



Module 5 – (L19 – L21): “Socio-economic Aspects of Watershed Management”

Social Aspects of Watershed Management: Community participation, Private sector participation, Institutional issues, Socio-economy, Integrated development, Water legislation and implementations, Case studies

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Lecture No - 19

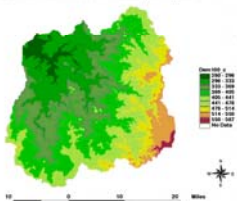
Social & Community Aspects
of Watershed Management

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L19–Social & Community Aspects of Watershed Management

- **Topics Covered**
- Social aspects of watershed management, Community participation, Community based watershed management, Institutional issues.
- **Keywords:** Social aspects, Community participation, Institutional issues.

Digital Elevation Model Anas river watershed (Jhabsud, India)



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Watershed Management - Perspectives

- Past Traditional and Current Development Approaches

Development elements	Traditional approach	Current approach
Purpose	Single (Soil conservation)	Multiple (Social, economical and environmental)
Need assessment and planning	Central level government staff	Community help to identify the gap and select the priorities
Strategy	Increase production and conservation	Emphasis on livelihoods, poverty and sustainability
Approach	Centralise, Top-down planning with little input from community	Participatory, community based focus to the women and poor communities
Institution	Government and donor agencies	NGO, community based organization (CBO) and private and Governments institutions
Working Size	Large watershed	Small watershed, sub watershed
Output	Target meet, quantities	Qualitative, sustainability

Source: Peraz and Tschinkel, 2003; WFP, 2002

Tiwari et al., (2008) The Journal of Agriculture and Environment Vol:.9, Jun.2008

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Social Aspects

- Watershed management objective: **Social upliftment & well being of inhabitants**
- **Watershed management** consists of those coordinated human activities aimed at controlling, enhancing, or restoring watershed functions.
- **Community-based watershed management** - approach to water-resource protection that enables individuals, groups, and institutions with a stake in management outcomes (often called stakeholders) to participate in identifying & addressing local issues that affect or are affected by watershed functions.
- **Social Aspects:** watershed management and its contribution towards optimal utilization of natural resources thereby accruing greater and sustainable benefits to mankind.

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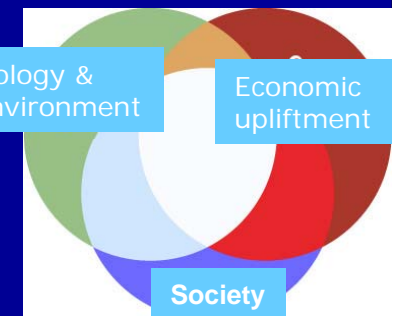
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Watershed Management- Social Aspects

- ❑ **Watershed management** - process of implementing land use practices & water management practices to protect & improve quality of water & other natural resources within a watershed by managing the use of those land & water resources in a comprehensive manner.
- ❑ **Watershed management** -a way of looking at relationships between people, nature, land and water.
- ❑ **Watershed management** - aims at bringing about balance between natural resources on one hand & society on the other.

