

Summary Record of Brainstorming Session with Academia, Experts and Professionals for Review of National Water Policy held on 26.10.2010

A Brain Storming Session with the Academia, Experts and Professionals for review of National Water Policy was held on 26.10.2010 at the India Habitat Centre, New Delhi under the chairmanship of Hon'ble Union Minister of Water Resources. After welcome address and introductory remarks by the Additional Secretary to the Government of India, Ministry of Water Resources the Hon'ble Union Minister for Water Resources and the Hon'ble Minister of State for Water Resources addressed the participants. Hon'ble Minister of Water Resources referred to the National Action Plan on Climate Change which was launched by the Hon'ble Prime Minister in June 2008. The National Action Plan envisages that the National Water Policy would be revisited for ensuring appropriate strategies to deal with the variability in the rainfall and river flows due to climate change and this would include enhanced storage both above and below ground, rain water harvesting coupled with equitable and efficient management structures. Hon'ble Minister of State for Water Resources referred to the close association of academic institutions, experts and professionals with development of water resources of the country and role of research and studies in optimum utilization of available resources in an efficient manner. Thereafter, a brief presentation was made by the Secretary to the Government of India, Ministry of Water Resources highlighting the salient features of the Background Note for the Session.

Thereafter the Additional Secretary (WR) requested the invited experts to present their views and suggestions which were followed by discussions.

The suggestions and views of the participants that emerged during the Consultation Meeting in respect of various aspects of water resources development and management are summarized at Annexure I. The list of participants of the Brain Storming Session is at Annexure - II. Views expressed by the participants are as under.

Shri R. Ramaswami Iyer –

- We should not start with the water policy of 2002 and try to make incremental changes in it. We put it aside and think the entire things afresh.
- Demand is either very close to the availability or exceeds the availability, so there will be a crisis which is very much our own creation, and our starting point of the entire exercise should be a severe restraint on the growth of the demand.

- Two governing perspectives have to be: (a) the ecological imperative of reducing our ecological footprints or water footprints and (b) social justice and equity which can be married together in to a moral responsibility perspective or Dharma perspective.
- We should tailor our needs to the amount of water available which requires a radical review of all the requirements.
- Highest priority be given to local community led small scale water augmentation in an extensively decentralized manner. Ground water exploitation has to be severely restricted.
- Large water projects will have to be projected as a last resort where they are the best options or they are the only options available. There should be minimum environmental impact and least displacement which should be based on informed prior consent.
- We have to ensure the fundamental rights to water and it is not denied to anyone particularly scheduled caste and scheduled tribes. Access to water sources in the mountains or forest or lakes to tribal communities should be ensured. Equity in the distribution of water supply should also be ensured.
- Ecology cannot be included in to our priorities. Priorities must be local. It depends on circumstances, only priority that is universal is drinking water. Other peoples exercise of economic rights whether it's industrial water or agricultural water or any other water should not endanger anybody else's fundamental rights
- Engineering and economics have to be subordinated to ecology and justice. These are the pillars on which the new water policy should be built.

Discussion:

Shri A. D. Mohile –

- Increase in efficiency, say of surface water for irrigation, is going to reduce ground water recharge and the conjunctive use and ground water farmers may get affected.
- The science of hydro-ecology says that natural ecology preservation does not mean that it has to be preserved at the same level. So it's not that natural ecology has to come first before you think of anything else.

Presentation by Prof. C. P. Sinha –

- There should be some mechanism by which it is periodically verified whether the National Water Policies are being sincerely followed or not.
- The provision about establishment of data banks and data bases made in para 2.1 largely remains unimplemented.

- The proposal on Inter-basin transfer of water from one river basin to another seems to have been shelved. The situation may be reviewed and the provision suitably modified, if considered desirable.
- River Basin Authorities or Commissions may be established for different river basins or sub-basins and may be entrusted with the task of planning, development and management of water resources for their jurisdiction as a whole.
- The water allocation priorities should remain as mentioned in para 5.
- Resettlement and rehabilitation of project affected persons should be given top priority.
- Participatory management of water resources should be practised by all means. Government agencies and all stakeholders should be involved. The word 'encouraged' in para 6.8 of NWP 2002, may be replaced by 'ensured'.
- No private sector should be allowed to own any water resources project at any cost. The word 'owning' should be deleted.
- We should aim at 'community management' rather than 'corporate management'.
- Suitable consideration may be given to climate change in project planning. Awareness about the problem may be created by suitable education and training.
- Flood plain zoning as a non-structural measure for flood management is very important and therefore, para 17.3 of NWP 2002 may be reviewed and revised to make the provision implementable.
- A judicious balance between environmental requirement and developmental needs should be tried. Permanent shelving of any water resources project on account of environmental considerations should be avoided.
- Suitable provision for implementation of policy may be made in the National Water Policy.
- Water may be brought in Concurrent List.

