

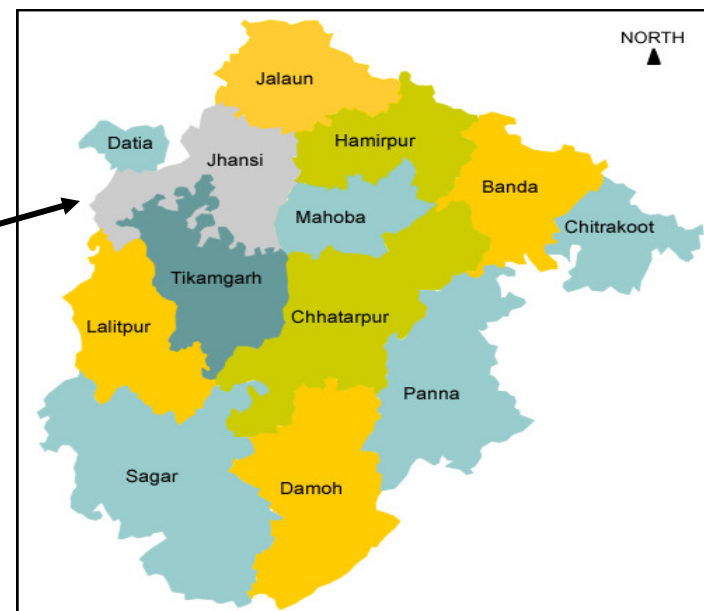
Success Stories in Watershed Management & Research Initiatives:

A CASE STUDY OF GARHKUNDAR-DABAR WATERSHED IN BUNDELKHAND



BUNDELKHAND REGION

Climate: semi arid
Livelihood: Agric.,
 AH and labour
Livestock: large
 popn. (8.36
 million) with
 low carrying
 capacity (0.78/ha).



Area	7.16 million ha,
Landscape:	<i>undulating</i>
Districts of UP (07)	787mm-945mm
Districts of MP (06)	767mm-1087mm
Soil type	<p>Rakar: Reddish to brownish-red in colour, shallow, gravelly and very light in texture</p> <p>Parua: Grey to brownish-grey and very rarely reddish-grey</p> <p>Kabar: Blackish in colour, clayey-coarse grain</p> <p>Mar: Very fine texture and black in colour</p>

Major Problems

- Crisis of drinking water
- Degraded land with multi directional slopes prone to severe soil erosion
- Poor productivity of crops and livestock
- Frequent Droughts
- Uncontrolled grazing
- Migration
- Poor socio-economic status and poor literacy
- 56% soils red, rocky, shallow with low WHC and OM.
- Black soils prone to water logging

Scope

- Improve crop and livestock productivity
- Risk partitioning through AFS
- Establishment of village fodder & seed bank
- Wasteland development through afforestation
- Augmentation of ground water for drinking and irrigation

NRM through AF interventions on watershed basis is the only option for sustainable agricultural productivity and improved livelihoods.

GARHKUNDAR-DABAR WATERSHED: A Successful Model for Bundelkhand



Integration of AF technologies with NRM in participatory mode ensures livelihood opportunities and drought mitigation strategies for the region.

Why Garhkundar

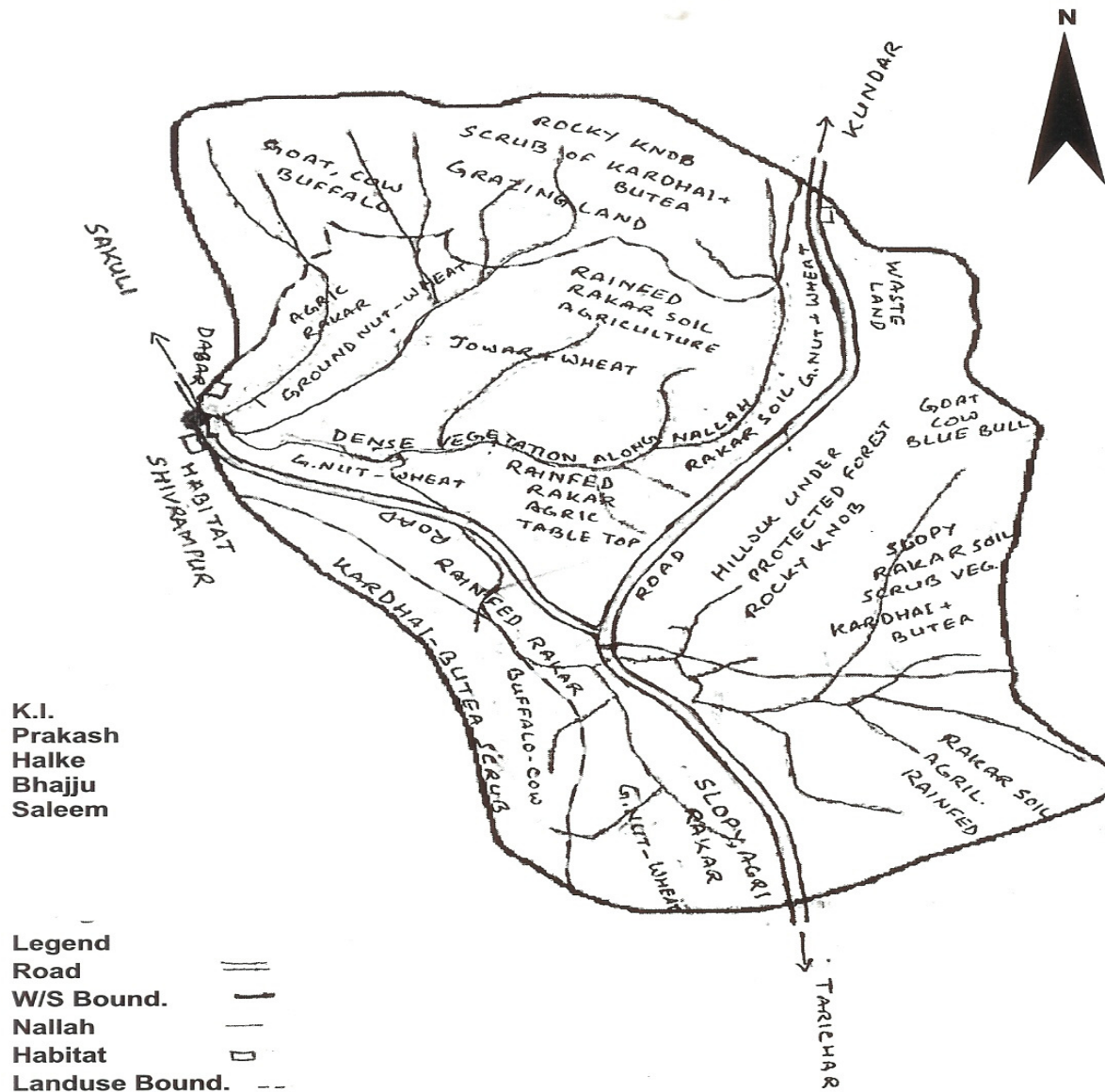
- ***True Representative of the region***
- ***Remote, away from development***
- ***Virgin***
- ***SC/ST & OBC Dominant [94%]***
- ***Hydrologically independent***
- ***Poor Agriculture (Occasional)***
- ***All major land use present***