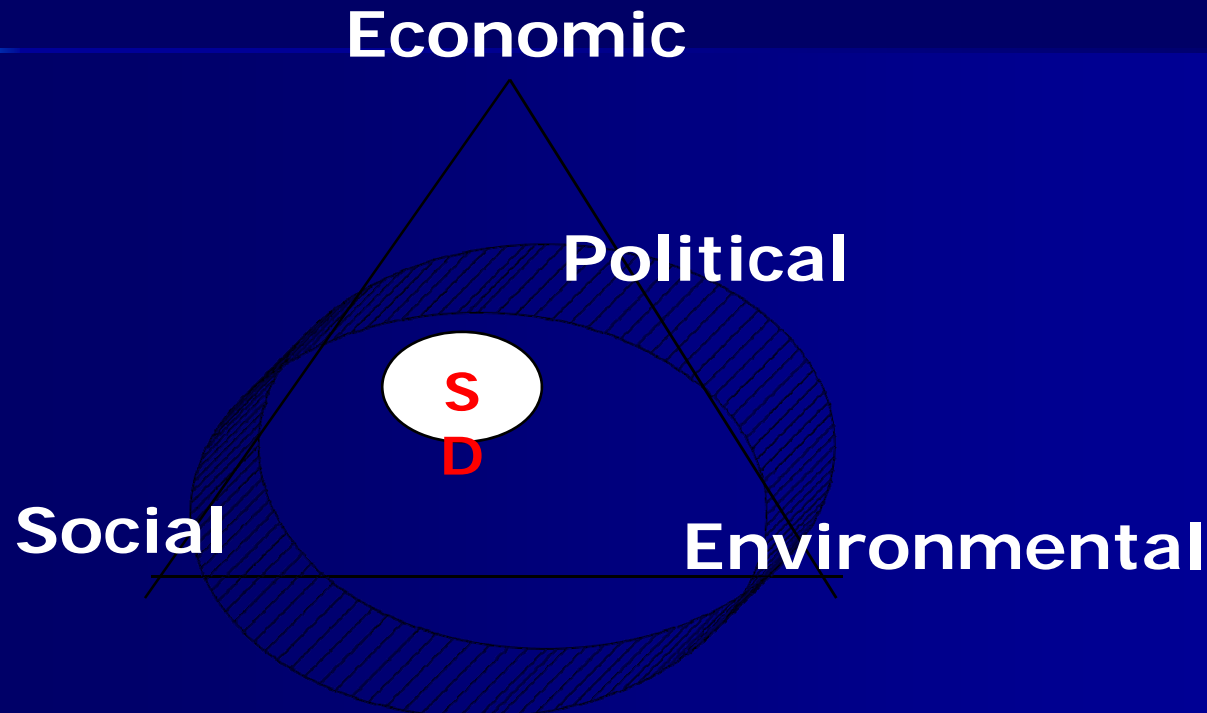


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Social Aspects of Sustainable Development



To achieve sustainability: Socially acceptable, economically & technically viable project, multi-disciplinary approach, social institution, involvement of stake holders – **Holistic approach** - Capacity Building- "**good science & smart planning**"

Social Aspects of Watershed Development

Why Social Aspects are important in Ecosystem Management?

- Principles of ecosystem management include statements about how humans and human values are integral ecosystem components, suggesting that:
 - ❑ "People cannot be separated from nature,"
 - ❑ "Humans are fundamental influences on ecological patterns and processes and are in turn affected by them," and

"Regardless of the role of scientific knowledge, human values play a dominant role in ecosystem management goals".



Photo, A.K. Singh, 2002



Social Aspects of Watershed Development

Sharing Costs and Benefits

- ✓ Watershed projects often distribute costs & benefits unevenly, with the costs levied upstream, typically among poorer users, and the benefits hogged by residents downstream, usually the richer farmers.
- ✓ Individuals must derive private tangible benefits from the watershed activities such as raising agricultural productivity, augmenting income, meeting food security & controlling land degradation.
- ✓ Expected private benefits must substantially exceed the expected private costs.
- ✓ Appropriate arrangements be made to convert as much of collective benefits into tangible private benefits.
- ✓ Done through developing need-based institutional arrangements, which assess needs of the stakeholders in the watershed & accordingly plan distribution of benefits.



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Community Participation

- Proponents of **community-based watershed management** maintain that involving local stakeholders results in more locally relevant solutions that take into account each community's unique social, economic, and environmental conditions and values.
- **Stakeholder participation** is also thought to create a sense of local ownership of identified problems and solutions, thus ensuring long-term support for resulting management plans.



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Characteristics of Community-Based Watershed Management

- **Changing Roles & Relationships:** As local communities participate more actively in watershed management, roles & relationships of resource managers & stakeholders will change. Community-based watershed management recognizes that all stakeholders have a critical role to play in the management planning process.
- **Whole-System Perspective:** Watershed management is not a single strategy, but is a general approach to water resource protection that recognizes the interconnectedness of all the physical and biological components of the landscape, including human communities.



