes for the implementation of rainwater harvesting and similar other structures which help in ground water recharging without damaging the quality</p>
<p>Action Plan</p>	<p>24. Review and upgradation of existing groundwater balance laws, rules and regulations with definitive time bound programme in consultation with local and affected population</p> <p>25. Hierarchical distribution of responsibilities (identified, allocated and notified for immediate action) to protect the groundwater</p> <p>26. Punitive measures for the agency or department failing to take action against over-exploiters of groundwater</p> <p>27. Record keeping, regular auditing by social groups working on groundwater balance issues.</p> <p>28. Orientation, sensitization, and field training for capacity building of all personnel from all types of state and local self governments, MLAs, MLCs and MPs (LS & RS), Self Help Groups to protect, conserve and maintain the groundwater balance.</p> <p>29. Quarterly compulsory public hearing on the subject of utilization of groundwater to be conducted by people’s representatives in presence of local and affected populations, NGOs, Print and Cable Media and concerned department/(s)</p> <p>30. Involvement of educational institutes and religious trusts as watchdog and sensitizers for protecting the groundwater</p>



River Culture and Society

Present Condition	<p>a. Deterioration of health of rivers due to utter ignorance of population, family and educational institutions about the importance of personal contribution to maintain the riverine-regional development–environment balance.</p> <p>b. Deterioration of health of rivers due to skewed perception of business development and profits wherein the limited resource of water is treated as a commodity and the long term ill effects on river health and sustainability of riverine-regional development–environment balance are ignored.</p> <p>c. Deterioration of health of rivers due to biased plans, policies and projects wherein convenience and profit of vested interests takes precedence over river health and sustainability of riverine-regional development–environment balance.</p> <p>d. Deterioration of health of rivers due to failure of religion-cultural leaders to guide themselves, population, technologists and governance about the overwhelming importance of maintaining the river health and sustainability of riverine-regional development–environment balance as a personal, sacred, social and patriotic duty</p> <p>e. Rivers are the cradles of civilization, but because of the above failures of the leadership at all levels, population is faced with the dire question of its survival. Disastrous consequences of global warming, floods, depletion of water resources, poisoned water supplies and water-borne diseases of pandemic proportions have already sounded alarm bells which herald the possibility of imminent mismanaged and crippled future.</p>
Examples of Leadership failure in society to preserve, conserve and protect the riverine systems and river culture	<p>a. Proliferation of use and throw culture due to failures of familial, educational, mass-media and religious guidance.</p> <p>b. Incompetent legislation and implementation in managing the segregation, disposal and recycling of solid and liquid wastes thereby transforming freshwater rivers into stinking and lethal conveyers of raw sewage and hazardous waste.</p> <p>c. Failure of divisive religious leadership to alert and unite populations from all cultures and faiths towards sacred healing duty of cooperating to restore and rejuvenate rivers as team without internal cultural splits and polarizations</p> <p>d. Laxity of local, state and federal leadership in paying attention to environmental impacts of developmental, infrastructural projects for maximization of GDP and profits through use of materialistic sciences, modern planning and management principles, contemporary engineering and ineffective legal tools with no understanding of ecological processes and balance</p> <p>e. Deliberate disinterest and letting down of inquest to evolve cost effective technologies suitable for local conditions</p> <p>f. Miserable failure of premier government water research institutes and scientists, with large budgets, to transfer their lab models to fields and to demonstrate holistic, integrated approach and effectiveness in any single river basin.</p> <p>g. Failure of each literate, educated and creative citizen to understand, exercise and realize the personal potential and strength -</p> <ul style="list-style-type: none"> - to be patriotic - to live and work together in a national team which transcends division and polarization - to be vigilant custodian of national resources (including rivers), - to evolve eco-sensitive lifestyle and family culture - to be participant in voting for selecting the competent leaders, - to regularly participate in democratic decision-making for representative governance.
Issues	<p>ss. Physical separation of the individual and society from the regular contact with rivers resulting into lack of traditional ownership, relationship and responsibility towards rivers.</p> <p>tt. Insistence of family culture to focus the growing child’s attention and activities towards issues of economic insecurity and monthly livelihood, thereby discouraging growth of character towards community responsibilities and custodianship of rivers</p>

