Watershed Programme - Government Perspective

By

Divakar Kumar (193350001)

M.Poornanand (193350011)

Sagar Kolekar (184358002)

Avinash Reddy (183070010)

Prabhat Ranjan (16D170027)

Watershed

- USPEA- Land areas bounded by ridge lines that catch rain and snow and drain it to streams, rivers, lakes or groundwater.

- Simply, the area from where the river catches water.

Source: Watersheds | Lake County, IL

Watershed management

- Soil Conservation Society of India-“harmonious development of land and water resources in a watershed to provide goods and services without adversely affecting the soil and watershed base.”

- Main thrust- “VIKAS MEIN JAN SAHYOG”

- Aim of WDP- To stop and conserve the water where it falls through Water Harvesting Structures

- Notion of water wastefully flowing into the sea.
- In this no idea of reducing water losses to zero.
- More than harvesting, critical issue is sustainable and equitable use of this water.

Evolution of Watershed Programs in India

- In 1880's, Famine Commission and the Royal Commission of Agriculture set up in 1928.

- Since 1930's, Watershed approach has been followed for the development of agriculture and rural areas.

- Soil Conservation Research Demonstration and Training Centre in 1956 at eight location in the country.

- First large scale programme-1962 to 1963 for conservation work – To check silt in multi-purpose Reservoirs.

Drought Prone Areas Programme

- DPAP was launched by the government during 1973-74

- The programme is being implemented on Watershed basis from 1995 in drought areas.

Objectives of DPAP

- To minimize the adverse effects of drought
- To promote the overall economic development.
- To take up development works by watershed approach

Desert Development Programme (DDP)

- As per the recommendations of the National Commission on Agriculture, mentioned in 1974 and 1976 it was started in 1977-78.

- The programme was started both in the hot desert areas and the cold desert areas.

- Since 1995-96 the coverage has been extended to few more districts in Andhra Pradesh and Karnataka.

National Watershed Development Project for Rainfed Areas (NWDPRA)

- Launched during 7th Five-year plan in 99 selected districts of the country.

- It was intended to develop sustainable biomass production system and restore ecological balance in the rainfed areas.

Integrated Wastelands Development Programme (IWDP)

- IWDP, under implementation since 1989-90.
- From 1st April 1995, - implemented through watershed approach under the common guidelines for Watershed Development

Objectives of IWDP

- To develop wastelands or degraded lands on watershed basis, keeping in view of local needs.
- To promote the overall economic development
- To restore ecological balance

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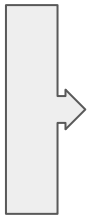
Critique

- Top-down approach
- Biophysical component of watershed prefered
- Efforts were land based and not human capacity based
- Technology transfer rather than local technology development

- Wide range of activities were not properly integrated
- Low level of investment
- High administrative expenditure
- Implementation without proper feasibility



Central Sanctioning committee (CSC) - 1987

National committees

- **National committee on DPAP and DDP (Jain Committee -1993):**
  - DPAP and DDP should be transferred to state government
  - Suitable merges with state plans
  - Centre should provide the financial assistance

- Drawback
  - Lack advice on content of program or inclusion of areas

Not accepted by the Government

National committees

- **Hanumantha Rao Committee -1993:**
  - Technical committee
    - Appraise the impact of work under DPAP/DDP
    - Identify weakness of program
    - Suggest improvements

  - Findings
    - Implementation in fragmented manner by different departments
    - Guidelines are rigid
    - No basis for involvement of inhabitants

Hanumantha Rao Committee

Recommendation:

Based on “outstanding success” of some ongoing watershed projects

- Sanctioning of work based on action plan
- **Introduction to participatory modes of implementation**
- **Pooling resources from other programs (MoRD)**
- Bringing coordination between different departments

Guidelines based on these recommendation:**Bringing five different programs under MoRD -** DPAP, DDP and IWDP and also the Innovative- Jowahar Rozgar Yojna (I-JRY) and Employment Assurance Scheme.