Photo, A.K. Singh, 2002

Characteristics of Community-Based Watershed Management

- **Whole-System Perspective:** A community-based approach considers not only the physical characteristics of a watershed, but it also takes into account the social & economic factors associated with watershed issues. The goal of community-based watershed management is to protect and restore watershed functions while considering the variety of social and economic benefits of those functions.
- **Integration of Scientific Information & Societal Values:** Watershed management decisions should be based on sound scientific information, both in terms of identifying problems and selecting options for addressing those problems.



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Characteristics of Community-Based Watershed Management

- **Adaptive Management Style:** Addressing environmental, social, and economic issues at the watershed scale is complex, and often there is a high level of uncertainty regarding the outcomes of management decisions.



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Challenges Associated With Community-Based Watershed Management

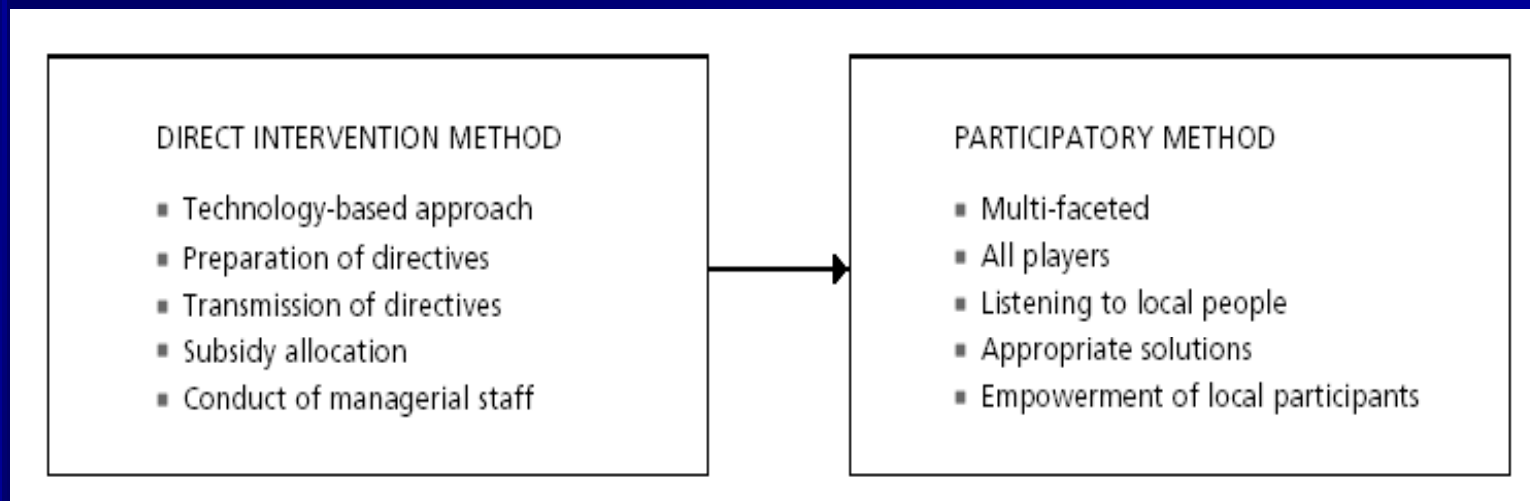
- **Watersheds** may cover thousands of acres of public & privately owned land. Developing a basic understanding of how human activities affect watershed functions is a major undertaking.
- **Some key stakeholders** may lack the time, motivation, skills, or resources to participate effectively throughout the management planning process.
- **Resource management** professionals may be reluctant to give up their role as experts and to share authority with lay persons regarding resource management issues.

