

National Workshop on
Ground Water Recharge & Rain Water Harvesting Structures
(Bangalore, 22nd December, 2001)

Inaugural Address of
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1. I feel privileged to be present today in the inaugural session of the National Workshop on Ground Water Recharge & Rainwater Harvesting Structures, organised by Government of Karnataka. I am happy that professionals, experts and development administrators will deliberate on themes of national importance. At the outset, I would like to congratulate the organisers for taking this initiative.
2. Water is one of the essential commodities for survival of human beings. It is required for domestic purpose, irrigation, industrial and other uses, which are very relevant for survival and progress of society. That is why important civilisations of the world have grown and prospered around perennial rivers. With rapid growth of population and development of modern technologies in various fields, **the requirement of water has substantially increased.** The perception that water is available with us in abundance no longer holds true now. Water availability is neither adequate nor equitable to all human beings and in all regions of the country as well as in the world. The global fresh water consumption has risen six folds between 1900 and 1995, which is more than twice the rate of population growth. However, one-third of the world's population is already living in countries with moderate to high water stress. About 20 percent of the world's population (1.1 billion), lack access to safe drinking water. The problem is more acute in Africa and West Asia and in many other developing countries including India. In addition to the problems of limited availability of water, there is problem of water quality leading to various biological and chemical contamination. Even developed countries like United States are also affected by water quality degradation.

Why rainwater harvesting?

3. India's **National Water Policy recognises the importance of providing safe drinking water to its people.** It states: "**Drinking water needs of human beings and animals should be the first charge on available resources.**" For children, specifically, this right is also enshrined in Article 24 of the Convention on the Rights of the Child ratified by the Government of India. It has been recommended that **water be treated not as an 'economic good' but as an 'economic resource'** which is essential for growth and development. Although, India accounts for 2.45% of land area and 4% of water resources of the world but we have a share of 16% of the world population. With the **present population growth-rate, our population is expected to cross the 1.5 billion mark by the middle of this century.** India would need about **1,650 billion cubic meters** of water annually by that time to avoid being a water-starved country and about

2,800 billion cubic meters annually to be above the water-stressed zone. As per Central Ground Water Board, even allowing for the utilisation of all the available water resources in our country, **the total water availability in the year 2050 would be about 2400 billion cubic meters only.** This means that India would be a water-stressed country even if we are able to take into account the total water available. This speaks of an uncertain drinking water future, which must be taken note of by us with all seriousness.

4. The major **reasons** identified for the shortage are **uneven distribution of rainfall**, which is received in 100 hours a year as against 8,760 hours, **inadequate harvest and use** of available rainwater, and **unscientific management of ground water.** The ground water which was abundantly available at shallow depth upto mid-seventies depleted and had gone down to the level of beyond 100 metres at many places. These are the very reasons for which we should conserve water and promote rainwater harvesting.
5. The situation in **Karnataka is not different** from the country. In spite of a normal rainfall of 1,192 millimeters and having 5 to 6 percent of the country renewable water source, presently the per capita availability of water is estimated at 1,400 cubic meters per annum. The **ground water utilisation** in the State is progressively increased with **1,95,430 wells** for drinking water and around **20 lakhs wells dug/ drilled for irrigation** purposes by the end of 1999. The ground water estimate made in 1994 identified 43 talukas as hydrologically critical blocks and the estimation of 1999 shows 55 talukas are overexploited with limited scope for further extraction. **The ground water table has progressively declined by 7 meters between 1978 and 1993.** The recharge of ground water is estimated at 4.78 percent of precipitation. The sustainability of sources has posed a major problem ever since the water table has been observed to fall sharply in many areas due to excess and indiscriminate withdrawal. Depletion of water table has resulted in either the **non-functioning of more than 35,000 drinking water wells and around 4 lakhs of irrigation wells as well as occurrence of geo-chemical changes** resulting in wide spread of chemical contamination of ground water which was not observed in the past. The capacity of surface lakes, tanks, rivers and reservoirs have also come down due catchment disturbances and associated human activities.
6. We all know that 85% of the rural drinking water supply is being met from the ground water. Groundwater is also being over-exploited for irrigation and other agricultural/ industrial purposes. Excess extraction of ground water results in the **ground water table going down affecting the sustainability of the water sources.** The over exploitation of ground water also **affects water quality as manifested through arsenic problem** in parts of West Bengal, **coastal salinity** in parts of Tamilnadu and Gujarat and **fluoride problem** in 16 States including Karnataka. This problem can be mitigated only if adequate steps are taken for recharging of ground water sources. I hope cost effective and viable solutions will emerge during your deliberation here.
7. We should, therefore, **develop proper water management strategy** if all of us have to face the challenges of meeting the requirement of quality water. We, in Government of India and States, have taken bold initiatives in this direction which have resulted in significant amount of success. I am happy to note that Karnataka

