### 3 WATER AND SOIL CONSERVATION

#### MESSAGE OF HOPE

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<th>Watershed Development through community participation- Experience of Ralegan Siddhi ..</th>
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| The success of Watershed Development in Ralegan Siddhi and its promoter – Anna Hazare- are now a part of history. A small village of Parner taluka of District Ahmednagar, with 971 hectare geographical area having four watersheds and an elevation from the lowest point to the highest point of about 75 mt and a slope varying from 3 to 75% has become a place for any one who is involved today with watershed development any where in the country. It is place where complete peoples’ participation with a watershed approach from ridge to valley perspective and the emphasis on soil conservation and bio-mass re-generation was meticulously adopted. It was a joint effort of the people of Ralegan Siddhi and various line departments dealing with soil conservation works that it become an experience for all to emulate. With an increase in the cropped area by more than 50 per cent increase in the irrigated area from a mere 56 ha. to 465 ha. and three times increase in number of wells, it could have come with no surprise that average yield of the village per hectare of the cropped area increased almost 19 times, with a corresponding increase nearly 15 times in terms of per capita earnings in the village. Success lies in covering all the activities under watershed development programme which include contour bunding, land leveling, afforestation, pasture land development, nala bunding and putting up Gabion structures. Water was trapped in series of Kolhapur type bandhara and a percolation tank also. Complete usage of water was ensured through increased number of wells, a lift irrigation scheme and through drip irrigation.  
Many more Ralegan Siddhi are in making in Maharashtra and else where – an indication of its true success ! |

| 3.1 42.5% of the total land is suffering from different degrees of soil degradation and water erosion is the major contributing factor. The watershed management should concentrate on these areas where soil is lost through run-off and the strategy should be to prevent soil erosion while at the same time conserving surface run-off. The strategy for watershed development during the next 25 years should be based on the extent of area available for development, i.e. 146.22 lakh hectares, of which 50.21 lakh hectares where work is incomplete should be the first priority. A coverage of at least 1 million hectares per year should be the target for watershed development for next 15 years. |
| 3.2 It is better to change the planning approach from the political-administrative boundary to micro-watershed / eco-region based approach. This does not mean that the present day administrative boundary as a planning unit will be done away with, it may acquire the federative nature. What is definitely envisaged is that the watershed concept should be introduced as an integral component in the mainstream development activity. Thus the micro-level development planning and resource |
management primarily covering the resource conservation of land, water and bio-
mass and secondarily covering the resource use through agriculture, forestry, 
irrigation, hydro power, waste land development etc. should have a watershed-
based approach.

3.3 Watershed treatment must be from ridge to valley. There cannot be an 
artificial division of the forest and non-forest land, as well as private and community 
lands, while applying various methods of treatment. Therefore, the issue of 
degraded and wastelands has to be taken up to ensure that every drop of water and 
every part of land is best utilized.

3.4 While taking due care of such "wasted" lands, state should not overlook the 
need to improve the efficiency of even non-degraded lands whether they are under 
forest or agricultural cover. It is a matter of concern that even our good forests are 
subject to illegal exploitation and that the sustainability of our agricultural lands is 
threatened by the over use of irrigation, chemical fertilizer and pesticides, besides 
being susceptible to depletion through diversion for other uses. Special care should 
be taken to save both these categories of land from degradation.

3.5 In the state, 146 lakh hectares of area could be brought under watershed 
development. To achieve this goal, major policy decisions are required in terms of 
funds, manpower and collaborative strategies. The major issues of concern for 
watershed development are identified as huge requirement of funds, timely and 
adequate availability of funds, large number of untrained field staff, problems of 
contribution by farmers-participants, regional differences and disparities, role of 
NGOs in providing technical and social support and coordination among line 
departments. To overcome this, a phased strategy is required besides convergence 
of different centrally and state-sponsored as well as externally assisted 
developmental programs. Besides this, priority should be given to the most 
degraded area based on ecological indices and satellite information.

3.6 Given the enormity of the task involved in undertaking soil and water 
conservation in 146 lakh hectares of area in terms of finance, manpower and 
technology, a well thought out plan is required. Areas which urgently require 
conservation methods should be prioritized based on a five-year perspective and 
resources have to be mobilized for both hardware and software components. 
Convergence of different programs related to agriculture, horticulture and soil and 
water conservation is required, besides involving different institutions and agencies 
both private and public. A master plan is required which takes into consideration 
both the micro and macro requirements, but local planning and implementation 
should be based on active participation of the stakeholders.

3.7 At the implementation level, expertise is required in the fields of agronomy, 
engineering, community mobilization, livestock and livelihood promotion, marketing 
etc. Collaboration and synergies have to be built between different line departments, 
private and public institutions and non-governmental organisations to perform this
huge task. Coordination and management also envisage personnel, policy formulation and institutional restructuring.