Challenges of Community-Based Watershed Management

- Conflicts between stakeholders over management goals and the means to accomplishing those goals are inevitable, and resource management professionals are often ill-prepared to facilitate constructive dialogue to resolve these conflicts.
- Community-based approaches require time and resources to generate interest and to build relationships between stakeholders.
- Funding agencies and stakeholders may grow impatient with the lack of observable outcomes.

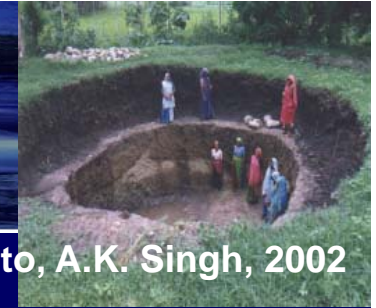
Development Paradigms

- Rural development over the past 20 years has been marked by a gradual shift from the intervention-based method to an approach promoting rural people's involvement in their own development so that more attention could be paid to the people's requirements, problems on the ground could be better understood & groups concerned could be helped to improve their situation.



Direct Intervention Method Vs Participatory Method.

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Public Participation

Ensuring Public participation:

Sustainability, Equity and Participation are the **three basic elements** of participatory watershed management.

- **Sustainability** involves conservation and enhancement of the primary productivity of the ecosystem, the main components of which are land, water and biomass.
- **Equity** has to be seen in terms of creating an equitable access to livelihood resources for the watershed community.
- **Participatory watershed management** attempts at ensuring sustainability of the ecological, economic & social exchanges taking place in the watershed territory.
- Includes natural resource exchange, which is the conventional watershed management, and participatory watershed management additionally considers the economic, political and cultural exchanges.

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Community Participation...

- ✓ In real terms community participation means voluntary sharing by users group their time, energy & money on programme & adopt the recommended measures and practices on a sustained basis.
- ✓ People's participation is critical for the success of the watershed program because the sum of individual choices has collective consequences on management of natural resources.
- ✓ In community participation people act collectively & influence outcomes.

For success of this type of participation, 3 aspects are critical:

- (1) the ability of members to participate as a community or to have a collective voice;
- (2) decision made jointly by the community and implementing organizations; and
- (3) communities bearing a share of costs.

Public Participation

Conditions for facilitating people's participation:

- (1) Making people aware about potential benefits of collective action in conserving & managing natural resources
- (2) Demand-driven activities in the watershed program;
- (3) Empowering people in planning, implementing and managing watershed programs;
- (4) Sufficient private economic benefits to create incentives for participation.