Watershed Location

***55 km from Jhansi (Jhansi-Khajuraho Road),
102 km from Tikamgarh***

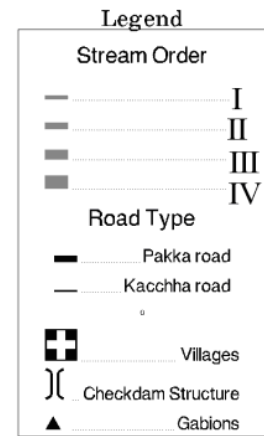
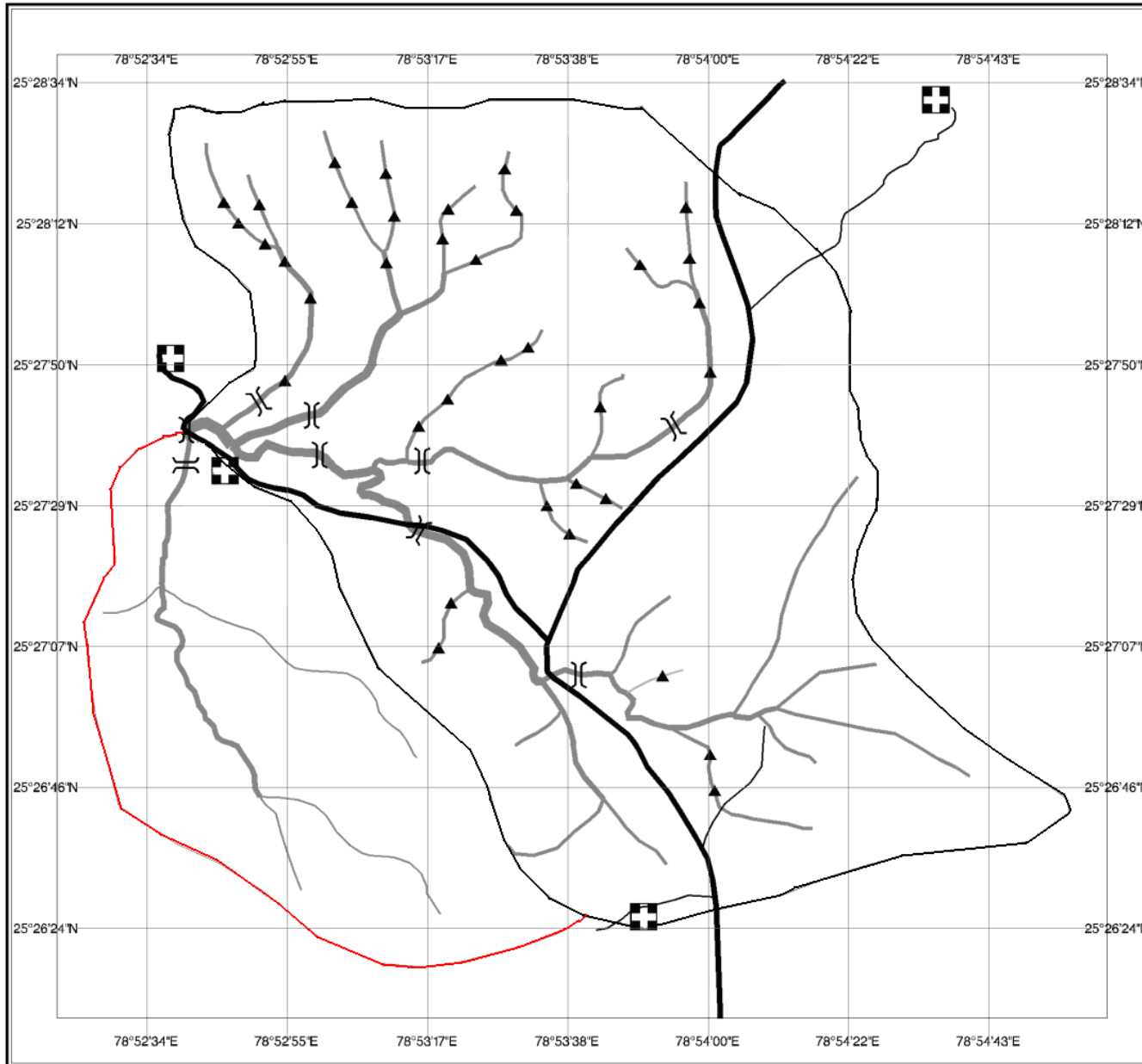
Watershed Map

Agro-Ecosystem Map of Garhkundar-Dabar Watershed



K.I.
Prakash
Halke
Bhajju
Saleem

Legend
 Road
 W/S Bound.
 Nallah
 Habitat
 Landuse Bound.



