

## Acronyms

AER	agro-ecological region
AESR	agro-ecological sub-region
AFARM	Association for Agricultural Renewal in Maharashtra
AFRI	Arid Forest Research Institute
AKF	Aga Khan Foundation
AKRSP	Aga Khan Rural Support Programme
ANANDI	Area Networking and Development Initiative
APRLP	Andhra Pradesh Rural Livelihood Project
BAIF	Bharatiya Agro-Industries Foundation
BCR	benefit-cost ratio
BDO	Block Development Office
BPL	below poverty line
CAPART	Council for Advancement of People's Action and Rural Technology
CAZRI	Central Arid Zone Research Institute
CBO	community-based organisation
CDS	Current Daily Status
CEO	Chief Executive Officer
CESS	Centre for Economic and Social Studies
CIDA	Canadian International Development Agency
CII	Confederation of Indian Industries
DANIDA	Danish International Development Agency
DANWADEP	DANIDA Watershed Development Programme
DDP	Desert Development Programme
DFID	UK Department for International Development
DHAN	Development of Humane Action (DHAN Foundation)
DLR	Department of Land Resources
DPAP	Drought Prone Areas Programme
DR	disintegrated rock
DRDA	District Rural Development Agency
DSC	Development Support Centre
DWD	Department of Wastelands Development
DWDA	District Watershed Development Agency
DWMT	District Watershed Management Team
EAP	Externally Aided Project

EAS	Employment Assurance Scheme
EEC	European Economic Commission
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
FICCI	Federation of Indian Chambers of Commerce and Industry
FPR	Flood Prone Rivers
FRL	full reservoir level
GIA	Gross Irrigated Area
GIS	Geographical Information System
GWD	groundwater development
HDR	Human Development Report
HM	hard mooram
HST	Hind Swaraj Trust
IARI	Indian Agricultural Research Institute
ICAR	Indian Council of Agricultural Research
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IGWDP	Indo-German Watershed Development Programme
IIM	Indian Institute of Management
I-JRY	Innovative Jawahar Rozgar Yojana
IRR	Internal Rate of Return
IT	Information Technology
IWDP	Integrated Wastelands Development Programme
IWMI	International Water Management Institute
KAWAD	Karnataka Watershed Development Society
KSSP	Kerala Shastra Sahitya Parishad
LCC	land capability class
LEISA	low external input sustainable agriculture
LGP	length of growing period
M&M	major and medium
MLA	Member of the Legislative Assembly
MoRD	Ministry of Rural Development
MoU	Memorandum of Understanding
MTO	Master Trainer Organisation
MWC	Milli-Waterhed Council

MYRADA	Mysore Resettlement and Development Agency
NABARD	National Bank for Agriculture and Rural Development
NARS	National Agricultural Research System
NASDORA	National Authority for Sustainable Development of Rainfed Areas
NBSS-LUP	National Bureau of Soil Survey and Land Use Planning
NCMP	National Common Minimum Programme
NDDDB	National Dairy Development Board
NE	North-East
NEHU	North Eastern Hill University
NGO	non-government organisation
NREGS	National Rural Employment Guarantee Scheme
NRM	natural resource management
NRSA	National Remote Sensing Agency
NSS	National Sample Survey
NTFP	non-timber forest produce
NWDPRA	National Watershed Development Programme for Rainfed Areas
PET	potential evapo-transpiration
PIA	Project Implementing Agency
PIDOW	Participative Integrated Development of Watershed
PM	Project Manager
PMES	Participatory Monitoring and Evaluation Systems
PNP	Participatory Net Planning
PRA	Participatory Rural Appraisal
PRADAN	Professional Action for Development and Networking
PRI	Panchayati Raj Institution
PRM	Participatory Resource Mapping
PSI	People's Science Institute
RDT	Rural Development Trust
RVP	River Valley Projects
SC	Scheduled Caste
SHG	Self-Help Group
SIDA	Swiss International Development Agency
SIDBI	Small Industries Development Bank of India
SoR	Schedule of Rates
SPS	Samaj Pragati Sahayog

SRI	System for Rice Intensification
ST	Scheduled Tribe
SVO	Support Voluntary Organisation
TARU	The Action Research Unit
UH	undulating and hilly
UNDP	United Nations Development Programme
UNIFEM	United Nations Development Fund for Women
UPA	United Progressive Alliance
VRTI	Vivekananda Research and Training Institute
VWC	Village Watershed Committee
WA	Watershed Association
WASSAN	Watershed Support Services and Activities Network
WDF	Watershed Development Fund
WDPSCA	Watershed Development Project in Shifting Cultivation Area
WDT	Watershed Development Team
WORLP	Western Orissa Rural Livelihood Project
WOTR	Watershed Organisation Trust
WTCER	Water Technology Centre for Eastern Region
WWC	Women's Watershed Council
ZP	Zilla Panchayat

