

# Watershed Development

## “Its Implication on Rural India”

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# Structure

- What is watershed?
- Watershed management
- Objectives
- Strategies
- Common approach to watershed management
- Institutional arrangements
- Linkages
- Conflicts
- Benefits
- Management challenges
- Gender issues
- Policy suggestions

# What is Watershed?

The term *watershed* describes a geographical area having a number of inlets point and only one outlet point. The water moves through a network of drainage pathways, both underground and on the surface

# Watershed Management

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- Managing the inlet, outlet and the catchment area so as to make better use of water
- Integrated decision-making regarding uses and modifications of lands and waters in relation to the ecological system within a watershed area

# ...Watershed Management

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- Process of providing a chance to the stakeholders to balance diverse goals and uses of various resources, and to consider how their cumulative actions may affect long-term sustainability of these resources

# Objectives of Watershed Management

- To conserve the basic natural resources like soil, water and vegetation
- To impart stability to crop yields through improved management and farming practices.
- To develop alternative land use systems through horticulture, forestry, pasture and animal husbandry.
- To train, educate and provide experience to the beneficiaries of the watershed.

## ...contd.

- To check environmental degradation and to restore ecological balance.
- A sound Watershed Management also reduces inequalities between irrigated and rain fed areas.
- To enhance cash flow to the rainfed farmers and landless people through increased employment, growing cash crops like, vegetables, horticultural crops, medicinal crops, dairy development etc.

# Strategies of Watershed Management

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- Improved policy framework
- Integrated Watershed Management
- Sustainable farming system
- People's participation

# ...Strategies


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- Conservation measures
- Involvement of voluntary agencies
- Holistic approach
- Training
- Research


# The Common Approach to Watershed Development

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- Participatory Approach for Empowerment of Community
- Implementation of the Watershed Project through Watershed Community
- Role of the Project Implementation Agency

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- Project Proposals to be Demand Driven
  - Selection of PIA
  - Replication of Successful Watershed Development Projects

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- Development of Common Property Resources (CPRs) and Sharing of Usufruct Rights
  - Development of Forest Lands in Watershed Areas
  - Linkages of Watershed Community with Panchayat Raj Institutions

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- Linkages with Credit Institutions
  - Promoting Equity for Resource Poor and Women

# Institutional Arrangements

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- Community Based Organizations
- Project Implementation Agency
- Autonomous Support Organization

<b>Type of Linkage</b>	<b>Main Features</b>
<b>Ecological &amp; Environmental</b>	<b>Symbiotic relationship between land, water and vegetation. All the three resources should be developed and utilized in a mutually reinforcing manner. Conservation alone is not sufficient. Development of one may lead to regeneration of other.</b>
<b>Economic</b>	<b>Farming systems approach based on interdependence between crops, livestock, and trees. Output of one activity becomes input for another in a closed-knit cycle</b>
<b>Social</b>	<b>Congruence between various stakeholders viz., cultivators, landless labourers, herders; across social groups, and across owners</b>
<b>Financial</b>	<b>Complimentarity between public and private investments, pooling of resources; and cross subsidization across socio – economic groups and watershed activities.</b>
<b>Administrative</b>	<b>Co – ordination between the line departments viz, agriculture, irrigation horticulture, soil and water conservation, animal husbandry, forestry, rural development etc.</b>

# Conflict in Watershed Management

- Water resources are increased—but not indefinitely
- Increased availability is not evenly spread
- Multiple stakeholders lead to friction and competition

# ... Conflict in Watershed Management

- Successful watershed management can increase agricultural production—but not for everybody
- Successful watershed management can improve rural livelihoods—but whose livelihoods ???

# World Bank and Watershed Dev. Project

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- Loan comes with conditions
- Not aware of ground realities
- Elaborate reporting mechanism

# Socio Economic Benefits

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- Increasing savings of village women
- Checking migration of villagers to cities in search of livelihood
- Increase in agricultural productivity
- Increase in agriculture inputs
- Increase in cropping intensity
- Increased food security

# Human Resources Benefits

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- Increase in employment avenues
- Awareness for better use of resources.
- Increase in the status and position of women.
- Social security through income security.
- Increase in technical and managerial knowledge
- Team work

# Natural Resources Benefits

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- Increase in the productivity of land
- Adequate availability of drinking water
- Rise in ground water table
- Decrease in desertification
- Increase in forest produce.
- Sustainable use of natural resources


# Management Challenges

- Give due credit to the traditional user managed systems and sync with new technologies
- Bringing clear role definitions for various actors
- Achieving coordination among various players involved
- Implementation of gender- sensitive policy through concrete strategy
- Setting up mechanism to resolve conflict

# Women's Participation in Watershed Development in India

## **Guidelines of ministry of rural development**

- Promoting economic development, the restoration of ecological balance, and giving *"special emphasis to improve the economic and social condition of the resource-poor and the disadvantaged sections of the watershed community such as the asset less and women"*

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- Quota member
  - Land based projects
  - Budgetary allocations
  - Participation for free labour

# How to make participation real

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- Equal representation on various committees
- Equal wage
- Capacity Building to enhance their negotiating and leadership skills
- Sensitizing govt officials of their needs
- Encourage the linkages between women's self-help groups and watershed associations

# A Case Study


- Sukhomajri village located near Chandigarh
- Problems of Sukhna Lake were (a) Massive soil erosion (b) Loss of the hill forests (c) Over grazing
- watershed development programme with inspiration from Anna Hazare at Ralegaon Siddhi
- Building small earthen dams raised agricultural output
- Primary task done by the villagers to implement the policy of conservation by controlled grazing and prevention of tree felling
- Voluntary labour
- Contribution in afforestation, and dev of pasteur land

<b>INDICATORS</b>	<b>PRE WATERSHED</b>	<b>POST WATERSHED</b>
<b>Wheat</b>	<b>40.6 tones(1977)</b>	<b>63.6 tones(1986)</b>
<b>Maize</b>	<b>40.9 tones (1977)</b>	<b>54.3 tones (1986)</b>
<b>Grass</b>	<b>40kg/hectare (1977)</b>	<b>3 tones/hectare 1992)</b>
<b>Buffalo</b>	<b>79 (1975)</b>	<b>291 (1986)</b>
<b>Milk</b>	<b>334/day (1977)</b>	<b>579/day (1986)</b>
<b>Tree density</b>	<b>13/hectare (1976)</b>	<b>1292/hectare (1992)</b>
<b>House hold income</b>	<b>10 000 (1979)</b>	<b>15 000 (1984)</b>

# Policy Suggestions

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- Appropriate structure of incentives for promoting water use efficiently
- Almost every household should have a direct stake in each of the major watershed
- Linking up the community through resource sharing and cross-subsidization.
- The participatory process -NGOs
- Developing market linkages

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- Investing more resources in human and social capital rather than just 'produced' or natural capital
  - Technical and social support-can fully play their role in watershed development
  - Establishing monitoring systems to assess how women's interests are being defended