Presentation by Shri Ashok Jaitly –

- We should forget about the 2002 policy and take a fresh look.
- National Water Policy must have a vision statement where priorities, perspectives, attitudes, mind-sets are addressed.
- National Water Policy needs to recognize social, political and economic compulsions and devise strategy and structure that could facilitate States to accept and adopt them.
- Joint studies between the States to conclusively establish the mutual benefits that could flow from inter-State collaboration of the river basin would help to break down resistance based upon purely local perception,

- Establishment of autonomous Bureau of Water Efficiency on the line of the Bureau of Energy Efficiency with clear definition of its mandate would be a positive step.
- Measure of efficiency is almost wholly economic or purely financial in terms of revenues and deficits. It is not logical to argue that water being a social good can not be priced according to market conditions.
- Unviable management of water resources has given rise to an informal, uncontrolled and often exploitative water market.
- Policy adoption has not been effective in arriving at reform in the water sector. This could have to be backed with some strong mechanism for incentives and disincentives as has been done only partially successfully in the electricity sector.
- Considering that very large amount of central finances is made available for a host of water development program, it should be possible to link them with incentives & disincentives. One of the ways in this regard is to impose conditionalities. A mechanism needs to be institutionalised.
- Promotion of water efficiency and water conservation need to be backed by general consensus and public awareness.
- By proper coordination in the centre it will be much easier to implement any program on water sector reform which are overdue.
- Several scientific bodies including the IPCC tell us that global warming would have a significant impact on water resources through monsoon variability, sea level rising, and glacier melt and the revised National Water Policy must address this as a priority national requirement.
- One of the essential requirements for building a national knowledge bank is scientific information and data. Any new Water Policy would need to address this issue frontally.
- A deeper examination of the complexity of water problems reveals that there are critical, economic, social, institutional and political facets of water which can be managed optimally only by taking these aspects into consideration. We need to move from exclusively hydrology engineering centric approach to a multi-disciplinary broad based perspective. The revised National Water Policy can take the lead in this transformation
- Social science and engineering will have to be put together.

Presentation by Shri A. D. Mohile –

- National Water Policy 2002 has a non-holistic approach and directly ignores the future. Policy was made by NWRC and States but not passed by legislatures.
- We should have a policy for rain water use particularly in closed basins.

- NWP does not say that private sector investment is a must and it should be encouraged with certain specified precautions.
- The State policy may go beyond NWP and should come out with appropriate strategies to implement them.
- Data gaps need to be covered particularly in view of climate change concern. For water allocation and water rights, we should have new regime. For priority among usage, there is a need to debate.
- There is a need to increase capacity of those who deal with water including the engineering professionals, hydrology professionals.
- Stakeholder-managed basin authorities to reduce conflicts and policy modifications in domestic water supply, industrial water supply, treatment in groundwater management are required.
- In estuarine region, we have very little data. Data collection in area sensitive to climate change like glaciers, Himalaya's hills has not been done. Much better networks are required.
- Much better network for evaporation data is required. Data on river hydraulic and river cross section need to be collected regularly, say every five years.
- In other countries the GIS based data and the river morphological data can be directly coupled to flood hydraulic and flood maps can be prepared on the computer. We have never gone anywhere near that.
- Strategies for multi-purpose water projects, water quality, and disaster management need to be prepared. Dam break analyses should be done as a routine.
- We are in an age where the colonial idea about not sharing data with the people is changing and we must encourage that.
- There should be an empowered dam safety services. The dam safety Bill is already on. Some changes are required in it.
- We should have better strategies for conflict management. There should be a standing tribunal for water dispute so that water dispute becomes a specialization in law.
- Changes in acceptability criteria of water projects in sensitive mode, i.e. if climate changes how the projects will behave.
- Commercial brackish water fisheries should be separated from the ecology preservation of natural species.
- Drainage in urban areas is becoming a very large problem and there should be town planning regulations to change that. The acceptability criteria will have to be changed.

- Core domestic water supply should have a highest priority and the remaining may have to compete even with standing crops which are dying for want of irrigation. Then reinterpret domestic water priorities. If dependabilities of various resources are different than give them the most dependable.
- Planning Commission and the concerned Ministry should make a rule such that no water supply project for any area will be sanctioned unless it has attached to it a sanitation project for treating that water.
- For industrial water supply, user pays polluters pays should be applied.
- Zero effluents position in water short areas is not desirable.
- Royalty and licensing is necessary for all water users. The States grab water allocations as their own but they don't distribute it to the real users by giving licenses. This should be avoided.
- Massive program for ground water quality as well as ground water recharge will have to be undertaken. Ground water should be a negative community property just like surface water. This idea of negative community and usufruct has to be engrained in the policy.
- Local commercial use through ground water markets should be controlled. Power tariffs for pumping should be re-looked so that the subsidy element goes down.
- Economic principles require that Benefit – Cost ratio calculations should consider full cost and not subsidized cost.
- Inter-State agreements should require approval of the Union so that it becomes enforceable.
- The reducing role of Government in water sector should be recognized. River Basin Organizations, empowered by Union legislation, should be for distributing power to the stakeholders
- Setting up of single use stakeholder committees for water supply etc. is to be done and eventually promotion of tertiary management by stakeholders should be the goal.

Presentation by Prof. Subhash Chander –

- We must have a vision.
- We should tailor our demand to our availability and we must keep it in mind that the availability every year is not constant.
- Justice and ecology should take precedence on other considerations.
- An institutional set up at the centre to highlight the advantages of cooperation and it is not possible unless we have water use policy maps.
- There are declining levels in ground water, lack of basic information about water, how and where we use them? We don't have information on this.