## Executive Summary

### Chapter 1

- ★ The report begins in Chapter 1 by building the case for an enlarged and reformed watershed programme in India.
- ★ For the first time since the mid-sixties, the 1990s witnessed a rate of growth of foodgrain production that was lower than the rate of growth of population.
- ★ While irrigated agriculture appears to be hitting a plateau, dryland farming has suffered neglect.
- ★ In Chapter 1, we argue that an increased thrust to rainfed areas through greater emphasis on a reformed watershed programme may hold the key to meeting this challenge.
- ★ Our review shows that the limits to further expansion of surface and groundwater irrigation through big dams and tubewells are being reached rapidly. This makes the urgency of a different strategy for India's drylands even greater.
- ★ Such a strategy needs to recognise the location-specific characteristics of different parts of India and also needs to be sensitive to the limits set by the eco-system. This, we believe, is the broad strategy of watershed development.
- ★ The watershed approach represents a win-win situation. For the life of our irrigation sources themselves, whether they are dams (big, medium or small) or wells/tubewells, depends crucially on the treatment of their catchments to reduce rates of siltation, and on groundwater recharge works, which are both key ingredients of watershed development.
- ★ We provide evidence to show that while it is the rainfed parts of Indian agriculture that have been the weakest, they are also the ones that contain the greatest unutilised potential for growth.
- ★ We also show that the productivity of dryland agriculture needs to be developed if food security demands of the year 2020 are to have a realistic chance of being met.
- ★ It is our considered view that the growth elasticity of poverty (the response of poverty to growth) would be the highest if growth were to be focused on these neglected regions of India.
- ★ We argue that a more intensive and improved watershed development programme holds the key in this regard.
- ★ At the current level of outlay, it would take around 75 years for watershed treatment to be completed. For the work to be completed by the year 2020, the government needs to allocate around Rs. 10,000 crores per annum every year for the next 15 years.

- ★ In our view, this amount could come from two main sources: doubling of current programme outlays on watershed development that would yield around Rs. 5,000 crores and an allocation of around Rs. 5,000 crores from the National Rural Employment Guarantee Scheme (NREGS) specially earmarked for watershed programmes. This makes perfect sense since the NREGS is already primarily focused on watershed-related activities.

## Chapter 2

- ★ Chapter 2 outlines the lessons learnt from the watershed programme in the country so far and the ways in which the programme needs reform.
- ★ Perhaps the most critical weakness of watershed programmes in India is that they operate almost as if groundwater does not exist. It enters only as something to be recharged and replenished. But it appears to play almost no role at all in watershed planning. Watershed planners forget that just as there is a surface water catchment, there also exists a groundwater catchment.
- ★ We always define a watershed with reference to the surface water catchment alone. Even if we continue to do this, there is a need to recognise and study the contours of the groundwater catchment and variations in hydrogeology, at the earliest stages of planning a watershed project. This is important for several reasons – location of structures, ensuring equity and sustainability of the resource and developing a sustainable groundwater use plan as an integral part of the watershed action plan.
- ★ We summarise the lessons learnt on issues of participation, transparency and equity. Informed participation is the ideal we propose. Here participation is seen as a two-way process of intense dialogue between the local people and the outside agency, be it government, NGO or professionals. We see the watershed action plan as neither a romanticisation of people's knowledge nor a debunking of the expert, rather a process of demystification of expertise in the process of valorising popular understanding, through a creative dialogue between the two.
- ★ The principles of equity must extend to conflict resolution, beneficiary selection, benefit sharing, etc.
- ★ Special provisions must be made for the landless and the Dalits. Close attention needs to be paid to developing common lands and making sure that landless/Dalit access to them is not reduced as in many watershed projects so far.
- ★ One of the most important arguments of this Committee for integrating a 2-year Phase III in the watershed programme is to be able to carry forward livelihood support initiatives that can take care of the interests of the landless.
- ★ Mere lip-service to the interests of women will not do. We are suggesting 50% representation of women in the Village Watershed Committee (VWC) and a separate Women's Watershed Council (WWC) that will be a vehicle for mobilizing women and articulating and protecting their interests in the watershed programme.

- ★ We have suggested suitable modifications in the Schedule of Rates to ensure that statutory minimum wages are paid to all workers while ensuring adherence to productivity norms.
- ★ Voluntary contributions need to be genuine and made progressive according to differential capabilities of watershed families.
- ★ Transparency and accountability must be ensured. For this we suggest mandatory presentation of the action plan for approval at the Gram Sabha meeting. All labour payments must be made in public, regular *jan sunwayis* (public hearings) must be held where detailed accounts are presented to the people, including all documents – sanction and release letters, pass books, cheque books, muster rolls, vouchers, etc.; boards should be put up in public places and at each major site, which display details of work done, costs, volume of water harvested, employment generated, etc.
- ★ There has to be clear prioritisation of objectives – drinking water and protective irrigation, along with fodder and fuel must come first.
- ★ Watershed development in India has been one-sidedly preoccupied with supply augmentation. Little attention has been paid to the end-uses of harvested rainwater. In this respect it has failed to break with the dominant development paradigms of the 20<sup>th</sup> century, all of which are characterised by supply-side solutions. These solutions are caught in the infinite regress of forever trying to catch up with ever-expanding demand.
- ★ What is required is to find ways of not just increasing water supply but much more critically reducing demand and regulating end-uses. For this a package of sustainable dryland agriculture practices must be mandatorily incorporated into the watershed programme.
- ★ A great deal of promising work in this direction has already been done at ICRISAT and centres belonging to the network of Agriculture Universities spread all over the hinterlands of India; also by field research stations of the ICAR and IARI. The problem is that these centres work in isolation from the farms for which their research is meant. The packages developed by these scientists are in a crying need of field-testing. Without this they remain ideal-types lacking the cutting edge of real-world trials.
- ★ In spite of its importance for the poor, watershed programmes in India have not systematically integrated livestock management as one of the central interventions.
- ★ Experience of many projects shows that with the implementation of watershed programmes, the village share of small ruminants kept by the poor decreased and that of milch animals and cross-breds increased.
- ★ Watershed investments should incorporate activities such as development of fodder banks in order to meet the increased demand for stall-feeding. This could also involve promotion of leasing arrangements of common lands to the landless for cultivation of fodder crops.