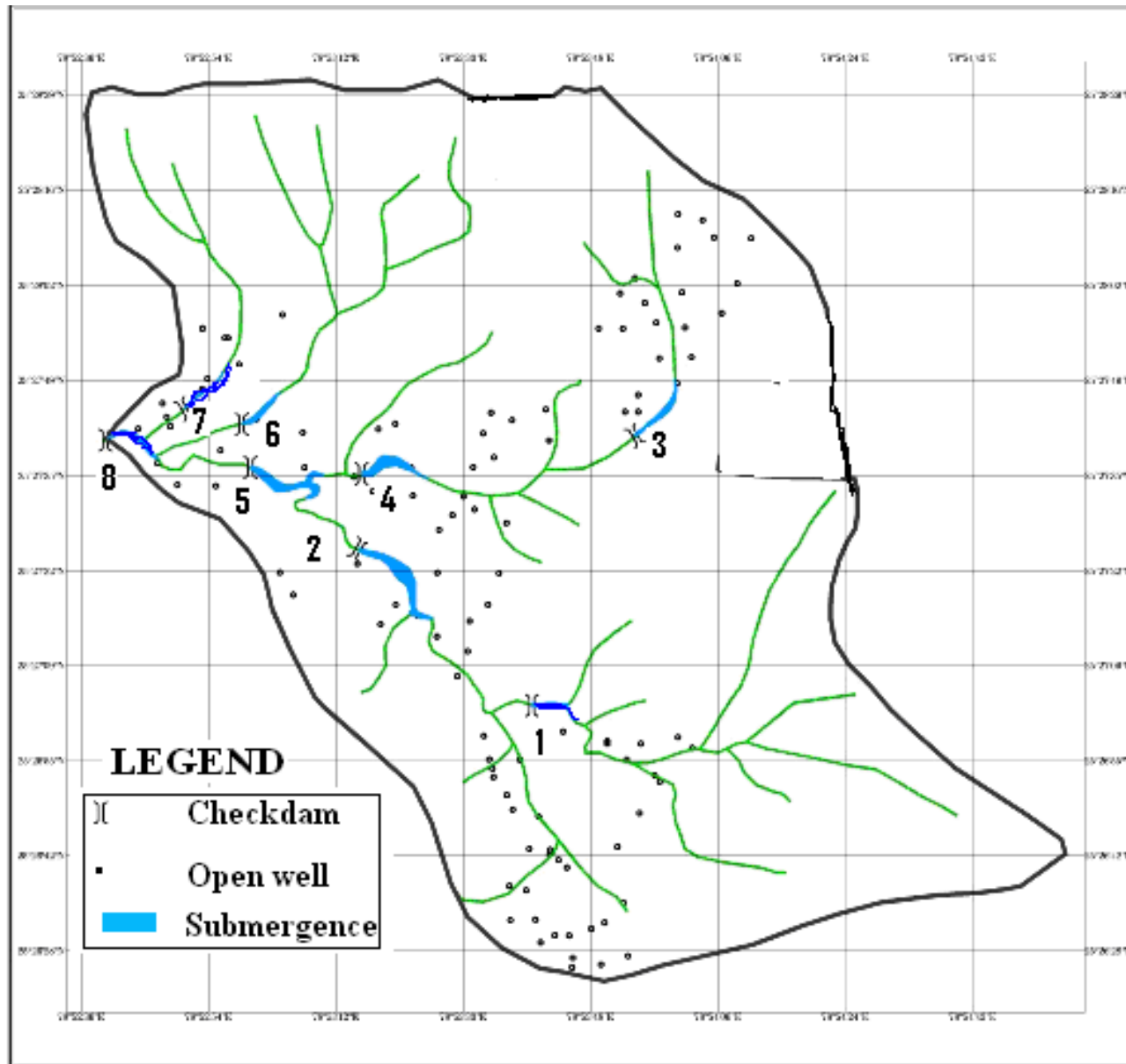


Fig. Drainage network showing location of checkdams, submergence and open wells in watershed

LAND HOLDING

Land Use

Cultivated : 296 ha

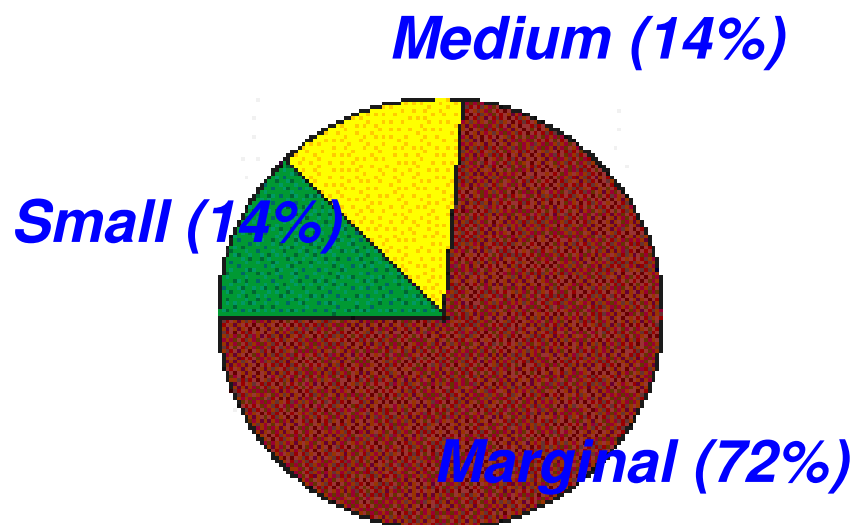
Forest : 463 ha

Scrub : 32 ha

Drainage Course: 46 ha

Habitat : 13 ha

TOTAL : 850 ha



Vegetation

Trees/Slips :Kardhai, Palas

Grass :Aristida, Heteropogon, Dichanthium

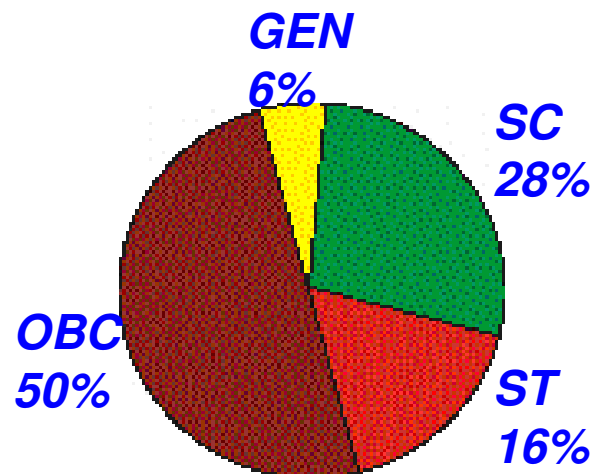
Crops (Kharif): Groundnut, Urd, Til (Rabi):Wheat, gram, Mustard

Water resource :107 Shallow dry open wells

Agroforestry :Naturally regenerated tree/shrub on field bund

Resources

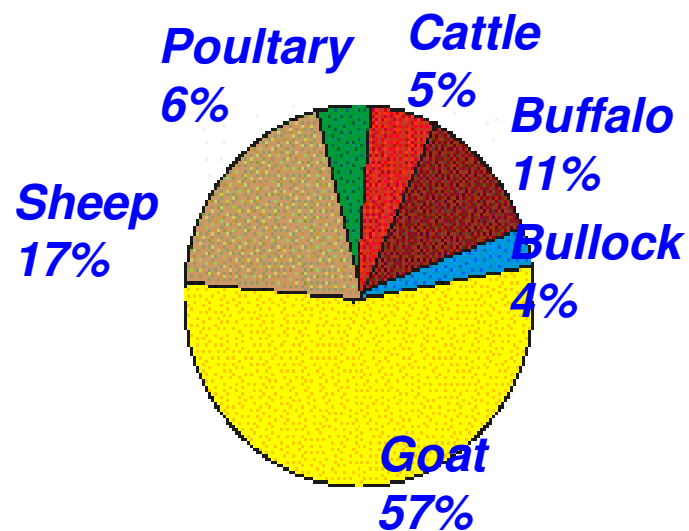
Total population:895



No. of households :191

Average holding :1.55 ha

Animal population :2648



AGROFORESTRY DEVELOPMENT

- ***Agroforestry systems***

[Aonla-, Guava-, Lemon-based, Agrisilvi-culture]

Live fence Agave & Edible Cactus

- ***Livelihood Support Activities- SHGs, goat rearing***

- ***Top working of Fruit Plants- Ber top working***

- ***Introduction of Lac cultivation***

- ***Gum & Resin yielding tree cultivation***

- ***Fish farming in stored water against checkdams***

Plantation along nallah : 6000

Crop demonstrations : rabi and kharif



***Fruit based
agroforestry
systems***

SOIL AND WATER CONS. MEASURES

Sl. No.	Type of structure	Number	Unit cost (Lakh)	Approx. Water harvested (000, m ³)
1.	Checkdam	7	2.35	17.3
2.	Low cost checkdam	2	1.6	6.8
3.	Spreaders	3	0.08	-
4.	Gabion (3 cum.)	150	0.01	-
5.	Spillways	15	0.01	-
6.	Bunding	3 km	Rs. 27/rm	-