Common guidelines for Watershed Projects - 1994

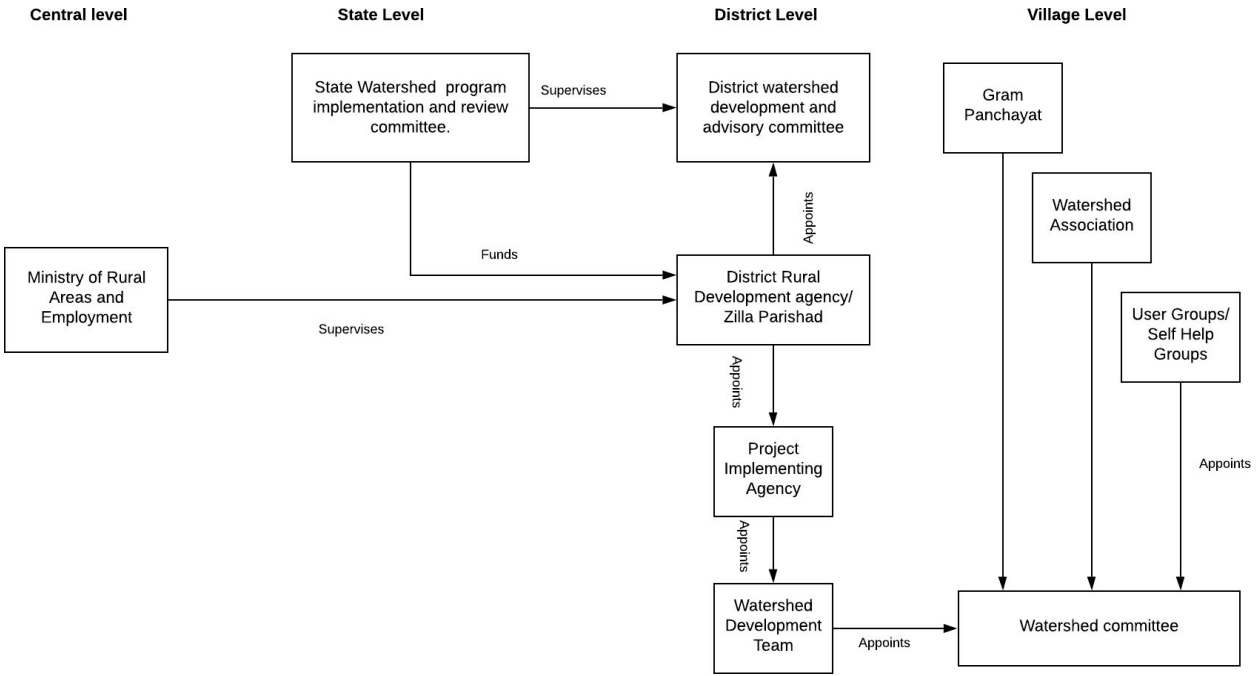
(By MoRD, GoI)

- People centric
- Initiatives for awareness raising
- Bottom-up planning
- Participation of NGO’s and communities

Watershed projects taken by MoRD from 1994 to 2001 followed these guidelines.

MoA revised NWDPRA to WARASA in 2000 to make it more participatory, sustainable and equitable - called it WARASA (Jan Sahabhagya Guidelines).

Hierarchy of watershed development in India - 1994



After 1994

(The common guidelines of 1994 were revised by MoRD in 2001 and again modified in an reissued as Guidelines for Hariyali in April 2003)
Hariyali:

- Empowering Panchayati Raj Institutions
- Harvesting every drop of water for agriculture and drinking
- Prevent climate effect turn into disaster

Failed in implementation stages. Revision was done in form of **Neeranchal**. Proposed several institutional structure to govern watershed development.