- ★ With the demand for milch animals increasing, dairying emerges as a major ‘watershed plus’ activity. The existing marketing networks of milk and other dairy products need to be strengthened during watershed implementation. Marketing is an activity that farmers’ cooperatives and the SHG Federations can take up in Phase III of the watershed programme.
- ★ Along with livestock, improving the productivity of other land-based livelihoods should also be brought into the focus of watershed programmes. Fisheries in newly created water sources is one such land-based activity.
- ★ One of the main criticisms of the Hariyali Guidelines has been that they completely do away with the concept of the VWC which had till then been designated as the main implementing agency of the programme. The Hariyali Guidelines hand over the VWC’s role to the Gram Panchayat. And the Watershed Association’s role is taken up by the Gram Sabha.
- ★ Let us first try and understand the spirit behind the change introduced by the Hariyali Guidelines. As stated in the Preface, “The Ministry of Rural Development is committed to empower Panchyati Raj Institutions (PRIs) and has been impressing upon the State Governments to devolve necessary financial and administrative powers to the PRIs for self-governance particularly in planning, implementation and management of economic development activities in rural areas. Watershed Development has been included in the list of subjects to be devolved to the PRIs.” It is also stated that Gram Panchayat and Gram Sabha are “equipped with statutory rights and mandate for natural resource planning, potentially equipped with the powers to impose local taxes or user charges and are committed to “reservations” for representation of women and weaker sections as per the Constitutional provision.”
- ★ We believe that these constitute very powerful arguments in favour of involving Gram Panchayat/Gram Sabha in the watershed programme. We also believe that one of the most important issues that arises in the case of watershed projects is that of conflict resolution and equity. For this the implementing agency needs to be equipped with necessary legal and administrative powers to enforce its decisions. The central role of PRIs ensures this.
- ★ The only question that exercises us is: “What is the best way to involve PRIs in watershed development?” The experience we reviewed of the working of the watershed programme all over the country since the Hariyali Guidelines provides overwhelming evidence that the institutional arrangement as devised is not working well. The Gram Panchayat members are not able to discharge their responsibilities towards the watershed programme. The biggest weakness is that the Panchayat Secretaries are already overloaded with so many diverse responsibilities of revenue, development and administration that it is completely unreasonable to expect them to find the time required for a quality and process-intensive programme like watershed development.
- ★ It is also not clear how the Gram Sabha can “form User Groups/SHGs” and the large number of functions devolved upon it by the Hariyali Guidelines. As a result the watershed programme has suffered a very big

setback. The high expectations raised by the programme are not being fulfilled. There is great disaffection at the village-level among the people at large.

- ★ We have applied our minds to finding a solution to this problem. We fully share and endorse the spirit and will expressed in the Hariyali Guidelines towards empowerment of PRIs. We believe this holds the key to the future of democratic governance in India and to realizing Gandhiji's dream of Gram Swaraj. But as the Mahatma would have advised in such a situation we must look for a practical solution.
- ★ We must find a way of empowering PRIs while at the same time getting work done and meeting the goals of this critical and ambitious programme. Our submission is that we need to restore the key role of VWCs in each micro-watershed, but at the same time we also need to position them as one of the committees of the Gram Panchayat. In many states, Gram Panchayats have been strengthened and further democratized by designating committees elected in Gram Sabha meetings to carry out many of the functions devolved upon the panchayat. This is a way of making more effective the functioning of Gram Panchayats and also widens their democratic base.
- ★ Thus, the VWC should be elected in the meeting of the Gram Sabha and function as a committee of the Gram Panchayat.
- ★ We also strongly believe that the Panchayat Secretary must not be the Secretary of the VWC. The Panchayat Secretary is already a highly over-burdened functionary who has so many roles to perform. There is no way she/he can do justice to the huge responsibilities of the watershed programme.
- ★ At the same time, we believe that the designation by the Hariyali Guidelines of the Gram Sabha as effectively the Watershed Association (WA) is quite acceptable. Our review of the experience of the watershed programme clearly shows that most WAs were defunct and we also believe that there is really no need to designate a separate WA when in effect it is no different in concept from the Gram Sabha which is an existing constitutional body. Even if the milli-watershed spans more than one Gram Sabha, each VWC will answer to its own Gram Sabha, which is the constitutional body it is anyway answerable to.
- ★ Watershed development is not merely a matter of harvesting rainwater. Its success crucially entails working out collective protocols of equitable and sustainable use of surface water and groundwater, bringing together of scientists and farmers to evolve a dryland agriculture package and a host of other livelihood options, detailed land-use planning at the micro-watershed level and the mobilisation of rural communities in the direction of the disadvantaged. Many NGOs in India have set examples in one or more of these challenges.
- ★ We, therefore, tend to agree with the National Advisory Council that the role of NGOs can be very important. But it is clear that two problems need to be addressed: how to find genuine NGOs with quality and how to ensure that NGOs do not end up becoming mere oases of excellence.