- We must have a policy of conservation and protection. The policy must provide for declining per capita availability of water, change in pattern of consumption, flood, climate change etc.
- Recognition by the society to provide water security to all and livelihood to poor and tribal communities dependent upon scarce water resources and aquatic eco-systems should be appropriately considered.
- On Need of National Water Policy, the following three points must be reflected (i) everyone has the right to have access to sufficient water, (ii) drinking water security for everybody, and (iii) water sufficient to mainly meet basic human needs and maintain environment sustainability need to be granted as a right.
- Government is the custodian of the National Water Resources and its powers in this regard will be exercised as a public trust. There is no question of anybody owning water.
- There is a need to develop water accounting standards.
- Water resource plan must specify how the water will be shared by various users including ecology in the basin during dry years respecting the need of water for survival for everyone who is dependent on its supply.
- A joint management mechanism representing various stakeholders and their representatives of the Central Government should be set up whenever a Tribunal is set up.
- There is a need for an effective ground water regulation programs to sustain ground water dependent communities for long term and to protect associated surface water.
- Land use and water use should be directly linked. We should set up a mechanism for addressing transfer of existing water user rights particularly from agriculture to municipal, industrial and ecological uses in view of rapid urbanization of India.
- Water allocation priorities, drinking water should be replaced by water to basic human needs and maintain environmental sustainability in all subsequent paras. The intention of environmentally sustainable water uses is to balance water use with the protection of the resources in such a way that the resources are not degraded beyond recovery.
- Policy needs to ensure that all those flooded once in five years or more frequently are given priority in alleviating their ordeal.
- There is a need to link water policy to agriculture and food policy, environmental policy and energy policy. All major water user sectors must develop water use conservation and protection policy and regulation need to be introduced to assure compliance with the policy in these sectors.

- We need as a nation to increase our ability to anticipate water risk and manage emergency and evolving natural and manmade disasters which are related to water resources.

Discussion:

Shri Jayant Bandopadhyay –

- The new water policy and a new framework have to be interdisciplinary and engineering interest need not be the only guiding principle.
- There is a very important scope for a broader umbrella document under which the policy document has to work. We need a background document which provides a perceptual clarification of priorities under which the water policy has to work.
- We cannot think of demand of sectors which are beyond the immediate functional role of the Ministry of Water Resources.
- We have to ensure all stakeholders' participation.
- New water policy has to be based on updated scientific understanding.

Dr. Paritosh Tyagi –

- Demand for water for the river itself has often been ignored.
- The river should be treated as a living body which has various demands on water, on oxygen, on soil, on space and those demands including demand for water have to be met. Terms like ecological demand and environmental flow are absent from water policy.
- I would like to suggest three items namely, challenge posed by the diversion of water, encroachment on river bed and more particularly on flood plains and elimination of spots for recharging groundwater which merit consideration.
- The first priority should go to supporting life followed by supporting livelihood. The third priority is sustainability. Last is value addition.
- There is a need for management of river banks on lines of regulations for coastal regulatory zones.
- Heritage value of rivers should also be recognized

Sister Sudha Verghese –

- The new policy should focus on the demands of women - a space may be given for women's concern especially in respect of rural women and *dalit* women.
- Water is a free gift of Mother Nature and the social value of water has to be looked in to.
- Deprivation of water to some sections is a human rights violation. Caste system plays a role in depriving free use of water to certain section.

- Disaster management programme should consider making water available during disaster.

Shri R. P. S. Malik –

- Water policies have remained more or less on paper without being followed in practice. Along with the water policy we should have a framework for national policy with clear definition of milestones and assigning responsibility for achieving them.

Dr. Kota Tirupataiah –

- In the policy there must be intent to promote literacy on water and various mechanisms.
- The policy should not be prescriptive.
- Incentive for drawing less and managing with the less should find a place in the Policy.

Dr. T. Prasad –

- Data secrecy has inhibited research by many Indians, our well intentioned researchers and academicians.
- Policy should include the concept of International river basin organization and inter-State river basin organization.
- Water zoning should be a part of the National Water Policy, particularly in view of the concept of virtual water.
- We should distinguish between disaster due to manmade factors and disaster due to natural factors. Where flood is a normal part of the hydrology, there should be water resources planning taking this into account.
- For drought prone areas, there could be appropriate water resources planning considering drought is a natural phenomenon of the region.
- Setting up water resources' university should be included in the policy.

Shri Trilochan Sastry –

- Recognize role of agriculturists in water policy.
- Recognise community rights over natural resources similar to the Forest Rights Bill particularly taking in to account the role of women, or *dalits* or communities on the local water resources and if possible, go for legislation on that.

Dr. A. K. Gosain –

- National Water Policy is only an intent and lacks in terms of implementation of the policy,
- We have no mechanism to look into effect of different programmes being run by various Departments / Ministries and we need to make use of the latest technologies in integration of sectors by bringing information on a common base.

- We should share the data with groups which are basically doing the kind of service which is required for the country.
- We need to bring in issues, mechanism, organizations which can serve the purpose by taking integrated approach in the water policy as a revised intent and also ensure that the intent does not remain an intent. We should be in a position to translate that intent into action.

Shri Nitin Kaushal –

- We need to ensure environmental flows with a framework for the maintenance of those environmental flows for the particular river.
- There should be some mechanism under which researchers should have access to the data. Data should be made public.