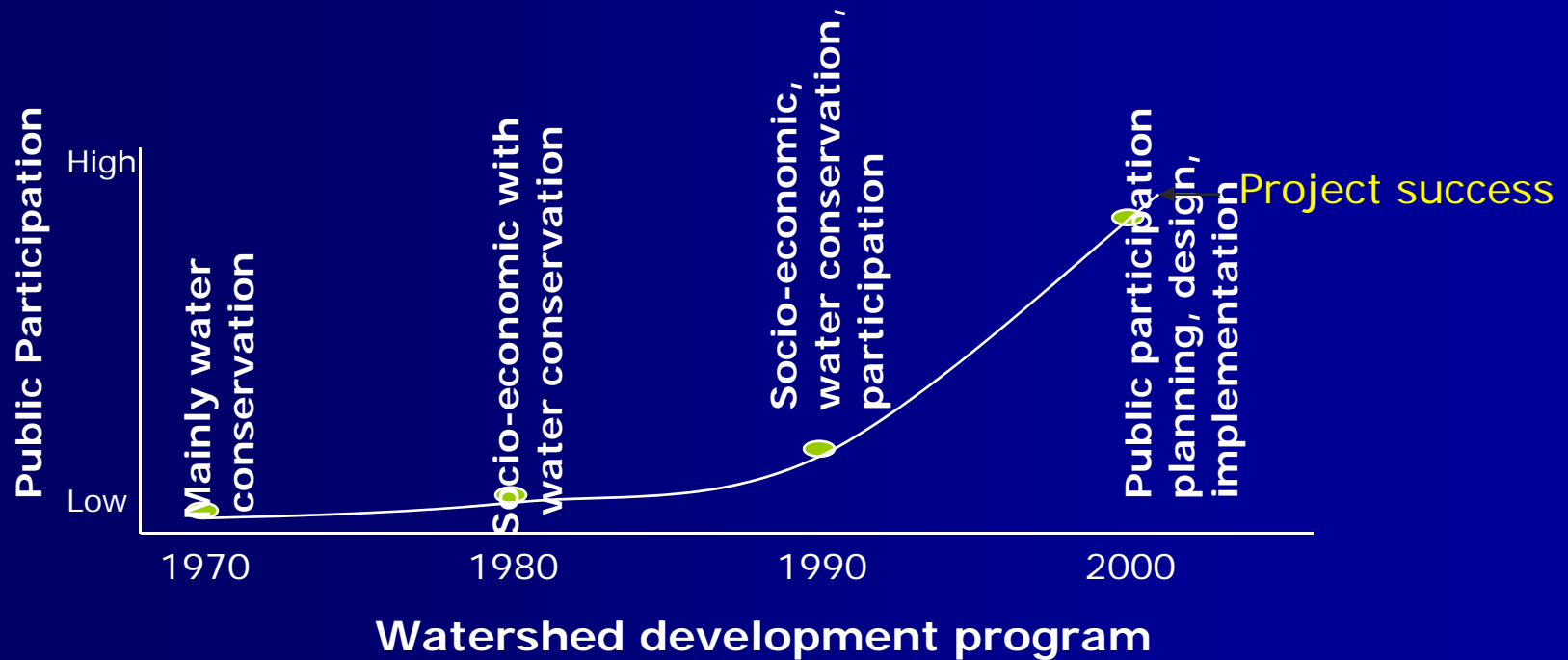
Collective action can be defined as the pursuit of a goal or set of goals by more than one actor.

Empowering the community

When people are empowered to take decisions & execute the activities, they own the program. They run the watershed activities according to local, social & cultural systems.

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Successful Watershed Policy



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Institutional issues

Institution building: Role of institutions is to develop rules for planning & managing watershed activities, sharing costs & benefits & dispute resolution.

The institution building process involves generation of self renewing capability in the organization & also ability to align missions & goals with the emerging changes in the environment without losing basic ethics and spirit.

Some of the key factors that facilitate development of social institutions in the context of watershed:

- Capacity building
- An assured flow of funds to the project
- Cost sharing has to be 'real'.

Institutional issues

- contribution of voluntary labor does not necessarily create a feeling of ownership of the assets created for land & water development.
- Strong dedicated and committed leadership
- A shared perception of benefits by all group members
- **Factors that impede the process of institution building in the watershed programs:**