- ★ A very interesting innovation in this regard has been attempted by CAPART through its Support Voluntary Organisation (SVO) programme. SVOs have also set up an excellent system for capacity building and field-support.
- ★ Our review of training institutions all over India shows that the training input has suffered from the following deficiencies: training is conducted at locations completely cut off from the context where it is to be applied; these institutes are run by personnel who speak a language which is largely incomprehensible to the people and whose attitude is didactic rather than dialogic; a very serious lacuna has been the absence of any kind of follow-up to ensure that the benefits of training are materialised at the field-level for which it was meant.
- ★ The CAPART SVO programme is an exception in this regard. Of course this a very small initiative. For it to be able to cover the national watershed programme would need a major upscaling of the SVO concept. A major effort in this direction was initiated by the Ministry of Rural Development, Government of India in 1999 through the formation of a National Committee on Watershed Training. The Committee was engaged in working out the precise modalities of extending CAPART's innovative SVO concept to the national watershed programme.
- ★ The idea was that each state would have one or more (depending on training needs) SVOs who could help develop one or more Master Trainer Organisations (MTOs) at the district-level. MTOs would in turn take up the responsibility of training PIAs within the district.
- ★ Each MTO could cater to the training and support requirements of about 5-10 new PIAs each year. These MTOs must have a proven record in terms of social mobilisation and technical competence. The intermediary rung of MTOs would ensure that training is achieved at the requisite scale without compromising on the uniform standards of performance within each state.
- ★ These ideas must be carried forward so that a national initiative for training all levels/kinds of functionaries at different stages of the programme in specific subjects (already worked out in detail by the Eswaran Committee) can be carried out on a war-footing, so that the watershed programme can attain requisite quality within a reasonable time-frame.
- ★ Our review of the watershed programme all over the country and a large number of representations we received, all point to the fact that lack of a proper monitoring system is one of the key weaknesses of the programme.
- ★ We were shocked to find that in most states there was no system of regular physical and social monitoring of the work being carried out in the field.
- ★ Some kind of financial audit was taking place and PIAs were being asked to send regular written reports. But it was not at all clear to us that there was any kind of system in place to check the veracity of these reports by actual verification of physical works in the field. Nor did we find any system of social audit.

- ★ For a programme on which thousands of crores of public money are being spent every year, this is a very major weakness that cannot be condoned in any way. The situation needs to be urgently remedied.
- ★ We agree with the National Advisory Council that a separate provision must be made for time and money to be allotted for social, physical and financial audit of the programme.

### Chapter 3

- ★ One of the major problems with the watershed programme in India is that at each level it is administered by people who have many other responsibilities. This is true at all levels but especially at the district level where the Collector or the CEO, Zilla Panchayat (ZP) or DRDA are expected to look after the programme. Similarly, under the Hariyali Guidelines it is the Panchayat Secretary who is the CEO of the programme at the micro-watershed level. These are officials with many responsibilities who are unable to do full justice to the requirements of this quality- and process-intensive programme.
- ★ There are also policy and executing discontinuities because of the frequent transfers of these officials.
- ★ Coordination between transient actors pursuing departmental agendas is another problem.
- ★ The sharp focus needed to implement watershed programmes is often absent because they have many other competing priorities. With many competing priorities and insecure tenures, agency heads cannot follow any endeavour that calls for focused, long-term engagement.
- ★ As the Hon'ble Prime Minister Dr. Manmohan Singh has repeatedly emphasised, there has been a lack of focus on outcomes. Merely utilizing outlays has been the norm. As a result, government agencies at different levels have not felt challenged to develop a problem-solving culture and practices marked by flexibility, pro-action, goal orientation and open-ended engagement with rural communities and potential resource agencies within and outside the government.
- ★ The National Advisory Council has correctly observed: "There are, at present, a multiplicity of programmes for rehabilitation of degraded lands through watershed development run by different Ministries. There has been a proposal in the government to bring all these programmes under a single Ministry – a necessary condition for implementing them on a Mission Mode. While the concerned departments are in agreement about the desirability of bringing together all the watershed programmes under one umbrella with a view to implementing them on a Mission Mode, serious differences persist among different Ministries regarding the ownership of the unified programme. It is of utmost importance to resolve this issue at the earliest so that the different programmes are merged and run on a mission mode by a single nodal ministry, as promised in the NCMP." Similar concerns have been voiced by many state governments.
- ★ This Committee, therefore, is convinced that the present management structure of the programme needs to be replaced by an All-India Authority.

- ★ Such an Authority must be functionally focused, operationally integrated and attuned to collaborate with a diverse set of stakeholders.
- ★ It must be endowed with the autonomy and flexibility to respond innovatively to local needs and must have clear accountability for performance. It must be willing and able to invest in building human and institutional capacity at different levels to carry forward its agenda.
- ★ The proposal is for setting up a totally new professional and output-oriented organizational structure geared to meet these requirements. The proposed design draws on successful international innovations in governance as well as experience with the enabling management structure that has been evolved in India vis-à-vis Central Government owned enterprises.
- ★ In his address to the nation on 15 August 2005, the Hon'ble Prime Minister Dr. Manmohan Singh announced the intention of the government to set up a Rainfed Areas Authority. We believe that a National Authority for Sustainable Development of Rainfed Areas (NASDORA) needs to be set up as a quasi-independent authority to manage the entire primarily Central Government funded watershed programme.
- ★ The overarching goals of this Authority would be to ensure access to safe drinking water to the local population, provide them sustainable livelihoods and secure freedom from drought for the vast rainfed regions of the country by 2020.
- ★ The Authority would address the challenge of bringing prosperity to these regions through the sustainable development of their natural resource base.
- ★ The Authority will be endowed with professionals, and the freedom and flexibility of operations necessary to perform its functions effectively.
- ★ It is envisaged that NASDORA will identify, finance and monitor action programmes in a systematic and time-bound manner. It will adopt an enabling strategy of fostering, nurturing and identifying decentralized implementing structures/organizations, financing action programmes through such decentralized constellations and monitoring such programmes.
- ★ To ensure freedom and flexibility in its functioning, the Authority will be registered as a Society under the Societies Registration Act, 1860. Over time as it matures in functioning, a proposal for converting it into a statutory body could be seriously considered. This was the institutional trajectory followed by the National Dairy Development Board (NDDB).
- ★ A two-tier governance and management structure is envisaged to ensure broad policy support as well as operating oversight. NASDORA will be managed by an Apex Governing Board consisting of a competitively selected professional as CEO, one representative each from Ministry of Rural Development, Ministry of Agriculture and Ministry of Environment and Forests, Government of India, three competitively selected full-time professionals representing the functions of operations, finance, and human and institutional

development, two eminent experts in the field of watershed management, and two eminent members from civil society.