Prof. Nayan Sharma –

- Before we try to have any National Water Policy we need to introspect very seriously how we can have this trans-boundary character in place.
- Creation of in-stream storage should be incorporated in the National Water Policy.
- We must do some serious homework as to how in the backdrop of climate change, the river management can be done.
- We must go for a very rigorous Research & Development.

Dr. K. C. Patra –

- Emphasis on need for quality data collection work.
- We can open all the data to the centre server for the researchers.
- There should be a central nodal agency for approval of the projects

Smt. Sunita Nadhamuni –

- Drinking water has been given the highest priority in the National Water Policy and it is the vulnerable population - the women, the marginalized who are most affected by the lack of access to safe drinking water.
- Many decision making people don't have the support of good local data. So, both of these things should be addressed. Technology can be used for this purpose.

Prof. Philippe Cullet –

- Water is a public trust because now that is the principle by which water is to be governed. The Supreme Court has told us that a number of times over the past so many years.
- We all agree that drinking water is the first priority and It has to be stated in such a way that prioritization cannot be changed. Other priorities can be moved around depending on local circumstances and climate change.
- Policy must follow existing legal principles. Law is not something which can be redefined in the water policy. It has to be applied in the water context.

Dr. B. S. Mathur –

- Water should be treated as national resource. We have to use basin as a unit. When the basin is treated as a unit, the implementing agencies at States would be left and so there would be no meaning of the State Water Policy.
- National policy versus states participation for different river basins should be the theme of our National Water Policy.
- The policy should be crisp.

Presentation by Dr. Tushar Shah –

- Looking at the 2002 water policy, there is hardly any *will* statement, there are normative statements. That is not a policy.
- An implementable policy must have three characteristics namely (i) it should be realistic, (ii) how the business as usual will change, and (iii) the implementation pathway.
- Water policy should be based on constant reassessment of how the water economy actually functions here and on what basis.
- The aim of water policy should be to try and change the working of the economy here.
- Our water economy is informal where majority of the water users are self-providing the water needs. How can a water policy that takes a position that the State will decide who gets how much water will actually work?
- The ideas of integrated water resources management or the integrated river basin management have come from context which is different from ours.
- What we need to integrate most is management of land, water and power. Big policy issue in our country today is the growing energy intensity of irrigation.
- In theory you can make an argument that all the surface water that you have can be very efficiently used or can be used to create higher value just for meeting all these accumulated ground water deficiency.
- Water infrastructure is the big user of land, and it is the most inefficient user of land in today's context.
- Era of building large irrigation projects has come to an end in our country, and the main reason is growing value of land.
- Many countries are converting their old irrigation system into pipe system which saves the land.
- Saving power and the carbon footprint in ground water irrigation should be major article of discussion in the water policy.
- In existing water infrastructure, focus is being entirely on construction and there is little emphasis on management.

- Dr. Mohile was right that our scientific capability has gone down since 1960. Management of water infrastructure has suffered severe erosion. There is no commensurate increase in area irrigated compared to the amount that has been invested.
- State Governments are very strong on investing and very weak in putting money in managing.
- There is no investment in capacity building of engineers, there is no investment in reorienting the management style, and there is no information system.
- We need to shift focus from devoting resources on construction to a quantum jump in managing irrigation infrastructure, urban and rural water supply infrastructure.
- If policy tries to solve all problems, then it will not solve any. My list of 5 problems that need immediate fixing in water sector are: (i) need to do something on ground water, (ii) improving the water infrastructure with focus on improving management capacity, (iii) urban waste water management (iv) transboundary water, (v) responding to climate change.

Presentation by Prof. Kamta Prasad –

- Water is a most precious social resource rather than national resource. The social resource has to be developed very carefully with three principal objectives in view: Efficiency, equity, and environmental sustainability which again are the objective of Integrated Water Resources Management also.
- Water stress, climate change, and wastage / inefficiency are very important.
- There is a continued dominance of supply side approach to the utter neglect of demand side approach. There is single track approach dominance.
- Water conflicts, hydro politics is now threatening the Indian federalism.
- There has to be an emphasis on implementational reform measures.
- Find out the constraints and make a sequential approach and then indicate the first steps to be taken in the next 5 years and 10 years.
- Declaring water a national resource is of zero value and nationalizing the water is infeasible and utopian idea.
- You require a vertically integrated multi level water development and management perspective and not merely a national perspective.
- Entry 56 in the first schedule of constitution of India gives enough power to the Government of India to do something and is consistent with the philosophy of treating water as a social resource with multi layer authorities.
- That is the reason why the founding fathers of the constitution did not put water in the first list and simply added entry 56. As and when necessary, you take care of only the inter-state aspect.