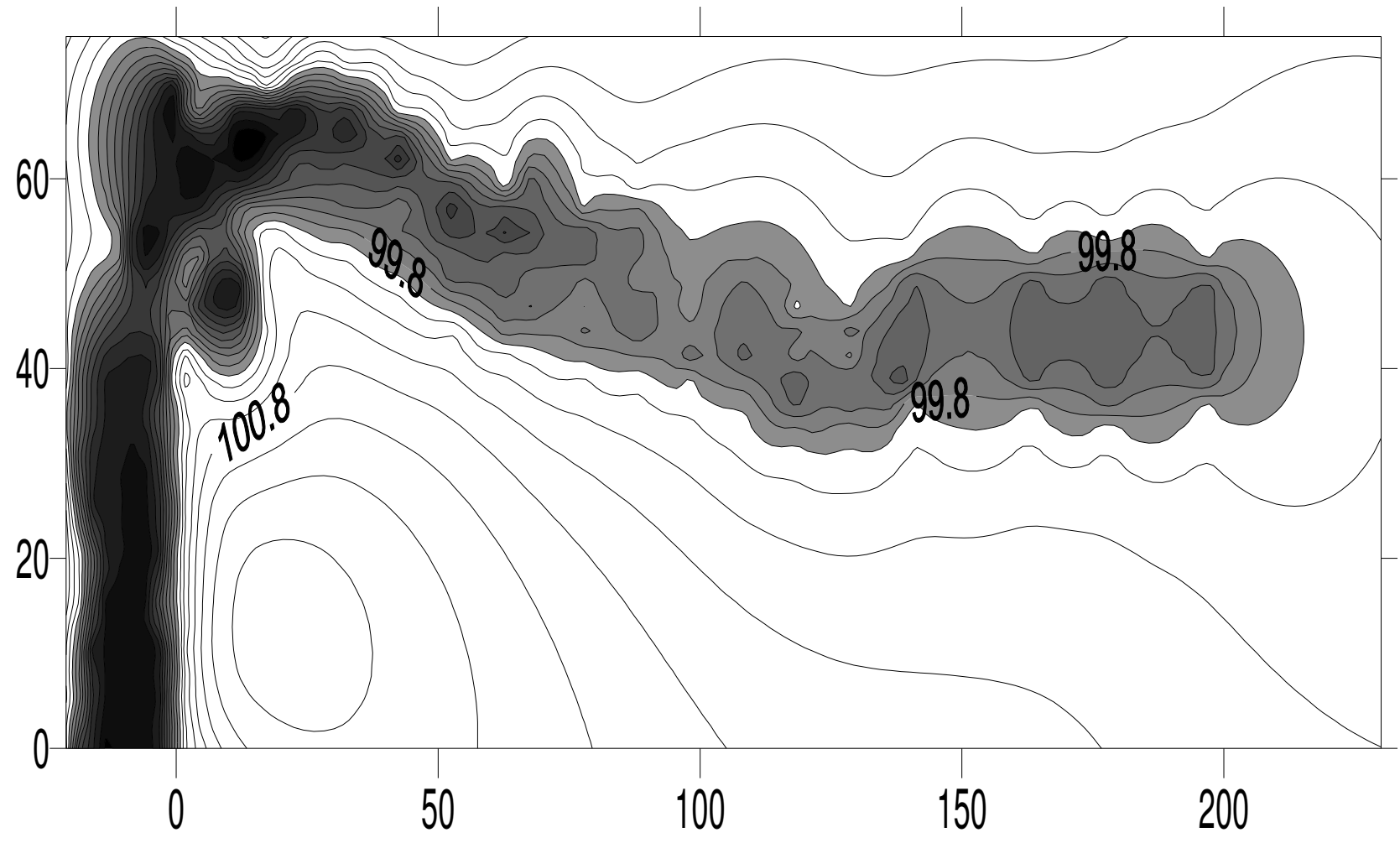
RUNOFF CHARACTERISTICS

<i>Water-shed</i>	<i>Peak discharges (ls⁻¹ha⁻¹)</i>	<i>Runoff ('000 lit ha⁻¹)</i>	<i>Runoff (% of annual rainfall)</i>
<i>Treated</i>	<i>63.8</i>	<i>2237</i>	<i>17.6</i>
<i>Un-treated</i>	<i>74.7</i>	<i>3419</i>	<i>26.9</i>

Soil (t ha⁻¹) & nutrient loss (kg ha⁻¹)

<i>Watershed</i>	<i>Soil Loss</i>	<i>Total N loss</i>	<i>Total P loss</i>
<i>Treated</i>	<i>6.57</i> <i>43%</i>	<i>7.35</i>	<i>4.97</i>
<i>Untreated</i>	<i>11.56</i>	<i>12.9</i>	<i>8.54</i>

CAPACITY SURVEY OF SHIVRAMPUR CHECKDAM



RAIN WATER HARVESTING CAPACITY OF DIFFERENT CHECKDAMS

Checkdam	Catchment (ha)	March 2007	March 2009	Sedimentation
Kundar	92	2688	2624	64
Bhulote	156	4052	3951	101
Tizzupal	628	-	5327	-
Babulal	52	-	1438	-
Tularam	154	-	2302	-
Chintu	232	942	909	33
Dharamdas	406	2711	2670	41
Shivrampur	857	3795	3743	52
Hanumant	297	1323	1133	190

EFFECT OF WATERSHED MANAGEMENT ON OPEN WELLS

Rise in water level on March 2010 over March 2008 (m)	No. of Wells
<1	9
>=1	96
>=2	85
>=3	63
>=4	42
>=5	8
>=6	2

Rainfall	
Year	Amount (mm)
2004	491.3
2005	440.3
2006	375.2
2007	554.8
2008	1274.0
2009	767.0
Av.	971.0

Volume of water stored and cost per unit storage in check dam

S. N.	Water storage (m³)	Area of water impounding-m²	Construction cost (Rs. in lakh)	Cost of water storage (Rs. /m³)
1.	910	1898	1.20	132
2.	2671	7185	2.36	88
3.	2624	4507	2.22	85
4.	3952	5696	2.10	53
5.	5328	7355	2.41	45
6.	2303	2747	2.67	116
7.	1438	2885	0.82	57
8.	3743	5554	4.61	123
9.	1134	2475	1.35	119
Total	24103	40302	19.74	82

CHANGE IN PRODUCTIVITY OF MAJOR CROPS (Kg/ha)

Crop	Within watershed				Control watershed (2009-10)
	2009-10	2008-09	2007-08	Baseline data	
Wheat	3260	2845.4	1650	1800	2520
Gram	1130	1189.5	900	1000	1000
Pea	1735	1622	900	1200	1430
Mustard	1540	1403.6	800	900	1180
Sorghum	1400	1245	850	800	1155
Groundnut	1415	1320	1100	1000	1200

CHANGE IN CROP ACREAGE AND CROPPING INTENSITY

Particulars		Net Cultivated Area (ha)	Cultivated Area-Kharif (ha)	Cultivated Area-Rabi (ha)	Gross Cult. Area (ha)	Cropping Intensity (%)
Within Ws	2009-10	296	153.2	292	445.2	150.4
	2008-09	296	65.12	278.97	344.09	116.3
	2007-08	296	30	24.2	54.2	18.3
	Baseline data	296	70	135	285	69.3
Control WS-2009-10		108	22	93	115	106.5
Outside ws-2009-10	Hati	1600	340	1235	1575	98.4
	Nota	1900	415	1390	1805	95.0

GRASS PRODUCTION FROM WS

Land use	Total area (ha)	Effective area for forage production (ha)	Dry forage productivity (t/ha)		Total dry forage production (t)	
			2005-06	2009-10	2005-06	2009-10
Scrub land	32	12.8	0.87	1.73	11.13	22.14
Forest land	463	92.6	1.23	2.25	113.89	208.35
Along water course	46	15.2	2.51	5.40	38.15	82.08
Field bunds	296	8.9	2.38	4.82	21.18	42.89
Total	837	129.5	-	-	184.36	355.47



TANGIBLE BENEFITS

- **Improved variety seeds being used by 67% farmers in WS as against only 18% outside the WS.**
- **Net saving of 10.1 t wheat seed from WS on account of reduced seed rate from 175 ha wheat cropped area with 50% adoption rate (traditionally seed rate of wheat was 240 kg/ha it came down to 125 kg/ha with water availability and demons.).**
- **6000 MPTS planted along Nallah help in NR conservations**
- **Ber topworked bearing fruits.**
- **Trained person earning livelihood from top working of fruit plants.**



- *No. of dry wells in 2010 reduced to 2% from 86% in year 2006. Surface water available round the year against 4 months earlier.*
- *CI increased to 150% from mere 69%*
- *AF is visible*
- *Vegetable cult. started as commercial venture*
- *Migration reduced and composition altered*
- *Fodder availability increased*



**BUDDER BER
PLANT**

TANGIBLE BENEFITS

One women SHG in watershed has accrued assets worth Rs.35,000/- while other Rs. 25,000/- in a span of 3 years and both SHG have become self reliant in terms of small credit needs.