Setting up of **NASDORA** (National Authority for Sustainable Development of Rainfed Areas)

Relevance of 1994

- All post 1994 guidelines were some addition and deletion to the guidelines of 1994.
- The watershed programs became the centrepiece of rural development.
- Paradigm shift from Government program to Participatory Programme.
- Government schemes became people’s movement
- Represents dynamic and evolutionary process.
- It also holds special reference since for first time MoA and MoRD prepared common guidelines for implementation.

Impact and Effectiveness of “Watershed Development Programmes” In India

- Ministries involvement in watershed development Programme
- Watershed Development Programmes- IWDP, DPAP and DDP
- Objective of the WDP
- Integrated Watershed Management Programme (IWMP)
- Purpose of this study
- Organization involved

1. Increase in ground water level

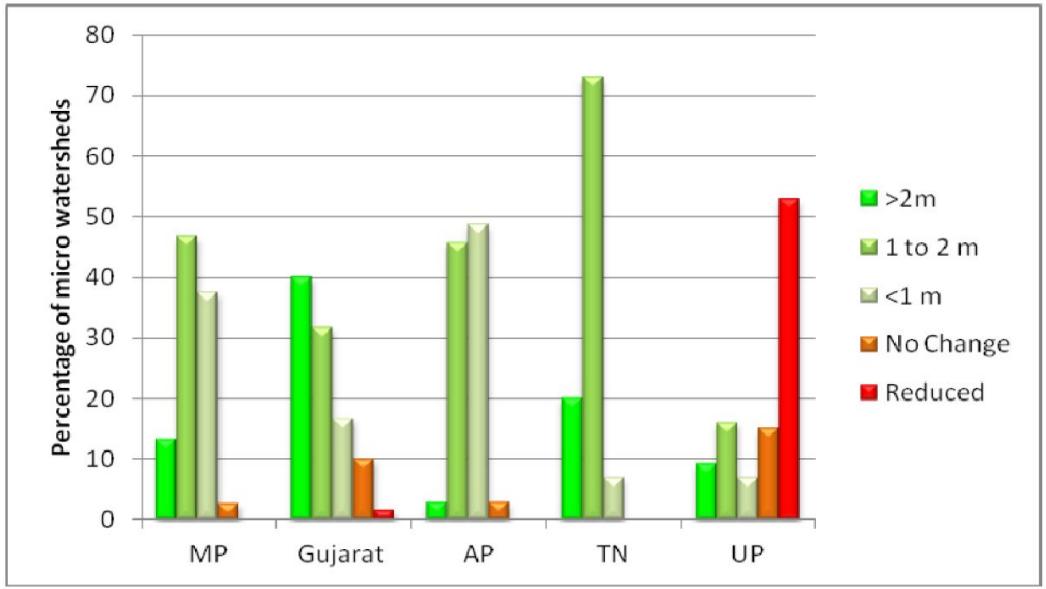


Fig: Change in groundwater level after WDPs in different states

2. Soil erosion reduction

Table-1: Impact of WDPs on soil erosion reduction in different States across schemes

States	Schemes	Reduction of soil erosion in different states (percent)		
		>50%	Upto 50%	Not reduced
UP	DPAP	11 (26.8)	25 (61.0)	5 (12.2)
	IWDP	7 (15.2)	32 (69.6)	7 (15.2)
MP	DPAP	0	46 (100.0)	0
	IWDP	0	48 (100.0)	0
Gujarat	IWDP	21 (70.0)	9 (30.0)	0
	DPAP	6 (30.0)	13 (65.0)	1 (5.0)
TN	DDP	8 (80.0)	2 (20.0)	0
	IWDP	12 (27.0)	33 (73.0)	0