has played a pioneering role. Karnataka is one of the first in the country to address the issues of depleting ground water through soil and water conservation works, watershed development, social forestry, by harvesting of inevitable run-off for ground water recharge and desiltation of irrigation tanks. The State covered around 10 lakh hectares under watershed development programme. Karnataka is again first in the country to provide the recharge treatment to sustain ground water source in 310 villages as part of Integrated Rural Water Supply and Environmental Sanitation programme wherever ground water is sourced and recharged is technically feasible. It is heartening to note that Karnataka Government involved people in implementation of all these programmes and developed the community participative model for the development programmes. Karnataka has been one of the progressive States, which has shown its keenness in properly and effectively utilising the opportunities available for mitigating drinking water problem in the State. I am happy to find that Karnataka Government has done well in extending water supply to all except 8 not covered (NC) habitations. As per the latest information of November 2001, 35,928 habitations in the State are fully covered (FC) habitations with 40 LPCD, although the State has 20,746 partially covered (PC) habitations. I hope the Karnataka Government will fully cover these habitations by the end of March 2004.

8. Karnataka is one of the States where **DANIDA assisted Rural Water Supply & Sanitation Project** is being implemented in **Kolar, Chitradurga and Bijapur** districts. Phase-I of the project is going to be over shortly. This project has achieved good success and from here, the basic principles and policies of sector reforms approach in Karnataka is spreading to other parts. We are supporting Phase-II of the project which will further consolidate the gains made during Phase-I of the project.

World Bank Rural Water Supply Project for Karnataka

9. I am happy to announce that we in Government of India have taken further initiative in getting financial assistance and support from the World Bank for the **second Karnataka Rural Water Supply and Sanitation Project**. The World Bank Board has approved this project few days back on 18th December, 2001. The project has the total outlay of **193.44 million US dollars** which is about Rs. 1000 crores and 151.6 million dollars will be funded mainly by the World Bank. The project has adopted the Sector Reforms Principles with the objectives of increasing rural community access to improved and sustainable drinking water and sanitation services through a better service delivery mechanism of gram panchayats and user groups. Adoption of demand response approach, shifting the role of Government from direct service delivery to that of a friend, philosopher and guide to the users; partial capital cost financing and full O&M financing by the communities are some of the policy shifts envisaged in the project. **Higher service level of 55 lpcd** is planned in the project. Two primitive tribes viz **Siddhis and Lambanis will also get special facility to access water supply and sanitation services in the project**. The project area will be implemented in **11 districts in the Northern Karnataka** having **total rural population of 1.55 crores** in **2,322 Gram Panchayats** with **15,218 habitations**. The 11 districts are **Bagalkot, Belgaum, Bidar, Bijapur, Dharwar, Gadag, Gulbarga, Haveri, Koppal, Raichur and Uttar Kanada**. I am confident that Karnataka Government

would implement the project to provide improved drinking water and sanitation services to the rural people.

10. I am happy to note that this Workshop has technical sessions where discussions will take place on themes like recharging of groundwater resources, rainwater harvesting structures, institutionalising community participation, a unified water management strategy and involvement of private sector participation.
11. To meet the problem of ground water depletion, the **rainwater harvesting is a simple, technically feasible and economically affordable option**. The principle of rainwater harvesting is *in situ conservation of rainwater* where it falls according to local needs and geophysical condition. The rainwater harvesting covers a wide range of techniques from the collection of rainwater from rooftops to the retention of surface and sub-surface flow in rivers. It is essential to adopt methods of collecting and conserving rainwater as early a stage as possible in the hydrological cycle. Rainwater harvesting not only supplements the drinking water supply but also helps in the reduction of soil erosion and damages caused by flooding. This is one of the most powerful alternative techniques, which hold out the greatest immediate hope for a large number of small and scattered communities that cannot be served by piped water supply schemes. It has been successfully practised in various parts of our country and it is **one of the important sources of providing water supply in hilly State like Mizoram**. Rainwater harvesting not only solves the problem of availability of water but also provides good quality water.
12. Whatever technology we adopt, it can succeed only if **community participation in the programme** is amply and adequately ensured. The policies and programmes, which are meant for the masses, can be effectively executed only with their active support and co-operation. For this purpose, there is necessity to involve the elected panchayat functionaries, NGOs, community-based organisations, user groups, etc. They must be sensitised about the various issues and technologies. I am happy that this realisation has already come which is adequately reflected in the approach of sector reforms as well as various projects being implemented by externally support agencies. It is heartening to note that wherever community participation has been proper and adequate, the projects implemented have been successful giving encouraging results. Institutionalisation of community participation is going to be key to success of such initiatives.