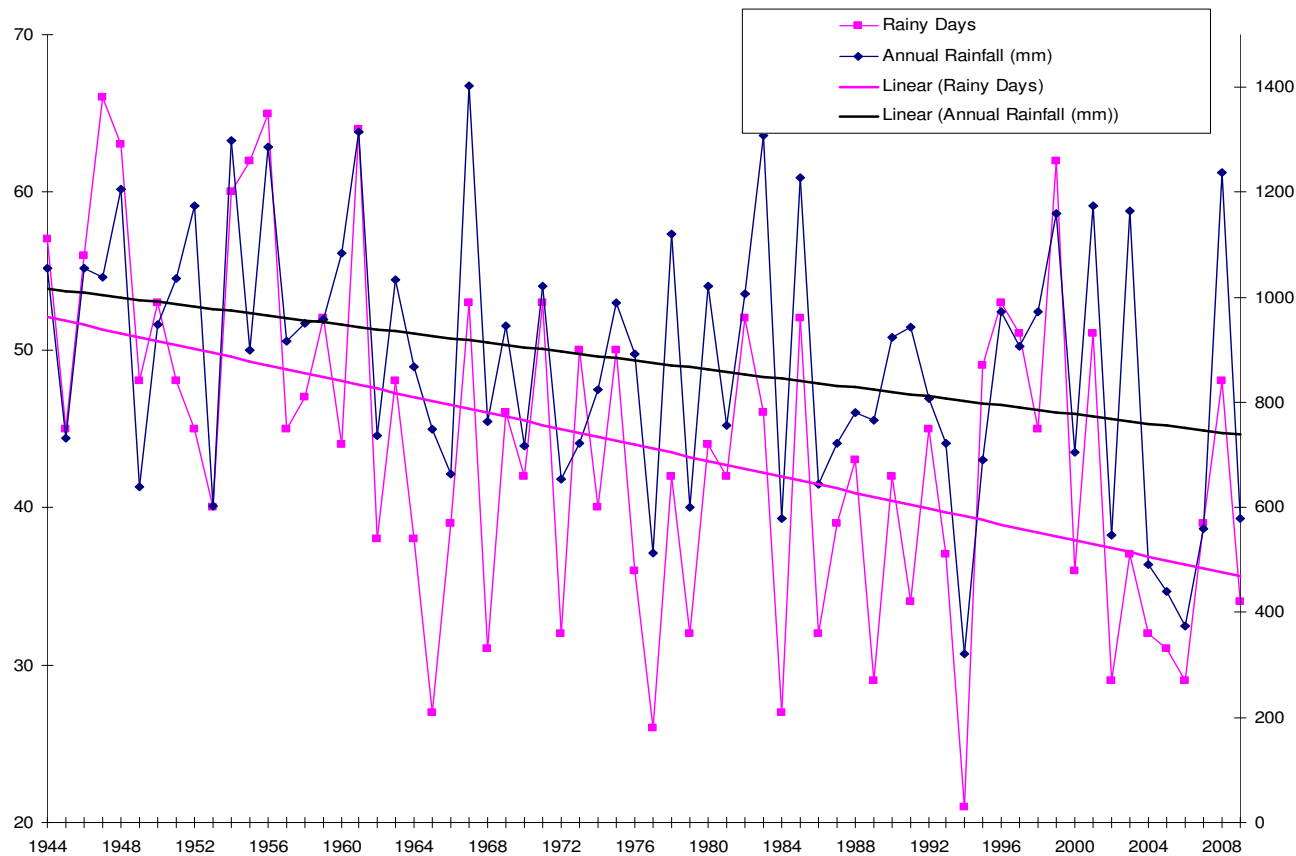
- In 2006-07, 7000 mandays employment created through construction activity and adoption of AF interventions.**
- In 2007-08, 7500 additional mandays created due to increased cropping intensity, crop demonstrations, AF interventions,**



MIGRATION SCENARIO IN WS

Particulars	2007-08	2008-09	2009-10
Total sample popn.	1985	2004	2010
Total migrated popn.	576	260	181
Male	334	155	134
Female	242	105	47





Integration of AF technologies with NRM ensures livelihood opportunities and drought mitigation strategies for the region.

Even with deficit rainfall by about 50%, water crisis in drought prone region can be averted.

**REVIEW MEETING ON
SPECIAL PACKAGE FOR
BUN'ND By Planning
Comm. & NRAA-
14.05.10**



A CASE STUDY

Watershed management in drought-prone Bundelkhand region

Garhkundar-Dabar in Tikamgarh district of Madhya Pradesh is a true representative of Bundelkhand region and one of the most disadvantaged districts identified by Planning Commission, Government of India. The NRC for Agroforestry, Jhansi, an ICAR unit, has started a watershed development programme during 2005–06 in participatory mode. This watershed comprises 3 village panchayats (partially) and inhabits 895 human and 2,648 animal populations. About 72% farmers are marginal land holders and majority belongs to OBC (50%), SC (28%) and ST (16%).

Conservation measures in watershed included construction of 8 check dams in series of approximately 10 km length in the *nallah*. These check dams were constructed on third and fourth order streams. In addition, 150 gabion structures of various sizes were laid down in first and second order streams, so as to check silt inflow in main water course. Three *khadins* (water spreader) were constructed in depression to check concentrated flow of runoff. About 40 ha of land was protected by construction of marginal bunds along *nallah*. These bunds were provided with proper spillways (15 nos.) to safely drain excess runoff.



In addition to mechanical measures, plantation of about 6,000 multipurpose trees was made along the *nallah*, 12 different agroforestry models were introduced at the farmer's field (6.5 ha) along with suitable crop demonstration for dissemination of technologies. Further, for the additional livelihood support, lac cultivation and value-addition to the system through natural resin and gum were also introduced. Local variety of *ber* was improved through budding which yields additional income. Four Self-Help Groups [(SHGs) (2 men and 2 women)] were formed and exposed to other successful SHGs for getting confidence and capacity building. They have started activities like *agarbatti* making, earthen pots making, goat rearing, *murti* making, hiring diesel pump and cooking vessels, aquaculture etc. Two of the woman SHGs have net asset value of Rs 31,856 and 25,000, respectively as on date in a span of 3 years and both of them have become reliant in terms of small credit requirement.

During this year when rainfall is below normal (24%), there is sufficient surface (24,000 m³) and sub-surface water (all 107 open wells are filled with water) harvested in the watershed, whereas more than 90% wells are dry outside the watershed in nearby villages. Watershed development programme increased the cropping intensity (96–116%) vis-à-vis productivity and generated employment for 7,500 man-days.