- So far the rivers of Indian States are concerned, that can be taken care of by the States. So far as the rivers within the districts are concerned, the district governments will take care of that.
- The National Policy should have the mechanism of generating political will. Work out a plan and strategy for that. That requires strategic planning so that something is done in the next five years.
- The policy has some pious sentences stating intentions. The implementability is missing and there are certain policy recommendations which cannot be implemented taking into account the social and political realities of the country. They should be removed.
- Kindly focus on the implementability aspect of the policy formulation. Then time frame; in 5 years; in 10 years; and not 100 years.
- Inter-state conflicts are basically due to data base. So scrap the existing data machinery which cannot deliver the goods.
- Integrated data authority under a national data council with appropriate representation from the State Government may be constituted and give it time bound task.
- Augmentation of water resources, avoiding wastage are to be priority. Avoiding wastage should have much higher priority over augmentation in supply because water is a precious resource.
- Annual target for reducing wastage and inefficiency should be fixed and grants for new projects should be linked to attainment of targets fixed for reducing the wastage and inefficiency.
- Funds for reducing the wastage and inefficiency must be provided on a top most priority basis.
- The advantage of pricing the water is not known to our administrators; therefore, there is the need for the Ministry and the Government to bring it to popularize it through campaign, media and so on.
- We require a regulatory mechanism and all the three objectives namely, (i) water use efficiency and conservation, (ii) over exploitation of ground water, and (iii) and promotion of equity; are promoted by this instrument.
- Economists are missing as a link from the water resources administration, kindly give the due place they deserve.
- The local panchayat or municipality, be the main agency to issue clearances to establishment big water consuming industries.
- Profiteering in water must stop, that must never be allowed. Private sector participation stated in the 2002 policy is not desirable.

- Modify the cropping pattern, through changes in minimum support prices for agricultural products supplemented by awareness generation and participatory approach.
- Section 7 G of the Easement Act says that if ground water is flowing ground water, then the owner has no right over it. It is only when the ground water is stagnant, that the owner of the land has right and hence the ground water is not the property of the person who owns the land.
- The administrative implications of ground water act were not understood at all. Performance of the Central Ground Water Authority is not satisfactory.
- In case of ground water, move from the appropriation rule to reasonable right rule or correlative right rule.
- There is no system of providing data by Central Ground Water Board or State Ground Water Board at the Panchayat level. The Panchayat will do the water audit.
- Research is needed to develop indigenous technology of micro-irrigation.
- Multi-disciplinary approach is must if you want water management to reduce inefficiency and avoid wastage.
- The Ministry of Water Resources must be made a multi-disciplinary organisation. The Central Water Commission must be made a multi-disciplinary organization.
- Flood management is an important part of water resources management.
- It must be the legal responsibility of the Government of India to fully finance the flood management.
- We have to depend on reservoirs, they provide you flood cushion.
- Rules have to be framed in such a manner that it is beyond the capability of political and administrative pressure to amend the operation schedule of reservoirs.
- Flood forecasting has made good progress and yet it is of no use or even little use to the general public, because the general public is not informed adequately as to which village will be affected if water level rises. Flood forecasting needs improvement.
- The focus should be development of flood plains on micro level for saving human and cattle lives.
- Complete immunity from floods is impossible, WMO has developed a concept of integrated flood management, but in India this concept is yet to be implemented.
- In the new water policy, it should be made clear that community based flood management committees will take care of flood management at the local level.

- When it comes to augmentation, addition to storage capacity is a must. There is no alternative for a monsoon dominated country like India. This is needed because of climate change.
- The scale of funding should be increased substantially, so that projects are completed in time. If more projects are taken up, and water problem is solved in due course of time.
- With regard to type of technology to be used, whether large, small or medium dams, tanks or through small ponds, or watershed development, rainwater harvesting, etc. all options should be kept open on an equal footing.
- Depending upon location specific situation and provided the project is serving to the objectives of equity, efficiency and environmental sustainability, a project-wise approach should be taken about inter-basin transfer, not a list of 30 schemes all joined together as one as was done by the National Water Development Agency.
- Let there be scope for negotiation between 2 or 3 concerned States, discussion, reconciliation, and let the deficit State try to compensate the surplus State.
- Conditional clearances are given. After clearances are given, nobody is bothered about how these are applied.
- Those States, who are executing unapproved projects, should become ineligible to receive funds by the Planning Commission.
- The opportunity for development should be provided to Project Affected People, not merely compensation.
- A task force consisting of official and non-official members should be constituted for finalizing the National Water Policy.
- A strong monitoring cell under Joint Secretary level officer functioning directly under the Secretary, Ministry of Water Resources be established to monitor the status of implementation of National Water Policy.

Presentation is by Dr. M. A. Chitale –

- The preamble that is included in National Water Policy needs complete recasting.
- Another important thing missing from the National Water Policy is the management of lakes. We have no specific provision in our policy and not a mention in the preamble.
- We need National Water Policy for common understanding of the way the water should be handled with due emphasis on location specific nature of water.

- This is the second exercise of revision. The first policy was certainly a good exercise that was from the top to bottom. We were trying to generate some ideas at the national level with the hope that this will trickle down. At that time, the National Water Policy was translated into all local languages of India. But the intention was some how the top down approach.
- Location specific issue like water management should be taken up from bottom upwards. Fortunately we have 11 States who have prepared their water policy.
- First we should look at the State Water Policy and see which are the points which can be left for more detailed description in the State Water Policy and out of them which are the common issues that needs to be taken up at the national platform.
- Water can be managed progressively more and more at the Panchayat level and the District Planning Boards have been given specific constitutional role even in the planning of the water and those things will have to be taken into account when we start revising the national document.
- One of the important missing links is accounting, water budgeting, auditing and evaporation loss.
- Watershed will have to be made an important element of our water policy,
- We will have to lay emphasis on managing evaporation.
- We will have to define concept of water community.
- If we want to handle water, we have also to handle sanitation; we have to also handle the hygienic discipline in the society. It indirectly means water culture which will have to find a place in our national document.
- How we look at the food security in the context of our own water management will have to find a place at the National as well as at the State level.
- In our water policy document, we have not distinguished between availability of water in relation to land, and in relation to human being, as well as in relation to forests and the other natural environment.
- Some of our agricultural area is truly short of water and some of the agricultural areas are quite well endowed with water. This distinction will have to be brought out in our policy frame work.