- ★ An Apex Rainfed Areas Stakeholders Council will provide overall policy support and guidance to the Apex Board and review the performance of NASDORA. It will be chaired by the Prime Minister, with the Minister of Rural Development, the Minister of Agriculture and the Minister of Environment and Forests as Vice-Chairpersons. The CEO of NASDORA will be the Member Secretary of the Council. The Council will include the Chief Minister of each state covered by NASDORA, Secretaries of the Ministries of Agriculture, Rural Development and Environment and Forests, Government of India, eminent national and international experts on watershed management, representatives of facilitating agencies of high standing, and representatives of the farming community.
- ★ NASDORA will have a lean operating setup, with personnel experienced in developing action programmes. The recommendations of search committees consisting of two eminent professionals connected with watershed management and a senior government official as chairperson will be the route for selecting the non-government members of the Apex Board. The CEO and the professionals will be appointed to the Apex Board by the Government of India following the recommendations of a search committee consisting of the Cabinet Secretary as the chairperson, and two eminent professionals connected with watershed development programme of the stature of Dr. M.S. Swaminathan, Dr. Y.K. Alagh, Dr. A. Vaidyanathan and Dr. C.H. Hanumantha Rao.
- ★ The state governments will set up boards with a structure similar to the one at the apex level. Each State Board will have a CEO and professionals appointed on the basis of recommendations of appropriate search committees.
- ★ A separate dedicated body will oversee the implementation of the watershed programme within each district. This body may be termed the District Watershed Development Agency (DWDA). The DWDA will be a branch of NASDORA at the district level. The DWDA will be answerable to the ZP.
- ★ The DWDA will be headed by a full-time CEO. The CEO will sign a 5-year MoU with the ZP that will spell out well-defined annual goals, against which the performance of the CEO will be monitored each year by the Collector and ZP.
- ★ The CEO will be competitively selected from the open market in a fully transparent manner. The CEO, DWDA could be a serving government officer on deputation, a person from the NGO or corporate sector or an independent professional. Preference will be given to women in appointment of the CEO, DWDA.
- ★ The CEO, in turn, will constitute a District Watershed Management Team (DWMT). This team will again comprise professionals competitively selected from the open market in a fully transparent manner. They would represent various disciplines involved in running a watershed programme. They could again be serving government officers on deputation, persons from the NGO sector or independent professionals.

Preference will be given to women in appointment to the DWMT. The DWDA will sign a 5-year MoU with each member of the DWMT that will spell out well-defined annual goals, against which the performance of the member will be monitored each year by the DWDA.

- ★ The DWMT would be responsible for overseeing the implementation of the watershed programme in the district.
- ★ The DWMT will identify the remaining untreated milli-watersheds in the district, ranging from a minimum of 4,000 to a maximum of 10,000 ha. We believe that anything less than 4,000 ha makes it impossible for institutional overheads and the monitoring and research expenses to be met for this programme. Also the larger the watershed the more it is able to take into account the issues related to groundwater flows. And the watershed plus activities that we are proposing for Phase III make sense only at a certain scale. But anything more than 10,000 ha makes it administratively unwieldy and not amenable to people-centred processes.
- ★ Since we believe the watershed programme is primarily a social programme, and also because VWCs within each Gram Panchayat are to be the ultimate implementing agency, the final selection of implementation area must be according to the Gram Panchayat boundaries, to which milli-watershed boundaries are to be approximated. These milli-watersheds will comprise a number of micro-watersheds that ideally should be but need not necessarily be absolutely contiguous to each other. Broadly, we would suggest that the micro-watersheds may lie within a sub-basin of 25,000 ha.
- ★ At the milli-watershed level there will be a Milli-Watershed Council (MWC) that will consist of nominated members from each VWC. The MWC is the Stakeholders Council at the milli-watershed level. It is an advisory body that will give overall direction to the programme. It will also help resolve conflicts that may arise across micro-watersheds. It will monitor and review progress and carry out social audits of the programme. Each MWC will be registered with the DWDA.
- ★ Once the milli-watersheds are demarcated, the DWMT will select Project Managers (PMs) for each of these milli-watersheds. The PMs will be competitively selected from the open market in a fully transparent manner. They will sign a 5-year MoU with the DWDA that will spell out well-defined annual goals, against which the performance of each PM will be monitored each year by the DWDA. PMs will be professionals with experience of implementing watershed projects. They could again be serving government officers on deputation, persons from the NGO sector or independent professionals. Preference will be given to women in appointment of PMs.
- ★ These PMs would be in-charge of overseeing implementation of each milli-watershed project. They will constitute the Watershed Development Team (WDT) at the milli-watershed level. Each WDT should have at least four members from veterinary science/animal husbandry, civil/agricultural engineering, agriculture/life sciences and social sciences. At least one member of the WDT should be a woman. PMs should be encouraged to constitute all-women WDTs or at least maximise the number of women in the WDT.