SUCCESS STORIES: SS1

Garhkundar-Dabar Watershed project: A successful model for water conservation in Bundelkhand region

New Delhi (Source: NAIP – Mass Media Project, DIPA)
A water conservation model for the drought prone Bundelkhand region has been successfully developed and tested in Garhkundar-Dabar area by the ICAR scientists at



कृषि वानिकी ने लौटाई धनी राम की मुस्कुराहट



कृषि वानिकी के सहारे धनी राम ने सालभर प्राप्त की उपज

धनी राम कुशवाहा उर्फ धनुआ गांव उबारो, तहसील निवारी, जिला टीकमगढ़ मध्य प्रदेश का एक किसान है, जिसके पास गांव से दूर जंगल के पास चार एकड़ क्षेत्रफल का खेत है। उसका खेत कम उपजाऊ, लाल मिट्टी की और कम पोषक तत्व वाला है। यही उसके जीवन-यापन का एकमात्र स्रोत है। पुरानी खेती के तरीके तथा लगातार सूखे के कारण उसकी ज्यादा कमाई नहीं हो पाती थी। सालाना 14,000 रुपए की कमाई से वह बहुत मुश्किल से गुजर बसर कर पाता था।

उसे जानकारी मिली कि कृषि वानिकी संस्थान का राष्ट्रीय अनुसंधान केंद्र एक कार्यक्रम के माध्यम से जल संग्रह, फसल प्रदर्शन और कृषि वानिकी की जानकारी दे रहा है। धनीराम ने संस्थान से संपर्क करके अपनी खेती देखने का अनुरोध किया। उसने अपने खेत के लिए कृषि वानिकी प्रणाली अपनाने का निर्णय लिया। वर्ष 2006 के खरीफ के मौसम में एक एकड़ भूमि में प्रदर्शन के लिए उसे कौशल नामक प्रजाति के मूंगफली के बीज और संतुलित मात्रा में उर्वरक उपलब्ध कराए गए। इस तरीके से उसने 6 क्विंटल मूंगफली का उत्पादन किया, जो उसकी खेती करने के पुराने तरीके से हुई पैदावार से 1.5 गुना अधिक थी।

उसके बाद रबी के मौसम में अपने चार

एकड़ खेत में गेहूं बोए। इसमें से एक एकड़ खेत पर उसने डब्ल्यूएच-147 प्रजाति के बीज तथा उसके अनुसार बताए गए उर्वरकों का प्रयोग किया।

तीन एकड़ खेत पर संस्थान द्वारा अमरूद और नीबू के पेड़ लगाए गए, जिसमें 68 अमरूद (इलाहाबाद सफेदा) और 42 नीबू (कागजी) के पौधों को 6 गुणा 8 मीटर की दूरी पर लगाया गया। गोबर की खाद के अनुप्रयोग, पानी देने और खाद देने के खर्च को किसान ने खुद वहन किया। खरीफ और रबी के प्रदर्शन में मूंगफली के कौशल और गेहूं के डब्ल्यूएच-147 प्रजाति के बीज तथा सही मात्रा में खाद का प्रयोग किया गया।

वर्ष 2007 के दौरान धनी राम के खेत के पास बनाए गए चेक डैम का पानी ओवर फ्लो हो गया। इसके फलस्वरूप कुएं के पानी का स्तर 2 मीटर बढ़ गया। पहले ही साल में फसल की वजह से उसकी आय दोगुनी हो गई।

उसको सड़क के किनारे बोनो के लिए लसोड़ा के बीज दिए गए तथा खेत को एक तरफ से सुरक्षित रखने के लिए करोंदे के पौधे लगाए गए, जबकि जंगल वाले हिस्से को सुरक्षित करने के लिए टीक के पौधे लगाए गए। नाले के दूसरी तरफ कृष्णा प्रजाति का आंवला पौधा लगाया गया और नाले के दूसरी तरफ उपलब्ध

आधे हैक्टर भूमि में उसने मीठी मिर्च बोई।

अच्छी वर्षा, भरपूर मात्रा में कुएं का पानी और एक साल पुराने उन्नत गेहूं के बीज की वजह से 35 क्विंटल/हैक्टर की गेहूं की बम्पर पैदावार हुई। रबी की फसल के बाद उसने बैंगन, करेला, मिर्च आदि को 0.2 हैक्टर भूमि पर उगाया, जिससे उसको गर्मी में नियमित आय मिली।

वर्ष 2009 में वह चेक डैम फिर से ओवर फ्लो हुआ और खरीफ और रबी की बम्पर उपज हुई। अमरूद के पेड़ों ने इस दौरान 2 क्विंटल फल दिए, जिससे उसकी नियमित आय में काफी बढ़ोतरी हुई। खेत के एक छोटे से हिस्से (50 वर्ग मीटर) में उसने बैलों के चारे के लिए घास उगाई। रबी 2009 के दौरान उसकी खेत पर 21 प्रकार की फसलें, सब्जी, मसालें और फल लगे वह अपने खेत को बिना फसल लिए नहीं छोड़ रहा था। खेत को उपजाऊ बनाने के लिए उसने जैविक खाद का प्रयोग किया। इससे उसके परिवार को पूरे साल नियमित काम तथा आय मिली। वह पिछले दो साल से अपनी खेती से 40-50 हजार रुपए प्रतिवर्ष की कमाई कर रहा है। इसकी वजह से धनी राम की मुस्कुराहट वापस लौट आई है।

Thursday, November 26, 2009 - New Delhi - Today's Issue



City Nation Edit Op-Ed Business World VivaCity Avenues Sports Columnists Forecast **Editor**

STATE EDITIONS | Bhopal Bhubaneswar Ranchi Kochi Lucknow Chandigarh Dehradun **SUNDAY PIONEER** |

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NRCAF scheme to fight water scarcity in Bundelkhand

Santanu Banerjee | New Delhi

Spurred on by clearance of a special package for Bundelkhand region, the National Research Centre for Agro-Forestry recommend its watershed experiment in the 13 drought-prone districts of the region to tackle water scarcity there.

As the problems in Garhkundar-Dabar in Tikamgarh district of Madhya Pradesh were identical — water scarcity, low prodn industry, lack of employment and low education status — to that in Bundelkhand, the experience gained there would be ut problems of water scarcity and alleviating poverty levels, sources said.

A report submitted by NRCAF to the Indian Council of Agriculture Research (ICAR) recently, a little before the special Cab 7,266 crore last week for the overall development of seven districts of Uttar Pradesh and six districts of Madhya Pradesh, is developing watershed programmes for the entire red soil area which is 'red, rocky, shallow with low water holding capacity'.

Speaking to The Pioneer Dr SK Dhyani, Director, NRCAF, said, "As this happens to be the dominating soil position of Bunde recommendation should be included in the water development projects in the area which has the chronic water scarcity probl and otherwise."