Presentation by Dr. K. D. Sharma –

- India's water policy is also going to affect its neighbours because it is a single land mass.
- India is a fast changing country in the world. With increase in population and changes in life style, the gap between water demand and supply is getting aggravated leading to disputes among various users.

- Currently the water allocation is fixed but if we adopt the flexible policy of irrigating whenever there is a need or provide water when there are maximum requirements we can free about 25% of current water use from agriculture. And then we can use that water for other purposes like industry, domestic, ecological, life stock.
- The assumption that the quantum of available water would be constant is questionable due to ever increasing water pollution and quality deterioration resulting from human use and saline water intrusion. So this number is dynamic it's not a constant or static.
- The irrigation in states is highly man centered, then poor revenue collection. Our infrastructure is crumbling, rusting and leaking.
- National population projections say by 2070 the India's population is going to stabilize, which will be 170 crore. By 2025 our gap will hardly be met. Then what will we do? We have to plan and manage those things.
- Demand supply gap can be bridged by management options by 2025. Institutional reforms are necessary to enable adoption of technologies (institutional reforms) and regional cooperation and intergovernmental conflict resolution could resolve our challenges of use of water resources in the region.

Presentation by Mr. Bharat. Karkare –

- In the last 15-20 years the rainfall pattern has been drastically changed in Vidarbha. We need to adapt to these situations.
- Crop failure occurs not only because of drought but also due to the changes in cropping pattern and hence multidisciplinary approach needs to be adopted.
- There are excellent examples where the livelihood issues have been addressed through local solutions, area specific solutions.
- There is huge potential for storing water under the ground that is what we are planning to tap.
- Agronomists need to be part of planning and debating process of the water policy.
- Why can't we think of addressing peace through an integrated management of land, water, forest and people?
- Creating a cadre of para professionals and field professionals who will not only be required for implementation but also for maintenance need to be considered.
- Considering that huge funding is being pooled for water management we really need excellent support system to see that the projects are

implemented well, the quality is controlled and monitoring structure is in place, mechanisms for maintenance are in place.

- In most of the watershed projects the situation is not very good. There is a desperate need for looking back what has happened through all these programmes and we need to bring out those lessons and feed into our future planning.
- There are big gaps in data and we have to see whether we need to create additional centers for data creation and management.
- There are likely to be issues of shortage of water in the structures already in place on the downstream areas due to water harvesting through micro or mega watersheds.

Presentation by Shri S.V. Sodal –

- The situation warrants integrated approach to the development of water, land and other resources in order to maximize the resultant social, economic welfare in equitable manner without compromising the sustainability of the ecosystem.
- Accept the provision of water security for basic human needs as its main thrust by ensuring availability.
- By making farmers Irrigation Management Act, we are implementing this entitlement with legal base. Prepare for looming water stress in coming decades through good governance.
- Slight increase in efficiency in irrigation will meet the needs of industrial use, drinking use and additional requirements. So what is necessary is good governance, may be by Irrigation Management Act, may be by apex level organization, regulative authority act or may be by additional measures.
- In Maharashtra, 100% operation maintenance cost of the irrigation system is recovered.
- Full stake holder involvement to be ensured in fixing parameters, where affordability is given the prime consideration and providing for inter sector cross subsidization based on paying capacity and Government subsidy to cover up the gap.
- States should have river basin agencies for each basin. Central Government should provide incentives to the State Government who come with these proposals.
- Earlier water was only supplied; there was no proper management at the demand side. So Planning Commission should clear the projects in such a way that there is one to one basis. One project completed, one should be cleared so nothing should be kept on shelf or just lingering. So, on-going projects

should be prioritized. First, new projects should be taken up one by one basis.

- Another important thing is because of the water stress in future, coastal town/cities should be encouraged to set up desalinization ponds to meet the domestic needs. Commercial ventures: hotels and malls in coast town should go for desalination plants. Industries located along the coastal should go for desalination; no fresh water should be made available. Those who have paying capacity, they should go for the desalination.
- Industry located inside / inland should go for treated effluent not fresh water. So water will be available for the irrigation.
- Public Private Partnership mode for completion of the on-going projects should be encouraged. Micro irrigation should be made obligatory for the perennial crops. Make obligatory re-cycling, reuse for the municipalities.
- In Maharashtra, water auditing bench marking has been made part of the routine system. Every year those reports are published on Websites. They are discussed in the State Assembly.
- Roof top water rain harvesting should be made obligatory. Subsidies and incentives should be given to those who have water saving measures. For the new towns and new townships coming up in urban area it should be made obligatory that there should be two pipe line systems so that they can treat their sewage.
- Groundwater legislation should be oriented towards community management of aquifers. In three years time all municipalities should have an effluent treatment plan.
- Change in the water pollution act to give more powers to the Pollution Control Board.
- Allocation of the priority for environment needs to be brought par with drinking water. It should not be second or first. It should be par with drinking water.
- Formation of Water Users' Association should be made obligatory.