3.8 Enormous inputs are required for primary stakeholders in awareness building, concept of watershed management, project implementation and post project management, institution building, etc. Inputs and extension services are also required in the areas of sustainable agricultural practices through low external input, integrated nutrient management, integrated pest management and other alternative technologies. Besides this, the secondary actors/facilitators also require training and capacity building to facilitate the processes and expected outcomes. Institutions and expertise should be identified by the state to cater to the needs of this capacity building effort. Policies are also required to be framed for convergence, exploitation and utilization of resources, approaches and strategies.

3.9 Practices suggested for sustainable soil and water conservation are recommended as Ridge-to-valley conservation including forest area which often falls in the ridge area or in the upper catchment of the watershed, proposed land use and treatment based on land capability and farmers’ need, participatory micro-planning with each individual farmer aimed at blending traditional and modern technology, contributions by the participants which will become part of a Maintenance Fund for future care, decentralized and in situ conservation, rather than concentrating on major structures on the drainage line, priority for land-based treatments integrating sustainable agricultural practices, grazing restriction or controlled grazing on treated areas, especially in areas under afforestation treatment and ban on tree felling, financial devolution to the community and Gram Sabha which should be the final authority, representative executive body – the Watershed Committee (WC) – which is responsible for planning, implementation,
monitoring and maintenance, local employment generation through watershed activities so as to create livelihood means during project implementation and Self-help promotion of women so as to build social capital and economic independence and gender integration in project planning and implementation. In this context, it is recommended to have Bio-industrial watershed approach, where there are industrial enterprises based on the opportunities provided by the watershed area for initiating agro-enterprises. This will be similar to the Rural Township enterprises of China. State can then pay concurrent attention in each watershed to the generation of both on-farm and non-farm employment.

3.10 Watershed Development will succeed only to the extent that the people are convinced of its benefits and are willing to make the necessary commitment, effort and contribution. They must therefore be at the centre of the project. Resources – financial, technical, managerial – should flow directly to them with all other agencies playing primarily a supportive and facilitative role. This will require a massive capacity building effort both for the village communities as well as accompanying agencies.

### MESSAGE OF HOPE

**Darewadi Watershed Project – a glimpse of a brighter future**

A watershed development program was initiated by Watershed Organization Trust in Darewadi, a drought prone village in Sangamner Taluka of Ahmednagar District, in the year 1996 under the Indo-German Watershed Development Program. The village underwent a 18 month Capacity Building Program and later was initiated into the Full Implementation Program. The project got completed in Sept. 2001. Village is now tanker free, number of wells have more than doubled, gross cropped area as well as irrigated area has increased substantially, fodder availability has improved, milk collection is substantial and employment has already picked up.

Darewadi, which was once a remote and isolated village, after watershed development is now a hive of activity. Visitors come from far off places to understand and share their success story and many of them go back with the resolve to replicate this effort in their own areas. The villagers themselves explain to the visitors and some of the Village Watershed Committee and women's group members even work as resource persons for creating awareness in other villages. Due to the 'demonstration effect' of Darewadi, many villages in the vicinity have also taken up natural resource management along watershed lines.

3.11 In order to ensure sustainability and replicability of the watershed development programme, it is imperative to effectively mainstream women, the landless and marginalised groups into the decision making, implementation and maintenance processes of the effort from the very beginning of the project. A sub
program should be launched as part of watershed project which focuses particularly on building the capacities of women and providing them space within the institutional mechanism of the village and project. Children, through the village school, should be familiarised with the "what" and "why" of watershed development since they will determine the continuity of the assets and resources created.

3.12 Equity, in terms of burden and benefit sharing, access to and use of created resources should be planned from the very beginning of the project. Effective mechanisms to ensure equitable distribution and sharing should be put in place and the same regularly monitored. This is particularly crucial in the area of ownership, access to and management of water resources as well as preferential access to common property resource for the poor and the marginalised.

3.13 State government should formulate a policy for conserving prime farmland for agriculture. At present, good farmland is being diverted at an alarming rate for non-farm uses. With our growing populations, we cannot afford to divert prime farmland for non-agricultural uses.

3.14 Watershed development, wasteland development and rainwater harvesting should become the three pillars of the land and water conservation movement of Maharashtra. We recommend that Maharashtra Govt. may declare 2003 as the Soil and Water Conservation Year and promote a Soil and Water literacy movement through the mass media, Agricultural Universities and schools.

3.15 Maharashtra has many NGOs working in wasteland and watershed development programmes. By integrating Agri-business centres, Food and Herbal Technology Parks and other market-driven enterprises, it will be possible to make the Bio-industrial watershed movement as a model for linking the principles of ecology, economics and equity at field level. Land and water conservation should become everybody’s business. This can be achieved through regulation, education and social mobilisation.

3.16 Farm ponds for the purposes of drinking water both for households and livestock should be considered on a village basis. The same would also be helpful for groundwater recharge. Given the special characteristics of the Konkan region, a package involving a multi sectoral approach such as agronomic practices, land husbandry, bio-mass development and mechanical and hydrological structures such as desilting of tanks, diversion bandharas and farm ponds should be developed.