Incidentally, 44 per cent area dominated by black soil is prone to waterlogging and suffers from constriction and expa stickiness and cracks on drying. While the report says black soil makes agriculture operation difficult, "but we are working out to get rid of these operational problems," said Dr Dhyani, adding, "We concentrated on the major and most dominating nature

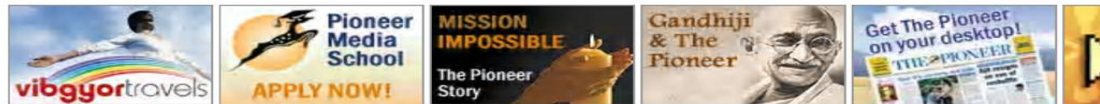
So far, Garhkundar-Dabar area watershed project covering an area of 850 hectares benefited about 191 households having a 891. Sources said this "area however is only a fraction of the 7.16 million hectares and this watershed programme need to l basic problem of water scarcity has to be addressed."

However, it is not known yet if the recommendations of the NRCAF would be incorporated in the Cabinet approved special pac

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REPLICABILITY ?

Techniques developed and successfully tested in GKD can be replicated in B'k region particularly in red soil.

SWC and AF techniques are location specific, site specific changes may be done in accordance with soil type and irrigation facility.

Adoption of technology will arrest soil erosion and also resolve drinking water crisis and increase irrigation facility.

AF dev. can enhance biomass production by 3 folds besides drought proofing.

Farmers income and stability can be improved.

Forest wealth can be saved and improved.

***SITE OF LEARNING
DOMAGOR PAHUJ WS, JHANSI***

**MODEL WS FOR SUSTAINING AGRIC.
PRODUCTIVITY & IMPROVED
LIVELIHOODS-
DOMAGOR PAHUJ WS, JHANSI**



सत्यमेव जयते

Ministry of Agriculture, Govt. of India



Convergence of development schemes-

**DISTT. ADMINISTRATION & UP
STATE DEPTTS.**

Particulars	Garhkundar-Dabar WS	Domagor Pahuj WS
Virginity	No works by any agencies except two completely damaged checkdam	10-15 years before field bunding and checkdam were constructed in pockets
Community	Dominated by OBC then SC, ST	Dominated by OBCs, General & SC
Education (Graduate)	0.4%	6%
Socio-economic condition	Very poor	moderate
Accessibility to market	Very poor	Good (25 km from Jhansi)
Accessibility to govt. deptt.	Nil	Poor
Migration	Huge and frequent	Almost nil
Farmers response to technology adoption	Very poor	Good
Soil erosion	Severe erosion due to multidirectional slopes	Medium soil erosion due to field bunding
Water resources	90% dry wells during summer season	60% dry wells (only support drinking water)
Availability of drinking water	Severe crisis during summer	No crisis for drinking water
Avg. land holding	1.55 ha	1-1.25 ha
Productivity	Very poor (wheat-18 q/ha) due to lack of input (no water available at milking stage to wheat)	24 q/ha Irrigation water availability is not good but its better than Garhkundar
Farm mechanisation	Very poor	Moderate
Cultivated area (%)	35	71

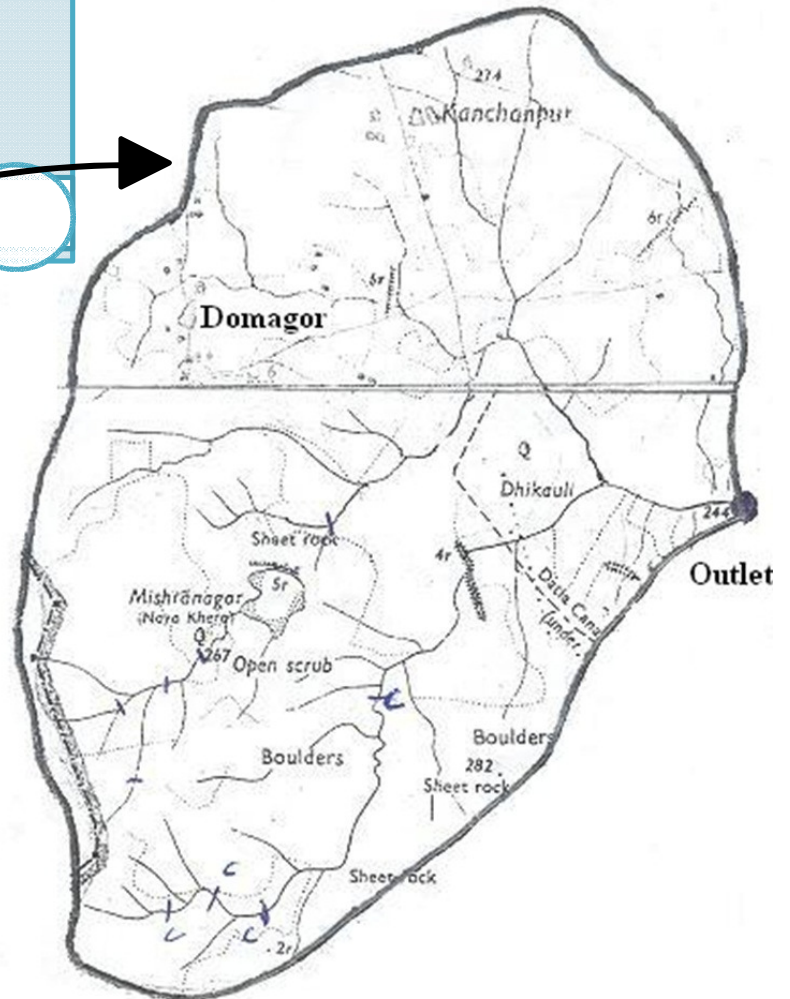
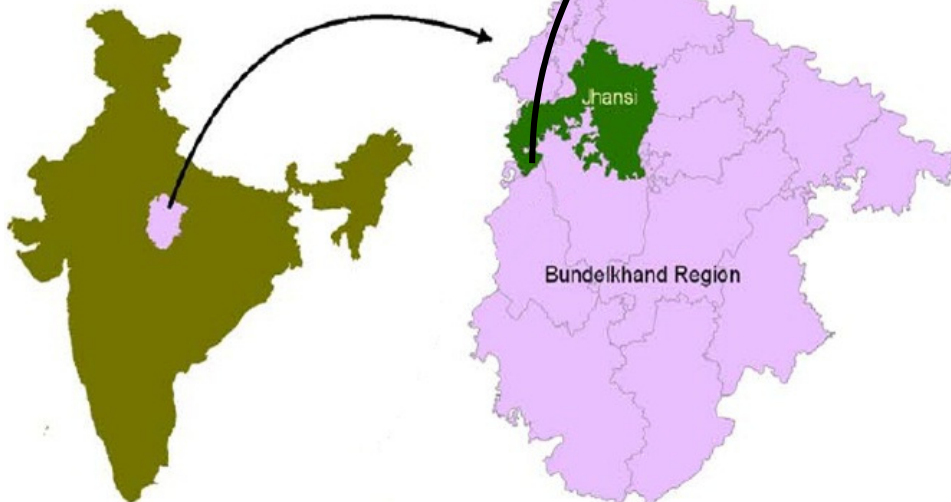
Domagor-Pahuj at a Glance..

- Latitude : 25°28' to 25°31' N
- Longitude : 78°25' to 78°28' E
- Area : 1646ha

Location

- Cultivated Area 960 ha
- Forest Area 154 ha
- Drainage 170 ha
- Degraded 193 ha
- CPR 107 ha
- Other 62 ha

Land Use



Objectives



Improve rural
livelihoods on
sustainable
basis



Establish model
site of learning
for Semi-Arid
Areas



Build
capacity of
stakeholders

Clear cut work allotment to Consortium Partners

Interventions...Human Resource Development

Capacity Building Trainings

- Zizyphus budding
- Nursery techniques
- Vermicomposting
- Integrated Pest Management (IPM)



Exposure Visits

- Dabur WS, Garhkudar: 45 farmers
- Jain irrigation, Jalgaon: 10 farmers
- Krishi mela: 3 farmers
- ICRISAT Hyderabad: 5 WC members

HRD Continued..