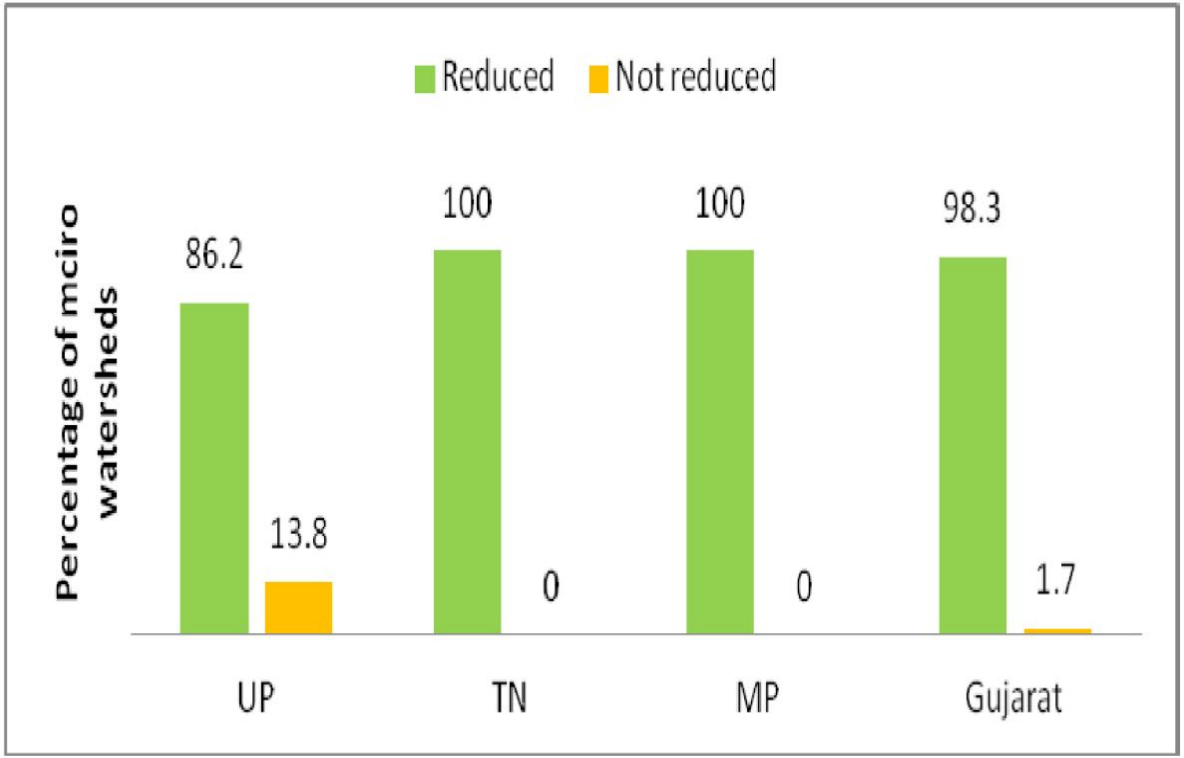


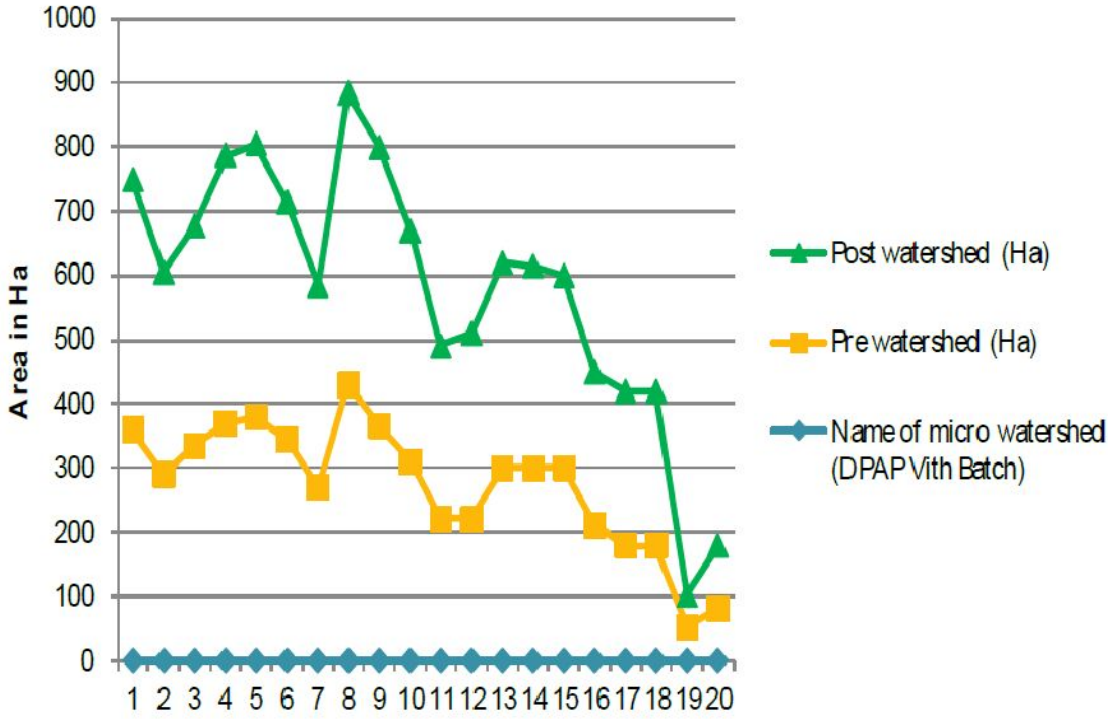
Fig 2: Overall impact of WDPs on soil erosion in different state