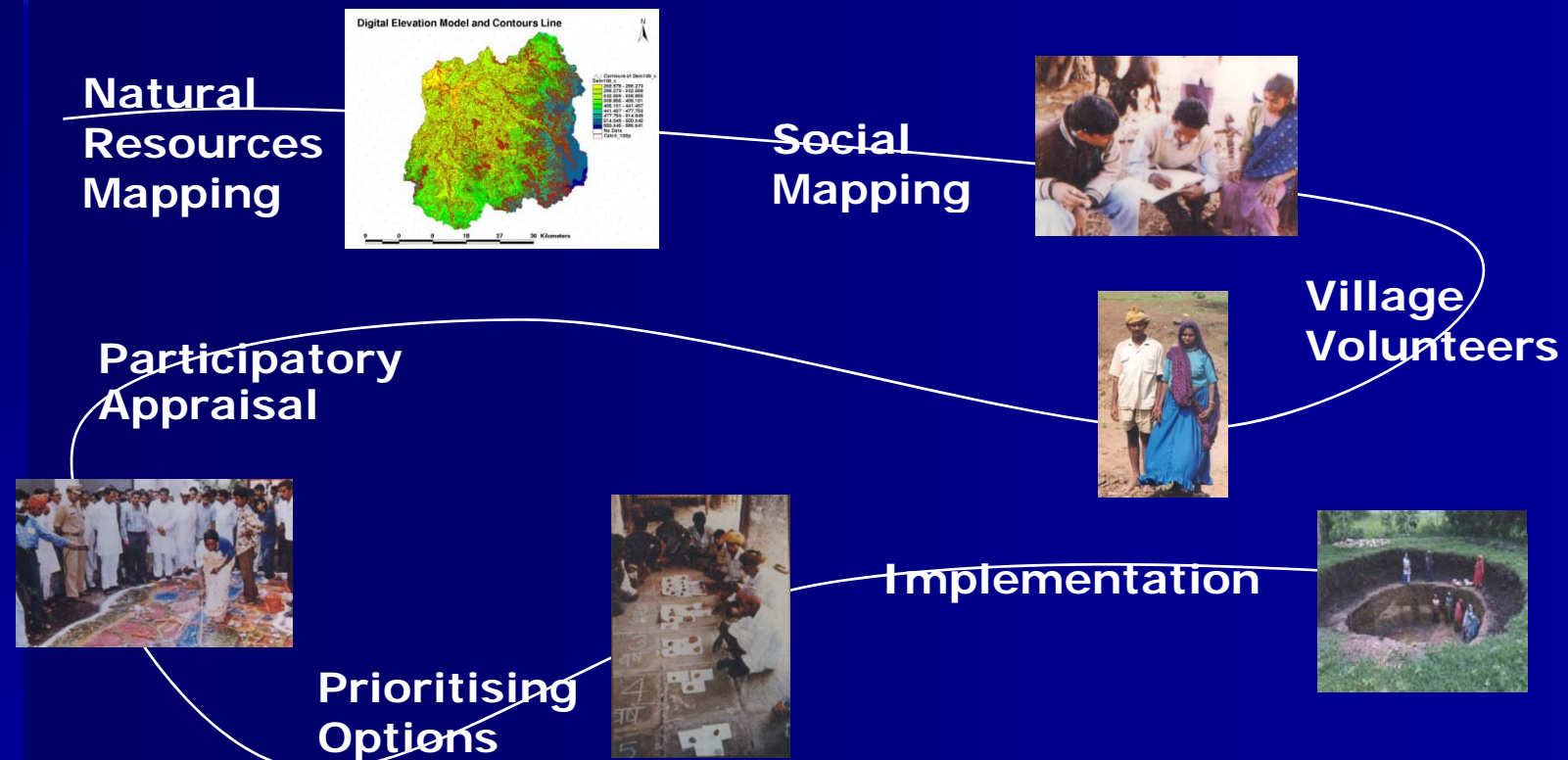
- • Unreasonable quotas and targets
- • Lack of self-reliance
- • Lack of transparency
- • Failure to mobilize local resources

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Watershed Management – People Participation



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Ref: Singh, A.K., T.I. Eldho, D. Prinz (2002)

Case Study:

The Sukhomajiri Watershed Model

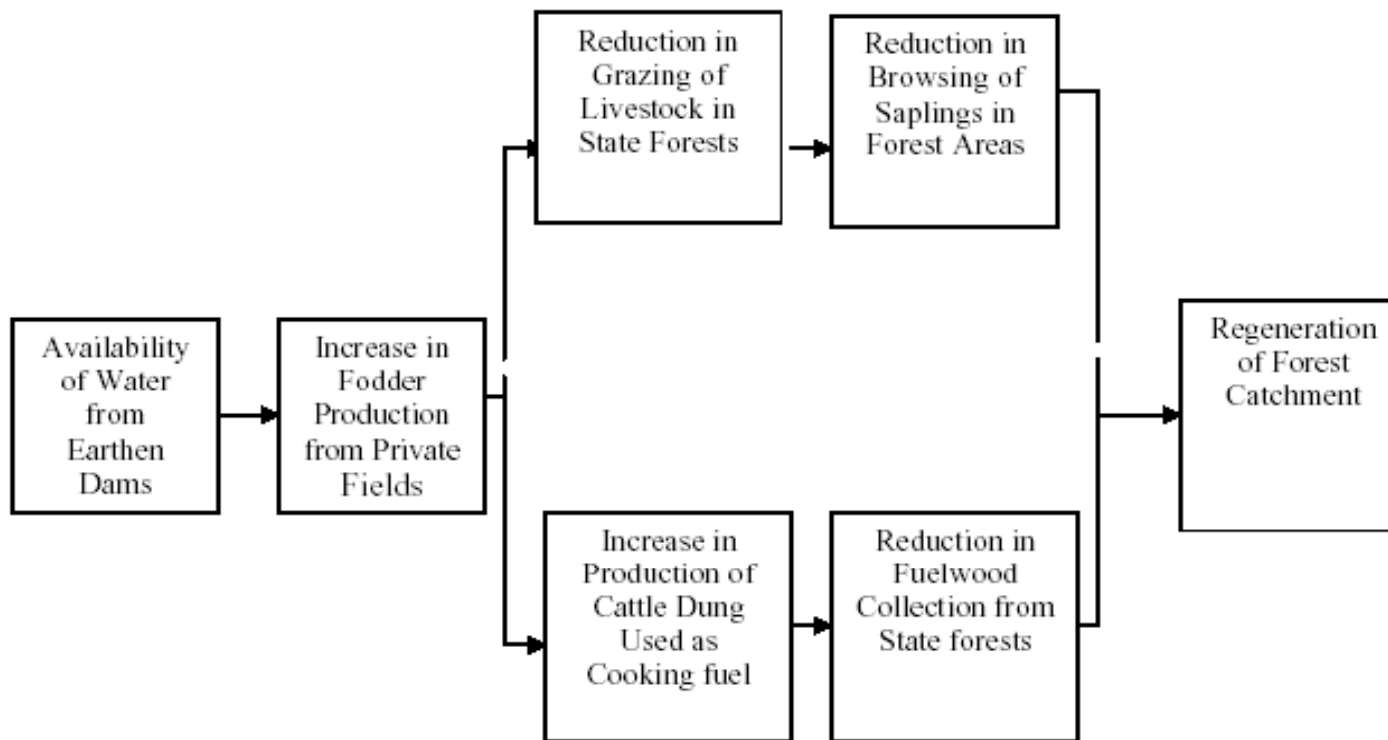
- From the mid 1970s onwards the Gov. India, Haryana Forest Dept. (HFD) & Central Soil and Water Conservation Research and Training Institute (CSWCRTI) with support from Ford Foundation were involved in undertaking soil & water conservation activities in Sukhomajiri village in Haryana
- Initially check dams were constructed to arrest the movement of silt from catchment areas.
- However, when villagers destroyed the check dams and continued to open graze cattle in forest areas, a more comprehensive dialogue was initiated with local communities.
- Discussions revealed that inadequate irrigation facilities caused fodder scarcity, resulting in villagers open grazing
- Two earthen dams were constructed in 1978 and further 2 more in subsequent years.

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Ref: Public Private Partnerships in Watershed Management-
Evidence from the Himalayan foothills: Mr. Mathew Kurian

Case study:

The Sukhomajiri watershed model



The Haryana Joint Forest Management Project - Pro-poor Features of the Joint Management Contract

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Case study:

Six features of the institutional contracts that characterized formation of community organizations are notable:

- Water user associations were constituted
- Landless households were given a share of water from dams and attempts were made to institute a system of tradable water shares so that landless households could sell their share of water to other households.
- Profits from the sale of water from dams (fiber & fodder grasses) could be used for community development activities. Such activities could take the form of construction of village roads, repair of school buildings or construction of rest areas for laborers.