Presentation Mr. Chetan Pandit. –

- Industrial demand, domestic demand or agricultural demand, every demand has to be quantified.
- The most important demand that refuses to be quantified and which is the most single most important cause of all disputes in the water sector is the environmental flow requirement. Environmental flow requirement has to be somehow at some point of time quantified.
- At some point of time we have to realize this that environment will have to argue its own requirement with all competitive users and no more.

Dr. T. Prasad –

- For water resources management we require co-operation with Nepal, without which nothing can be done.
- The State government cannot do very much in international cooperation but the Government of India has to be involved and they should be the part of National Water Policy because the National policy never mentions about the international river basin. It has mentioned about inter state and all the issues but international river basin management, how that should be done, that should be a major plank of the National Water Policy.

Prof. Ashu Jain –

- Some thought should be given to redesign the institutional arrangement of water resources management so that they play their role.
- It will be useful if the National Water Policy considers the synergies between various other schemes and bring them together within institutional framework.

Summary of the suggestions and views of the participants that emerged during the Consultation Meeting in respect of various aspects of water resources development and management

A. Process of Review of National Water Policy

- National Water Policy should address priorities, perspective, attitude, mind-sets and consensus on water as an issue and should recognize political, social and economic compulsions and devise strategy and structure that could facilitate States to accept and adopt it.
- There is a need to link water policy with agriculture, food and energy policies.
- The National Water Policy must reflect the following three points.
 - (i) drinking water security,
 - (ii) Government as the custodian of the National Water Resources and its powers in this regard to be exercised as a public trust, and
 - (iii) Information system, to be used for annual water accounting of a basin.
- The Policy should be implementable and should include the implementation strategy.
- The policy should highlight certain incentives for the State Governments, to take up alternatives suggested in the Policy.
- Policy should pay special attention to women and water.
- Concept of Water User's Association for management of lake or the common aquifer should be included in our National Water Policy.
- International river basin management should be a part of the National Water Policy.
- Water should be treated as a national resource.

B. Prioritization

- Water regime can be changed to a certain level to which the natural ecology can adjust.

- Considering the drinking water as the basic human need, it should have highest priority. The remaining may have to compete with irrigation. Aquatic ecology requirements and morphological needs have to be addressed.
- Priorities should be in conceptual form. First priority should go to supporting life. The life can be human life and aquatic life. Second priority should be supporting livelihood. The third priority should be sustainability i.e. sustainability of the river followed by sustainability of those who are dependent on the river. The fourth priority should be value addition for e.g. navigation, recreation, improvement of tourism etc.

C. Constitutional and Legal Aspects

- Water may be brought in the concurrent list to avoid Inter-State dispute.
- Inter-State Agreements must be approved by the Union Government.
- Every time a tribunal is set up, a joint management mechanism representing various stakeholders and the representatives of the central government should be set up.
- Groundwater should be managed by the Panchayat.

D. Inter-State Issues

- River Basin Authorities or Commissions may be established for different river basins or sub-basins and may be entrusted with the task of planning, development and management of water resources for their jurisdiction as a whole.
- The role of river-basin organization should be to allocate water and there should be service providers, co-operatives etc. to distribute water among water users.
- The role of the co-basin State Government in a River Basin Organisation should be clearly stated in the Policy
- Joint studies between the States to conclusively establish the mutual benefits that could flow from Inter-State collaboration of the river basin would help to break down resistant based upon purely local perception. An Institutional

mechanism to promote and support such work on a large scale could be set up by the Central Government.

- Concept of virtual water transfer should be considered to ease many of our conflicts.

E. Planning Process

- Water has to be developed with three principal objectives (i) equity (ii) environmental sustainability (iii) efficiency.
- Emphasis should be shifted from a supply side to a demand side orientation and need to move from excessively hydrology centric approach to a multi disciplinary broad based perspective.
- Plan must specify how the water will be shared by various users including ecology in the basin during dry years.
- Multidisciplinary approach should be adopted to cope up with the drought situation and crop failure.
- Suitable considerations may be made for effect of climate change in water resources project planning, development and management.
- No water supply project for any areas should be sanctioned unless it has an attached sanitation project for treating water.
- On-going projects should be prioritized.
- The process of clearance of projects should be streamlined and quick.
- Before planning a new project, its effect on the water availability of existing project should be taken into account.
- Resettlement and rehabilitation of project affected persons should be given top priority and should be absolutely transparent. Challenge posed by diversion of water by hydel projects; encroachment of river bed or more particularly flood plains; and reduction in the capacity for recharging ground water may be duly considered.
- The need for cultural linkages as well as ethical concepts with the water management strategies should be stressed.
- Mechanism for trading of existing water user rights needs to be developed

- Water efficiency should be considered at Basin level.
- Zero effluents position, in particular, in water short areas, is not desirable.
- Massive program for ground water quality as well as ground water recharge will have to be undertaken.
- Economic benefit cost ratio should be based on actual cost and not subsidized cost.

F. Monitoring Process

- There should be some provision in the National Water Policy to oversee whether the policy is being followed or ignored in planning of water resources projects in the country.
- The formulation of state water policy backed with an operational plan should be done in a time bound manner.