3. Increase in net sown area

Table-2: Increase in net sown area after WDPs implementation in Rajasthan

Districts	Pre-watershed (Net sown area in Ha)	Post watershed (Net sown area in Ha)
Baran	274.8	309.65
Jaipur	333.29	346.71
Jhalawar	426.0	490.22

4. Change in land use pattern



Micro watersheds

1. Chhabra I (B)
2.Chabra D
3. Chhabra E
4. Chhabra F
5. Chhabra G
6. Choki D
7. Choki H
8. Halgana Balharpur
9. Mundala Umarthana
10. Nipania
11. Niwari A
12. Niwari B
13. Niwari C
14. Niwari D
15. Ghoghara
16. Ghoghara E
17. Shahabad C
18. Shahabad D
19. Shabad bhoyal
20. Sahrol Taleti

Parthasarathy Committee Report Highlights

1. Examine the issue of integration of DDP, DPAP and IWMP.
2. People's participation and alternative livelihoods for PAFs
3. To assess socio economic life of community under watersheds.
4. Identification of non-feasible watershed approaches under DDP, DPAP, IWMP.

Parthasarathy Committee Suggestions

1. Much public participation in watershed projects.
2. Strategies of Harvesting water for sustainable livelihoods
3. Capacity Building
4. Research in watershed development
5. Public Private partnership
6. Administrative Problems

Common Guidelines of Watershed development - 2008

1. Equity and Gender sensitivity
2. Decentralisation
3. Facilitating Agencies
4. Centrality of Community Participation
5. Capacity Building and Technical Inputs
6. Monitoring, Evaluation and Learning
7. Organisation Restructuring