Case study:

- HFD was to facilitate annual elections of the managing committee.
- Membership issues were tackled, especially in cases where not all members in a village could benefit from water supply from dams.
- At least a third of positions in the managing committee are to be reserved for women. Every woman in a household was entitled to membership distinct from membership of the male head of household in the general body of HRMS.
- Profits from the sale water from earthen dams (and fiber and fodder grasses) constructed in areas under joint management were to be shared between the HFD and the HRMS (Hill Resource Management Societies).

Case Study: Outcome

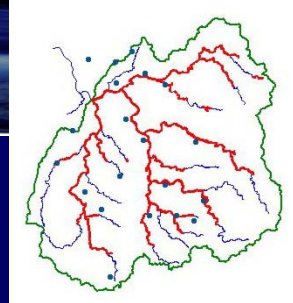
- The dams provided supplemental irrigation to wheat crop and thus helped to increase agricultural productivity in the rabi season.
- Further, production of wheat straw increased farmer's disposable income by enabling them to reduce their fodder grass purchases from external sources.
- The improved supply of wheat straw fodder also led to an increase in cattle dung, which was used as a cooking fuel, and thus lessened pressure on state forests for fuel wood.
- Success with participatory watershed management lead the forest department to expand the mandate of the JFM program in the Shiwalik hills.

Case study: Lesson Learnt

- ❑ Watershed management is more than just the cost-benefit analysis of investments.
- ❑ The main distinction between watershed development and other traditional developmental programmes is that the former is essentially a community-based one.
- ❑ Raising awareness of the people's role in the watershed approach.
- ❑ Strengthening the capabilities of local organizations.
- ❑ Decentralization of decision-making by all players concerned, including those outside of watershed areas.
- ❑ Promoting dialogue, partnership and alliances among players.

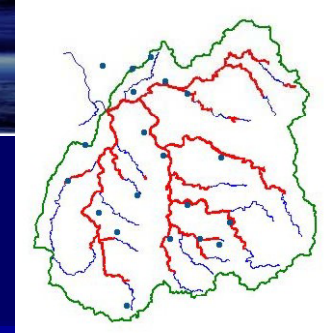
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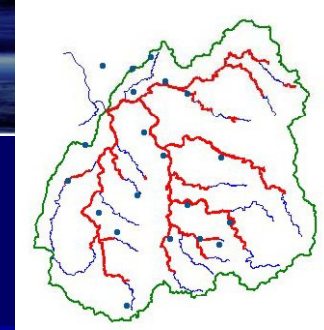
Tutorials - Question!..?.

- How community participation can be used to make appropriate watershed management plans & implementations.?.
- Discuss the possible levels of community participations in watershed management plans.
- How the Watershed User Groups can help in the overall sustainable development & management of Watersheds?.



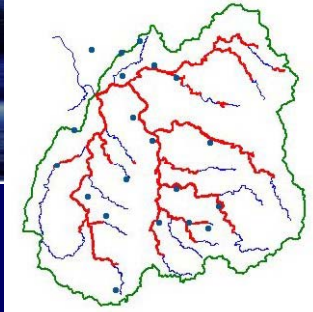
Self Evaluation - Questions!

- Differentiate between past traditional & current watershed development approach plans.
- Discuss social aspects of watershed management within the perspectives of sustainable development.
- What are the important characteristics of community based watershed management?.
- Differentiate between direct intervention methods and participatory methods in watershed management.



Assignment- Questions?.

- Illustrate important social aspects in watershed management?.
- How community participation can help in better watershed development plans & implementations?.
- What are the challenges associated with community based watershed management?.
- Illustrate the watershed development outlook in India for the last 5 decades & its success.
- What are the important Institutional issues in watershed management?.



Unsolved Problem!.

- Study the various social issues in your watershed area.
- Develop an appropriate plan to solve social issues such as poverty, lack of employment, lack of education to children in your study area.
- Study how the “Community participation” can help better watershed management in your study area.
- Develop appropriate plans for community involvement in sustainable development & watershed management.
- Study the role of watershed user groups in your study area.

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THANK YOU

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