- ★ Each milli-watershed will consist of one or more micro-watersheds. Since social mobilisation is the key to the success of this people-centred programme, selection of micro-watersheds for treatment will also keep village boundaries in mind. Around these village boundaries contiguous micro-watersheds will be demarcated. The attempt may be to cover one or more Gram Panchayats in each milli-watershed, keeping the maximum limit of 10,000 ha as the size of the milli-watershed.
- ★ For each village there will be a VWC that will implement the watershed project with the technical support of the WDT in their village. The VWC will be a committee of the Gram Panchayat that will be elected at a meeting of the Gram Sabha. Each VWC should have a maximum of 20 members. It must mandatorily have at least 50% members as women and at least 33% SC/ST community members. The VWC must also ensure that each hamlet gets a representation proportionate to its size. It should include 3-4 members each from User Groups and SHGs and one member each from the Gram Panchayat and the WDT. Representation must also be given to the landless, with a minimum of two members being accommodated in the committee. Each VWC will be registered with the DWDA.
- ★ The VWC will be answerable to and work under the control of the Gram Sabha.
- ★ The Secretary of the VWC will be the paid CEO of the VWC. She/he will in no event be the Panchayat Secretary. She/he will be selected by the WDT on the basis of merit and experience. Preference will be given to women candidates. The appointment of the Secretary of the VWC will have to be approved in the meeting of the Gram Sabha. In view of the administrative costs, PMs may like to explore the possibility of one Secretary handling more than one VWC.
- ★ To facilitate real participation of women, we propose the formation of a separate Women's Watershed Council (WWC) within each village. The duty of the WDT will be to mobilise women to actively participate in meetings of the WWC. The aim of the exercise is to ascertain and give requisite weight to women's perceptions and priorities in the formation of the watershed action plan. Every effort must be made to ensure that these perceptions are adequately reflected in the watershed action plan finally devised by the VWC. The aim is also to ensure that the WWC acts as an effective watch-dog protecting women's interests during the implementation of the action plan. Similar arrangements may be worked out to give requisite weightage to the interests of the Dalits, Adivasis and landless wherever they are in a minority or where there is acute danger of their interests being overlooked.
- ★ We are proposing that the duration of the programme be increased from 5 years to 8 years. This is because most of the limits of the currently implemented programme strongly suggest the need for such an upward revision. The most important weaknesses of the programme all stem from the fundamental shortcoming that durable village-level institutions have not been set up and the crucial participatory processes have not had sufficient time to be put into place. As a result, the qualitative dimensions of the programme have suffered. At the same time, it has not been possible to realise the livelihoods potential of the programme, which is widely seen as a major weakness.

- ★ In order to provide sufficient time to overcome these weaknesses, we propose an 8-year programme divided into 3 phases.
- ★ Phase I may be termed the Preparatory Phase of the programme. In this 2-year period, the main activities will include socio-economic and engineering participatory baseline surveys needed for preparation of action plan, selection of sites and beneficiaries and impact assessment; hydrogeological survey of the watershed to map out zones of potential groundwater recharge and potential sustainable groundwater utilisation; putting in place impact assessment protocols; capacity building at all levels; building up network of technical support agencies, preparation of the detailed watershed action plan, including activities to be carried out, selection of beneficiaries and work-sites and design and costing of all works; ensuring that the interests, perceptions and priorities of women, Dalits, Adivasis and the landless are adequately reflected in the action plan. Institutions like the WWC will be developed for this purpose in this phase; working out in a participatory manner detailed resource-use agreements (for surface water, groundwater and common/forest land usufructs) among User Group members, based on principles of equity and sustainability; working out in a participatory manner protocols for voluntary contribution for different types of activities and across different sections of the community, based on the principles of equity; and entry point activities focused on the urgent needs of the local communities such as drinking water. Activities that reflect the interest of women such as bio-gas plants, toilets and baths must be taken up in this phase; initiating the development of village-level institutions that are to form the backbone of the programme. These include VWC, SHGs and User Groups. Evaluation of the action plan and work done in Phase I will be undertaken by an external agency towards the end of Year 2.
- ★ Phase II may be termed the Resource Augmentation and Institution Building Phase. This 4-year period is the heart of the programme. This is when the watershed action plan (if approved by the external agency towards the end of Phase I) is implemented. This is also when the institutions that provide the bedrock of the programme mature. The work done in this phase is evaluated at the end of every year. The next release is made only in the event of a positive appraisal. The end of Phase II also involves developing the action plan for Phase III on the basis of techno-economic feasibility studies, involving comparative assessment of both technologies and market potential of various income-generating options.
- ★ Phase III may be termed the Sustainable Livelihoods and Productivity Enhancement Phase. In this 2-year phase the resources augmented and economic plans developed in Phase II are made the foundation to create new livelihoods and raise productivity levels. This is the Watershed Plus phase. Here income-generating activities such as lift irrigation schemes, livestock improvement, agro-processing units, medicinal plants, local natural resource based energy generation units, jatropha oil-processing units, etc. can be taken up. Detailed land-use planning can be attempted on private lands with drip irrigation. Farmers may also be encouraged to develop organic farms and links developed with export firms to fetch a stable market and competitive price.
- ★ In these activities, the subsidy element will be lower than in Phase II and bankability of activities will be attempted, increasing the loan element.