Model Bill for Groundwater Extraction Regulation

13. There is necessity of a **comprehensive water management strategy**. We need to conserve every drop of water to meet the water needs of our people. Our National Water Policy accords the highest allocation priority to the drinking water sector and has stipulated that adequate drinking water facilities should be provided to the entire population both in urban and rural areas. It also stipulates that irrigation and multipurpose projects should invariably include a drinking water component, wherever there is no alternative source of drinking water. There is necessity of developing **an institutional mechanism for regulated development of ground water**. For this purpose, all the States have been requested to adopt the **Model Bill to regulate and control development and management of ground water**. This Model Bill was circulated by Ministry of Water Resources. During the two-

day National Conference of State Ministers in charge of RWS held in October 2001, **most States accepted the importance of such legislation** and agreed to initiate appropriate steps. Karnataka Government has already passed the legislation which is getting processed for presidential assent. Further, some of the States have also issued executive orders prohibiting creation of new sources within close vicinity of existing drinking water sources pending enactment of such legislation.

14. There is a general feeling among the people that it is the Government only, which has the responsibility of undertaking the social and community activities. Government certainly has the responsibility and a major role to provide rural water supply to all people with the support and help of all agencies including NGOs and private sectors. Today, the **private sector in India is much stronger than it was before the economic reform process was set on**. The private sector can play a vital role in extending the water coverage, adequate water quality by developing appropriate cost effective technologies, ensuring sustainability of various systems related to rural water supply. With innovative thinking, the private sector can meet the social objectives within an economically viable framework. Ultimately, a major portion of the hardware, which is required for water supply comes from the private sector. They need to play a greater role in IEC and HRD activities. Our Government is open to any suggestion and proposals in the drinking water and sanitation sector as well as every other areas of rural development. Proposals from private sector, which conform to the overall policy framework of the Government of India are most welcome.

Government of India supports rainwater harvesting.

15. My Ministry attaches great importance to rainwater harvesting and groundwater recharge, which is an effective tool for mitigating water scarcity in the country and all important schemes of the Ministry earmark a portion of fund for this purpose. Under the **ARWSP** scheme, **5% of the total allocation can be used for rainwater harvesting which amounts** to approximately **Rs 96 crores** for the current financial year. Similarly, **25%** of the allocation under drinking water component of **Prime Minister's Gramodaya Yojana (PMGY)** has also been earmarked for funding such schemes, which amounts to **Rs. 160 crores** for the current financial year. The **sector reforms programme being implemented in 63** selected district of the country gives full liberty to the district, village committees and Gram Panchayats to select appropriate schemes of their choice, which includes rainwater harvesting structures. The total allocation for sector reforms program is about **Rs. 1800 crores for 63 districts**. I have also requested all hon'ble MPs to take up water harvesting schemes in their respective constituencies under the MPLAD program.
16. A **steering group** has been constituted under the Chairmanship of Secretary Drinking Water Supply, comprising members from the Ministries of Water Resources, Agriculture, Environment and Forests besides Central Ground Water Board to co-ordinate different ground water recharge schemes undertaken by different departments/ Ministries, and ensure focussed attention on rain water harvesting and groundwater recharge in such programmes.
17. We have launched a new rural employment programme called "**Sampoorn**

Grameen Rozgar Yojana (SGRY). This project intends to promote rural works through wage employment for which **50 lakh tonnes of foodgrains** has been allotted. SGRY has **Rs. 10,000 crores of outlay for the current year.** You can take up **works to impound rainwater, deslit tanks, ponds and lakes** to conserve more water under SGRY. I urge State Governments to assign priority to water conservation works and rainwater harvesting structure under SGRY.

18. I request you to **involve village communities in rainwater harvesting.** I recall my student days when my father used to invite village community to carryout repairs to irrigation system desilt tanks to impound water. All these used to take place during pre-monsoon season. I request Karnataka Government to **involve students and educational institutions in the campaign for water conservation and rainwater harvesting works.** Here again, role of **Panchayat Raj Institutions** is very important. Gram Panchayats should take lead role in organising awareness campaign amongst people and get the community involved in water conservation and rainwater harvesting works. **Participation of young and old, students and teachers; community and panchayats can make such a campaign a movement in the country.**
19. Last week only, I inaugurated a national workshop at IIT, Chennai on similar subject organised by IIT, Chennai, Central Groundwater Board and TVS group and few weeks before, I inaugurated another National Workshop at Chennai on drinking water quality, and the outcome of the deliberation was **Chennai Statement.** This highlighted the rainwater harvesting as a major tool for the sustainability of drinking water sources. I am happy that theme of this National Workshop at Bangalore is water conservation and rainwater harvesting for drinking water sector. Yours deliberation in these two days will be fruitful and will be able to evolve new ideas, technologies and methodologies in mitigating the water problems in the rural areas of the country. It is time for all of us to harness our energy for tackling the challenges lying ahead. I can only assure you that **Bangalore Resolutions on rainwater harvesting** will receive the highest attention of the Government of India in general and Ministry of Rural Development in particular.
20. I would like to thank the organisers for giving me this opportunity to share my thoughts. With these words, I inaugurate this National Workshop and wish your deliberations all success.

Jai Hind