Watershed area = micro watershed
500 ha

CG 2008

Watershed area = 5000-10000 ha

Project Management

1. Preparatory phase
2. Watershed works
3. Consolidation or Withdrawl

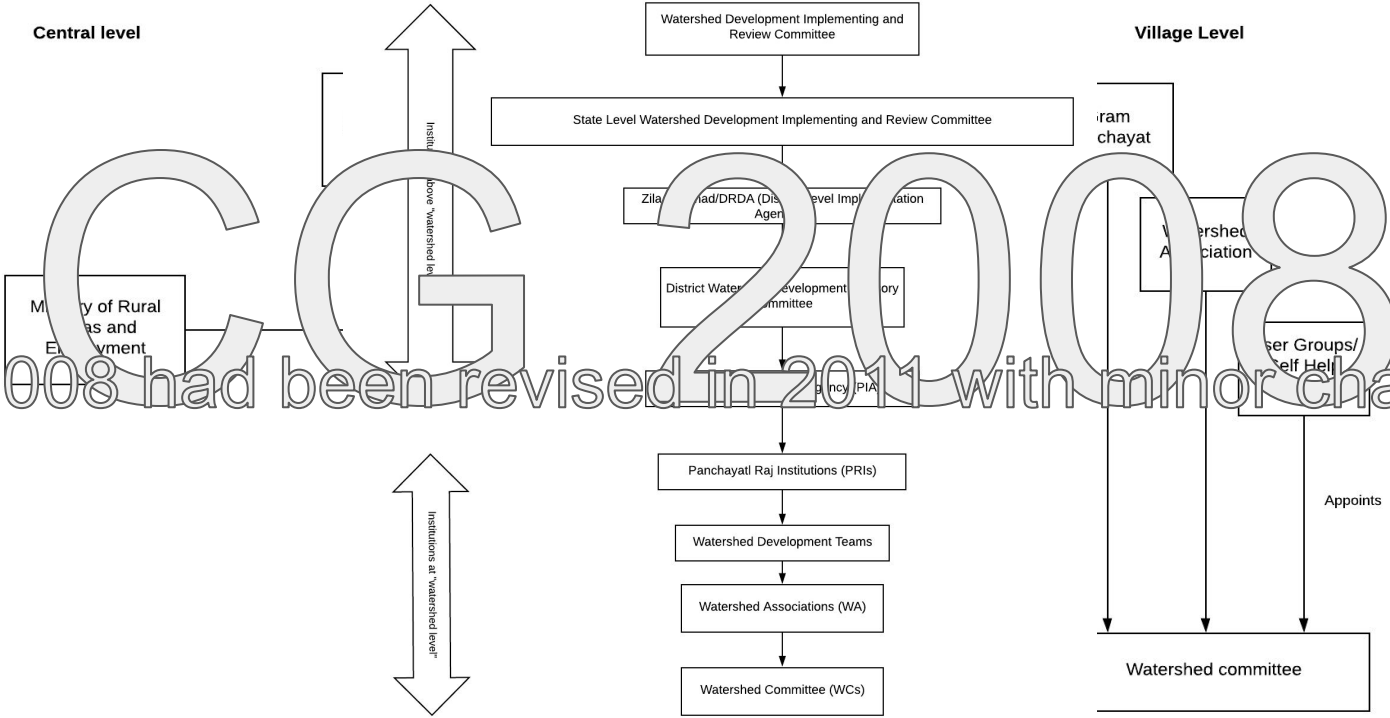
Common Guidelines of Watershed development - 2008

National Level Data Centre and National Portal
Watershed Cell cum Data Center(WCDC)

Budget component	% of the Budget
- Administrative costs	10
- Monitoring	1
- Evaluation	1
Preparatory phase, including:	
- Entry point activities	4
- Institution and capacity building	5
- Detailed Project Report (DPR)	1
Watershed Works Phase:	
- Watershed development works	56
- Livelihood activities for the asset less persons	9
- Production system and micro enterprises	10
Consolidation phase	3
Total	**100**

Source: common guidelines watershed 2008

Common Guidelines of Watershed development - 2008



Mihir Shah Committee Report (2016) on Water Reforms in India: A Critique

- Demand side and supply side management
- Reforms should happen at state level
- Overexploitation of aquifers
- Idea of ‘River Rejuvenation’
- Capacity Building