G. Important Programmes

- The provision about establishment of data banks and data base made in para 2.1 of National Water Policy 2002 largely remains unimplemented. It should be emphasised in the Policy.
- Data management centers should be created to keep the records of the data and the data should be made freely accessible to users.
- Establish a competent, unified and vertically integrated data authority under a national data council with appropriate representation from State Governments.
- For Inter-Basin transfer of water, the deficit State should try to compensate the surplus State.
- Massive program for improvement of ground water quality as well as ground water recharge should be given priority in National Water Policy.
- Micro and macro watershed programmes should be complementary.
- There is a need for promoting and regulating appropriate cropping systems in relation to the natural availability of water in the basin.
- Priority in resource allocation to people who are more frequently flood affected than others

H. Management Strategies

- Management of water bodies like lakes, tanks and ponds should be included in the National Water Policy.
- Multi-disciplinary approach is must to reduce inefficiency and avoid wastage in water management.
- Participatory management of water resources should be practiced by all means. Governmental agencies and all stakeholders should be involved. The word encouraged in pare 6.8 of National Water Policy 2002, may be replaced by “ensured”.
- The issue of evaporation losses should be appropriately addressed. Emphasis on local hydrological studies and evaporation measurements should be included to promote local evaporation control / reduction measures.
- Ground water exploitation has to be severely restricted.
- There should be equitable distribution of water in command areas.
- Disaster due to manmade factors and disaster due to natural factors needs to be distinguished. Flood and drought are normal parts of the hydrology of some regions and therefore water resources planning should be carried out accordingly.
- The new policy should focus on integrated management of water, land and power.
- Saving power and reducing ground water irrigation and carbon footprint should be major focus area in the new water policy.
- Water pricing should at least cover operation and maintenance cost of the projects.
- Flood Plain Zoning as a non-Structural Measure for flood management is very important. In view of this para 17.3 may be reviewed and revised to make the provision implementable.
- There is a need for effective ground water regulation programs to sustain ground water dependent communities for long term and to protect

associated surface water. Also, there is a need for stronger efforts to link regulation of land use and water use. .

- Water can be managed progressively more and more at the Panchayat level and the District Planning Boards have been given specific constitutional role even in the planning of the water.
- Multidisciplinary approach is must if we want to reduce inefficiency and wastage.
- With regard to type of technology to be used, whether large, small or medium dams, tanks or through small ponds, or watershed development, water harvesting etc - all options should be kept open is an equal footing.
- There is a need to create a cadre of para-professionals in water sector.
- Coastal town/cities should be encouraged to set up desalination plants to meet the domestic needs and commercial ventures: hotels and malls in coastal towns should go for desalination plants. Industries located along the coastal town should go for desalination.
- Public Private Partnership mode for completion of the on-going projects should be encouraged.
- Like in, Maharashtra, water auditing and bench marking of water resources projects must be made part of the water management plan
- When the demand is not quantified then all kinds of arbitrariness can get into the planning.

I. Sustainability of Water Resources

- Preservation of the quality of environment and the ecological balance should be primary consideration no doubt, as provided in para 6.3 of National Water Policy 2002, but at the same time care should be taken that developmental projects are not sacrificed on this consideration.
- With irrigation, increasing use of chemical fertilizers and pesticides is creating pollution to ground water and river flows. The national water policy is silent about it. There should be some restriction to correct this situation.

J. Augmentation of Utilizable Water Resources

- Demand supply gap could be bridged by runoff storage, through innovations in cropping pattern, new projects of inter-basin water transfer and finally precipitation conservation i.e., rain-fed agriculture and roof top rain water harvesting.
- Creation of large storage is a safeguard against climate change situation compressive research should be carried out for quantification of the impact of climate change.
- Addition to storage capacity is a must. There is no alternative for a monsoon dominated country like India. And this is also needed because of climate change.
- Perspective towards large projects should be different considering the energy generation requirements and the flood control.
- Facilities are to be created to store huge amount of water under the ground.
- Rain water and ground water harvesting should be promoted.
- Subsidies and incentives should be given to those who have water saving measures.
- There is need for more utilizable water as well as less wastage and inefficiency. But since water is the most precious resource, avoiding its wastage should have much higher priority over augmenting its supply which too should not be neglected.

K. Other Important Issues

- Sedimentation may get affected due to climate change.
- Drainage in urban areas is becoming a very large problem and there should be town planning regulations.
- In the interest of protecting the water quality of the water bodies, strict monitoring of effluent discharges from domestic, industrial or agricultural usages will have to be resorted to.
- Minimum environmental impact and least displacement (not forced displacement) should be included in the criteria of a project selection.

- Food security in the context of water management will have to find a place in the new policy.
- Multi cropping pattern should be encouraged to cope with the crop failures.
- Excellent water management support systems are required to implement and manage the new projects.
- There is a need for substantial expansion and streamlining of research.
- There should be an empowered dam safety services.
- In-stream storage should be included in the Policy.

L. Need for Awareness

- Education and awareness about water resources should be addressed.
- There must be an aggressive campaign for water literacy and this should aim at every citizen of the country.
- Water Resources Universities to be established in the country because water resource is a multidisciplinary subject. Central government should think about establishing water resources universities in different zones of the country and in each zone along with the university, there should be a regional water resources research institute.
- People can contribute a lot in easing out the situation by practicing utmost efficiency in the use of water and energy and therefore awareness about the problem may be created in them by suitable education and training.

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