- ★ At the same time, it is Phase III when local-level institutions mature and exit protocols become operative for the WDT and PM. SHGs are coalesced into Federations and begin to operate as community-based organisations (CBOs), learning how to leverage public funds and bank loans for development of their area. The VWCs begin to use the WDF for repair and maintenance of structures created in Phase II.
- ★ The most important element of Phase III is the benefit that can accrue to the resource-deprived sections, such as the landless whose livelihoods can be placed on a firm footing in this phase through many value-addition activities.
- ★ Of course, many of these Phase III activities may also be started in Phase II itself in many watersheds. There should be rigid demarcation of activities across phases.
- ★ When the Ministry of Rural Development initiated its watershed programme in 1995 the upper limit of expenditure was Rs. 4000 per ha of land treated. At that time this was a 4-year programme. The per-year per-ha norm worked out to Rs. 1000. This norm was raised by the Ministry to Rs. 6000 per ha with effect from 1 April 2000. At that point the duration of the programme was also increased to 5 years. The per-year per-ha norm, thus, rose to Rs. 1200.
- ★ In the course of our tour of watershed programmes across the country, we received repeated representations from various state governments urging an upward revision of the cost norm. We are now proposing that the programme be of an 8-year period and the norm be raised to Rs.12000 per ha. The per-year per-ha norm becomes Rs. 1500.
- ★ This rise of 25% over the figure for the year 2000 is certainly warranted by the annual rate of inflation (4%) in this period. To put it another way, if we take into account the rate of inflation between 2000 and 2006, Rs. 6000 per ha amounts to Rs. 7500 per ha. This is for 5 years. For 8 years this value amounts to over Rs. 12,000 per ha.
- ★ Also we must note that since the norm will be frozen for 8 years, we are already discounting for inflation in this 8-year period.
- ★ Finally, we must also remember that Rs. 12,000 is a maximal figure. The projects will be funded as per the actual cost of the action plan. The tendency of PIAs to simply multiply the area of the watershed with the per-ha norm is to be very strongly discouraged. The norm only sets a ceiling and is no way indicative of the actual budget, which must be determined on the basis of ground realities – the needs and possibilities inherent in each watershed.
- ★ We are also proposing a separate head of expenditure – Impact Assessment, Monitoring and Research. These are deeply neglected and extremely important aspects of the programme for which 2% of total expenditure can by no stretch of imagination be regarded as excessive. The importance of this head lies in the fact that releases of each instalment will take place only if the report of the assessment is positive. Especially after the first phase of two years, it is likely that many projects are shut down if they do not come up to the mark. Thus, monitoring is to be given due time and resources, within the programme.

- ★ As compared to the Hariyali Guidelines we have increased the expenditure on training and community organisation (now termed institution building) from 5% to 8%, since these two are also highly neglected dimensions of the programme. This demand was placed before this committee by a large number of state governments and NGOs.
- ★ The total amount shall be divided amongst the following project components subject to the percentage ceiling mentioned against each:
  - (i) Watershed Treatment/ Development Works/ Activities 80%
  - (ii) Training 4%
  - (iii) Institution Building 4%
  - (iv) Impact Assessment, Monitoring and Research 2%
  - (v) Administrative Overheads 10%
  - Total 100%
- ★ Finances for the activities of NASDORA would be drawn from the Central and State Governments, various aid agencies, contributions from philanthropies and corporate houses, loans from financial institutions and people's own contributions. All funds meant for the watershed programme will be converged in the NASDORA.
- ★ These funds will flow to the State Boards and from there to each DWDA. From the DWDA they will move to the VWC and the MWC.
- ★ Funds for watershed works will move to the account of the VWC. The VWC Secretary and one member of the WDT will jointly operate the VWC Account. The money for "other expenses" of the watershed project will move to the account of the MWC. The PM who is the Member-Secretary of the MWC and one member of the MWC will jointly operate the MWC Account.

#### **Chapters 4 and 5**

- ★ In Chapter 4 we attempt the formulation of a new set of guidelines that should henceforth steer this programme.
- ★ One of our terms of reference is "to identify the areas under DPAP, DDP and IWDP where existing watershed approach is not feasible for implementation and suggest alternative mechanism to suitably introduce special provisions in the Guidelines for Watershed Development". In Chapter 5 we provide an indicative list of areas that fall under such a category. We summarise the unique features of these regions and also provide an indication of why special provisions are required here.
- ★ To take what we have done in this report forward, special sub-committees may be set up by each concerned state government, which may be entrusted with the task of formulating precise guidelines that need to be adopted in each of these regions. More such regions may also be identified and approval sought for special treatment in the manner indicated in this report.

## Key Recommendations – Action Points

- ★ Rs. 150,000 crores to be spent in rainfed areas over the next 15 years (Rs. 10,000 per year). This will cover 125 million ha of land @ Rs. 12,000 per ha.
- ★ This amount could come from two main sources: doubling of current programme outlays on watershed development that would yield around Rs. 5,000 crores and an allocation of around Rs. 5,000 crores from the National Rural Employment Guarantee Scheme (NREGS) specially earmarked for watershed programmes. This makes perfect sense since the NREGS is already primarily focused on watershed-related activities.
- ★ One of the major problems with the watershed programme in India is that at each level it is administered by people who have many other responsibilities. This is true at all levels but especially at the district level where the Collector or the CEO, Zilla Panchayat (ZP) or DRDA are expected to look after the programme. Similarly, under the Hariyali Guidelines it is the Panchayat Secretary who is the CEO of the programme at the micro-watershed level. These are officials with many responsibilities who are unable to do full justice to the requirements of this quality- and process-intensive programme. There are also policy and executing discontinuities because of the frequent transfers of these officials. Coordination between transient actors pursuing departmental agendas is another problem. The sharp focus needed to implement watershed programmes is often absent because they have many other competing priorities.
- ★ As the Hon'ble Prime Minister Dr. Manmohan Singh has repeatedly emphasised, there has been a lack of focus on outcomes. Merely utilizing outlays has been the norm. In his address to the nation on 15 August 2005, the Hon'ble Prime Minister announced the intention of the government to set up a Rainfed Areas Authority.
- ★ We believe that a National Authority for Sustainable Development of Rainfed Areas (NASDORA) needs to be set up as a quasi-independent authority to manage the watershed programme. It must be endowed with the autonomy and flexibility to respond innovatively to local needs and must have clear accountability for performance. The proposal is for setting up a totally new professional and output-oriented organizational structure geared to meet these requirements.
- ★ The overarching goals of this Authority would be to ensure access to safe drinking water to the local population, provide them sustainable livelihoods and secure freedom from drought for the vast rainfed regions of the country by 2020. The Authority would address the challenge of bringing prosperity to these regions through the sustainable development of their natural resource base.
- ★ To ensure freedom and flexibility in its functioning, the Authority will be registered as a Society under the Societies Registration Act, 1860. Over time as it matures in functioning, a proposal for converting it into a statutory body could be seriously considered. This was the institutional trajectory followed by the National Dairy Development Board (NDDB).
- ★ A two-tier governance and management structure is envisaged to ensure broad policy support as well as operating oversight. NASDORA will be managed by an Apex Governing Board consisting of a competitively