	<p>uu. Macro-economic and commercial models, based on parasitic over-consuming-exploitation, have mis-evolved into over-competitive flows which emphasize spurts and peaks of localized development and growth (higher GDPs) with complete blindness to the ecological costs and health of the natural resources including rivers</p> <p>vv. Governance of society which was based on a natural reality of limited population and abundant resources has miserably failed to provide creative leadership at a turning point in human history where this needs/greeds:resources (NR) ratio has rapidly changed into a reality of exploding population and limited resources. Short sighted reactive leadership poses and pretends to fill the leadership vacuum thereby creating dangerous role models of 'leaders' who show fabulous expertise in cornering and over-exploiting rapidly depleting natural resource reserves.</p> <p>ww. Science and technology mastered the material world and therefore believe that intervention through material-infrastructures could be sufficient to restore the ecological balance which, however, is a constantly shifting dynamic equilibrium affected by the countless choices and activities of humanity and therefore requires a combination of material and social engineering (social transformation through enlightened self-interest) to manage the harmonious continuity of pro-life ecological-equilibrium. It is incompleteness in human culture to have failed in embedding the fabulous scientific and technological capacities within the multi-intelligent social dynamics of a truly alert, integrated and pro-active humanity - which can begin its repositioning as custodian of this planet by preserving the rivers and ecology.</p> <p>xx. Religious leaders using traditional timeless wisdom had the duty</p> <ul style="list-style-type: none"> - of nurturing holistic understanding and - of nurturing the wisdom to make harmonious and appropriate choices which hurt neither man nor nature, <p>However, apparently working aside from their timeless mandate, Religious leaders have divided humanity into contending divisions. Therefore entire populations are misled into over-competitive, defensive and offensive postures, military-expenditures and efforts. These predetermined and biased postures distract the attention, alertness and resources from the global team-effort that is urgently required to rescue the rivers, the entire deteriorating environment and the very survival of the species.</p> <p>yy. Universal integrated culture is evolving out of the current natural necessity to together address and overcome the global ethical-environmental crisis. The emergence of pro-environment paradigm in the '60s and its constant growth and spread over our planet achieved what religion could not – by showing that humans could love all other species. All that is left is to further evolve this Universal integrated culture so that we humans transcend our own internal divisions.</p> <p>This will come about when an enlightened science and a rational religion become the outer and inner eyes of an undivided global governance federation. Rivers are the outer flows, mothers of civilization, which have emerged in our consciousness to show us the first steps of transcending differences around precious common heritage and merging back into the current historical version of timeless culture.</p>
<p>What is needed?</p>	<p>A. Bringing children, families and society in frequent physical contact with rivers, lakes and other water bodies for purposes of educational recreation and eco-sensitization</p> <p>B. Development of family culture where a weekly community service to clean the rivers and care for ecosystems is encouraged. Students must be encouraged to develop a career as environmental professional.</p> <p>C. Costs of ecological resources should be inbuilt into the costs of each stage of life cycle of products, services and projects.</p> <p>D. Training and inclusion of every affected river basin citizen in the equitable sharing of benefits, decision making process, monitoring and audit of implementation by the governance.</p> <p>E. Governance should use science and technology judiciously to equate the development</p>

	<p>and environmental balance for sustainability.</p> <p>F. Governance as a custodian of water resources should comprehensively prevent its privatization and commoditization to forbid making of obscene profits and to forbid the concentration of wealth.</p> <p>G. Governance should balance the involvement of scientific with social engineering in every project which has significant impact on the health and harmony of river basin. Civic society empowered by NGOs should become the vigilant public-will which compels the political will to accept such balanced development.</p> <p>H. Religious leadership must create or modify occasions, celebrations and festivals to</p> <ul style="list-style-type: none"> o involve all cultural and religious groups with river cleaning and festivals o set precedents to remove non-heritage encroachments on river lands o set precedents for exceptional self-disciplined cleanliness and hygiene in the holy places along the river banks and water bodies o innovate various mass awakening programmes for eco-sensitization <p>I. Lessons of river culture must become the cornerstone of training, art, media and education to create future citizens as capable custodians of a holistic eco-sensitive civilization.</p>
<p>Action Plan to link people with river</p>	<p>31. Pilot projects for comprehensive river basin development with decentralized community driven initiatives</p> <p>32. Pilot projects for reviving water sufficiency of villages to ensure reverse migration and reduction of urban pollution in rivers</p> <p>33. Pilot projects for comprehensive participation by urban citizens in every aspect of water utilization, purification, quantification, treatment of wastewater, reuse and recycling of treated water and discharge of clean water for downstream consumers. As a result, river culture which trains citizens in being sensitive to their water footprint will develop.</p> <p>34. Citizen's charter for establishment and maintenance of self-discipline and externally imposed waste disposal discipline</p> <p>35. Annual or biannual river festivals shall be started or supported</p> <p>36. Regular participatory river cleaning programmes shall be started or supported</p>