IWMP & WDC-PMKSY

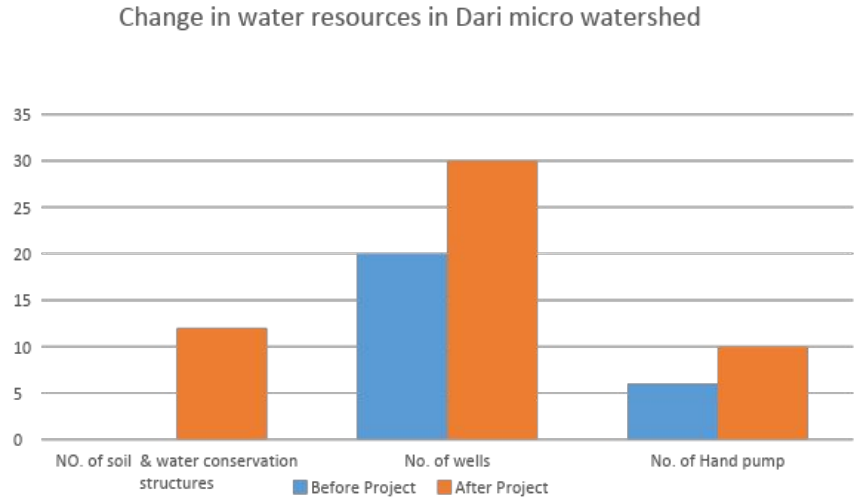
- Administrative implementation chain: DoLR, SLNA, WCDC, PIA and WC
- Har Khet Ko Pani and Per Drop More Crop
- Focused on **inclusive growth** of people residing within watershed boundary
- 9% of project fund for **livelihoods for assetless people** & 10% for production system & micro-enterprises
- Social audit of works
- Convergence

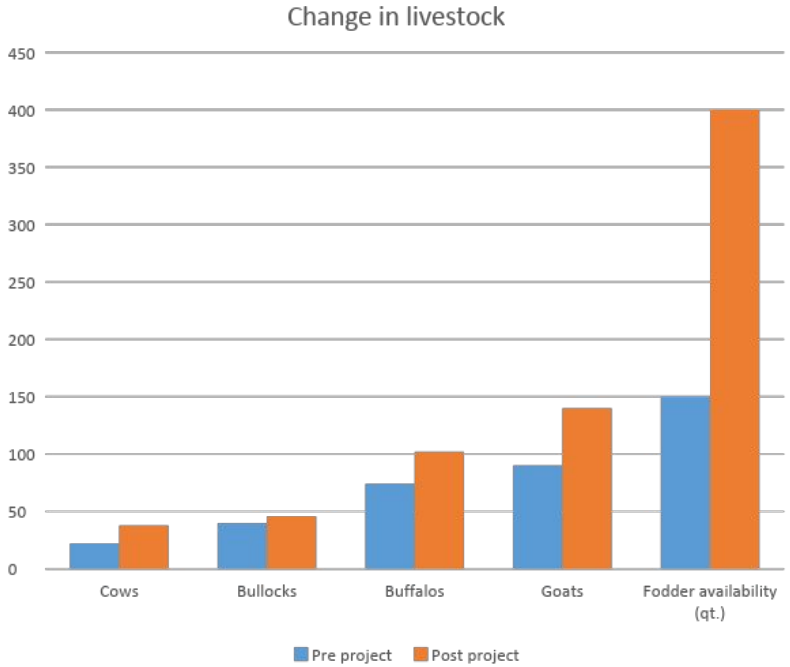
Livelihood, Production system and Capacity Building

- Income generation by rural landless/assetless tribal women
- Enhancement in farm productivity
- Training and exposure visits

Case study:

Impact of watershed development programme on farming system of micro watershed Dari of Tikamgarh district of Madhya Pradesh (2015_2016)





References: Khan, Mohammad Imran (2018) Impact of watershed development programme on farming system of micro watershed Dari of Tikamgarh district of Madhya Pradesh.

Change in land use pattern and Crop productivity

- Arable land increased by 14 ha
- Cropping intensity increased by 12%
- Area under irrigation increased by 333% (15 to 65 ha)
- Average productivity of kharif crops increased by 33%
- Average productivity of rabi crops increased by 20%

Reference: Khan, Mohammad Imran (2018) Impact of watershed development programme on farming system of micro watershed Dari of Tikamgarh district of Madhya Pradesh.

Conclusion

- It evolved with time
- Environmentally, Socially and economically sustainable approach
- Involvement of every section of the society
- Improvement in quality of life
- Women empowerment, Women’s participation in decision making process
- Development of community skills and resources