selected professional as CEO, one representative each from Ministry of Rural Development, Ministry of Agriculture and Ministry of Environment and Forests, Government of India, three competitively selected whole time professionals representing the functions of operations, finance, and human and institutional development, two eminent experts in the field of watershed management, and two eminent members from civil society.

- ★ An Apex Rainfed Areas Stakeholders Council will provide overall policy support and guidance to the Apex Board and review the performance of NASDORA. It will be chaired by the Prime Minister, with the Minister of Rural Development, the Minister of Agriculture and the Minister of Environment and Forests as Vice-Chairpersons. The CEO of NASDORA will be the Member Secretary of the Council. The Council will include the Chief Minister of each state covered by NASDORA, Secretaries of the Ministries of Agriculture, Rural Development and Environment and Forests, Government of India, eminent national and international experts on watershed management, representatives of facilitating agencies of high standing, and representatives of the farming community.
- ★ The state governments will set up boards with a structure similar to the one at the apex level. Each State Board will have a CEO and professionals appointed on the basis of recommendations of appropriate search committees.
- ★ A separate dedicated body will oversee the implementation of the watershed programme within each district. This body may be termed the District Watershed Development Agency (DWDA). The DWDA will be a branch of NASDORA at the district level. The DWDA will be answerable to the ZP.
- ★ The DWDA will be headed by a full-time CEO. The CEO will sign a 5-year MoU with the ZP that will spell out well-defined annual goals, against which the performance of the CEO will be monitored each year by the Collector/ZP. The CEO will be selected from the open market in a fully transparent manner. The CEO, DWDA could be a serving government officer on deputation, a person from the NGO or corporate sector or an independent professional.
- ★ For each village there will be a Village Watershed Committee (VWC) that will implement the watershed project with the technical support of the WDT. The VWC will be a committee of the Gram Panchayat that will be elected at a meeting of the Gram Sabha. Each VWC will be registered with the DWDA. The VWC will be answerable to and work under the control of the Gram Sabha. The Secretary of the VWC will be the paid CEO of the VWC. She/he will in no event be the Panchayat Secretary.
- ★ To facilitate real participation of women, we propose the formation of a separate Women's Watershed Council (WWC) within each village. The aim of the exercise is to ascertain and give requisite weight to women's perceptions and priorities in the formation of the watershed action plan. The aim is also to ensure that the WWC acts as an effective watch-dog protecting women's interests during the implementation of the action plan.
- ★ We are proposing that the duration of the programme be increased from 5 years to 8 years. This is because most of the limits of the currently implemented programme strongly suggest the need for such an upward revision. The most important weaknesses of the programme all stem from the fundamental shortcoming

that durable village-level institutions have not been set up and the crucial participatory processes have not had sufficient time to be put into place. As a result, the qualitative dimensions of the programme have suffered. At the same time, it has not been possible to realise the livelihoods potential of the programme, which is widely seen as a major weakness.

- ★ In order to provide sufficient time to overcome these weaknesses, we propose an 8-year programme divided into 3 phases. Phase I (2-years) may be termed the Preparatory Phase of the programme. Phase II may be termed the Resource Augmentation and Institution Building Phase. This 4-year period is the heart of the programme. This is when the watershed action plan is implemented. This is also when the institutions that provide the bedrock of the programme mature. Phase III may be termed the Sustainable Livelihoods and Productivity Enhancement Phase. In this 2-year phase the resources augmented and economic plans developed in Phase II are made the foundation to create new livelihoods and raise productivity levels. This is the Watershed Plus phase.
- ★ We are proposing that the cost norm for the programme be raised to Rs. 12000 per ha. The per-year per-ha norm becomes Rs. 1500. This rise of 25% over the figure for the year 2000 is warranted by the annual rate of inflation in this period.
- ★ The total amount shall be divided amongst the following project components subject to the percentage ceiling mentioned against each:
  - (i) Watershed Treatment/ Development Works/ Activities 80%
  - (ii) Training 4%
  - (iii) Institution Building 4%
  - (iv) Impact Assessment, Monitoring and Research 2%
  - (v) Administrative Overheads 10%Total 100%
- ★ Finances for the activities of NASDORA would be drawn from the Central and State Governments, various aid agencies, contributions from philanthropies and corporate houses, loans from financial institutions and people's own contributions. All funds meant for the watershed programme will be converged in the NASDORA.
- ★ A new set of Neeranchal guidelines for watershed development has been formulated.
- ★ One of our terms of reference is "to identify the areas under DPAP, DDP and IWDP where existing watershed approach is not feasible for implementation and suggest alternative mechanism to suitably introduce special provisions in the Guidelines". An indicative list of areas that fall under such a category is provided. We summarise the unique features of these regions and also provide an indication of why special provisions are required here. To take what we have done in this report forward, special sub-committees may be set up by each concerned state government, which may be entrusted with the task of formulating precise guidelines that need to be adopted in each of these regions. More such regions may also be identified and approval sought for special treatment in the manner indicated in this report.