Watershed committee (regd)

- 1 WC (2 *Gram Panchayats*)
- 23 members (10 Female & 13 Male)
- Representatives from UGs and WSHGs
- 1 member from each *Gram Panchayat*
- President & Secretary of WC elected by the people in open gram sabha

User Groups

- 14 groups formed
- Each comprises of about 100 ha of land
- Managing water-harvesting structures

Self-Help Groups

- 22 Women SHGs, mainly homogenous groups
- Average membership- 10
- Revolving fund of Rs. 15000 from WC to nursery group
- Activities- Vermi-composting, Nursery raising, vegetable growing etc

Crop Demonstrations & SWC measures



Kharif trials



Rabi Trials



Capacity Building: - Trainings.....



**Convergence of Development schemes with
Domagor- Pahuj Model Watershed Project
[01 Dec., 2010, Camp Office, DM, Jhansi Residence]
CONVERGENCE OF DISTRICT DEVELOPMENT SCHEMES UNDER MNREGS**

S.N.	Item proposed	Quantity/ Nos.	Amount in lakhs	Remarks
1	C/O Checkdam	13	57.50	Water availability
2	Desilting of existing pond	04	3.75	NRM activities
3	Renovation of outlet of haveli	02	6.00	NRM activities
4	Field Bunding with minor levelling	94.5 acre	1.68	For BPL households
5	C/O Farm Pond along with inlet and outlet	03	4.50	-do-
6	C/O wells	03	6.00	-do-
	Total		79.43	

PROPOSAL UNDER DEPT. OF Agriculture/NHM

S.N.	Item proposed	Quantity/Nos	Amount ` in lakhs	Remarks
1	Micro irrigation	13	6.50	Small and marginal farmers
2	Green House	02	0.27	Nursery development
	Total		6.77	

RECOMMENDATIONS

- **Assured water (surface & sub-surface) for drinking & irrigation through integrated WSM**
- **Low cost Checkdam**
- **Gabions for stabilization of gullies and self life of water bodies**
- **Significant increase in food and fodder production, checks migration**
- **Crop diversification increases employment avenues**
- **Rainfall of 500-600 mm is sufficient**

BUNDELKHAND PACKAGE

Details of WS Programme in Bundelkhand Region

1.	Name of Departments working on watershed development	RamGanga Command (Dept. of Land and Water Resources Development), UP
		Soil Conservation (Dept. of Ag.), Uttar Pradesh
2.	Area to be treated on watershed basis in UP part of Bundelkhand region	7 lakh ha.
		RamGanga Command- 6.75 lakh ha Soil Conservation: 0.25 lakh ha
3.	Rate of Treatment	₹ 12000/ha
4.	No. Units of RamGanga Command in each district of UP part of BR	6 units headed by Soil Conservation Officer (Avg. 10 manpower/unit)
5.	Approximate No. of watersheds (2009-10, 2010-11, 2011-12)	1000 ₹ 7266 crores [₹ 1020 crore UP portion]

हिन्दुस्तान, 26 जुलाई 2010

बूंदों में बहे किसानों के अरमान

मामूली बरसात में ही भरभराकर बह गया तीन साल पहले निर्मित चेकडेम जलसंरक्षण के प्रयासों को लगा तगाड़ा झटका

कार्यालय संवाददाता

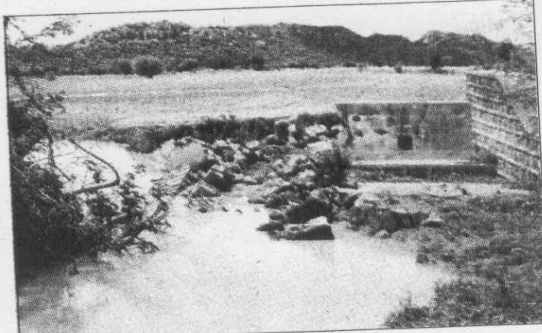
महोबा

चार लाख की लागत से कोई तीन साल पहले निर्मित चेकडेम हल्की बरसात में ही भर-भराकर बह गया। चेकडेम बह जाने से जल संचयन और संरक्षण के प्रयास यहां फिर धूल-धूसरित हो गए तो किसानों के अरमानों पर भी पानी फिर गया। कार्यदायी संस्था के जिम्मेदार अधिकारी मामले में अब मुंह चुराते घूम रहे हैं। मामले की जाँच कराए जाने और दोषियों के खिलाफ कार्रवाई किए जाने की बात को कहकर एक बार फिर अनियमितताओं पर पर्दा डालने की कोशिश की जा रही है।

अनाड़ी विभागों को काम सौंपकर गुणवत्ताहीन और घटिया निर्माण कराए जाने की जिले में चल रही परम्परा के परिणाम सामने आने लगे हैं। कुलपहाड़ से महोबा मार्ग पर पाँच किलोमीटर की

दूरी में लाडपुर के निकट सड़क किनारे किसानों के खेतों के बीच ढालदार स्थान पर वर्षा, जल संचयन और संरक्षण की दृष्टि से चेकडेम तैयार करने का काम तीन साल पहले जलनिगम द्वारा किया गया था। लगातार कई वर्षों से सूखा पड़ने के चलते निर्मित हुए इस चेकडेम में बीते सालों में पानी की एक बूँद भी संकलित नहीं हो सकी। किन्तु अबकी बार बारिश ने कुछ उम्मीदें जगाईं तो यह चेकडेम ही जवाब दे गया। सप्ताह भर से रोजाना हो रही छिट-पुट वर्षा में इसमें थोड़ा सा पानी ही अभी संग्रहीत हुआ था कि शनिवार को यह भर-भराकर ढह गया और पानी के साथ बह गया।

चेकडेम बह जाने की इस घटना में सबसे महत्वपूर्ण तथ्य तो यह है कि पानी से कच्ची मिट्टी वाले क्षेत्र में कहीं कोई नुकसान नहीं हुआ। अलबत्ता चेकडेम की वह पक्की दीवार ही धरासायी हुई, जिसके निर्माण के दौरान तब ग्रामीणों द्वारा मानक विहीन घटिया कार्य कराये जाने की शिकायत करते हुए विरोध किया गया था। ग्रामीणों का आरोप था कि पक्के कार्य में प्रयुक्त की गयी सामग्री को सही अनुपात में नहीं लगाया गया। चेकडेम के निकटवर्ती खेतों के मालिक दीनदयाल, बद्रीप्रसाद, राममिलन, सुनुआ



बूँड हुआ किसानों के अरमानों का खून । • हिन्दुस्तान

आदि ने कहा कि चेकडेम में पानी न ठहरने व भरते ही उसके ध्वस्त हो जाने की आशंका पहले से थी लेकिन कार्यदायी संस्था के लोगों ने किसानों की शिकायतों को कोई तवज्जो नहीं दिया। चेकडेम ध्वस्त होने की इस घटना में एक तरफ जहाँ शासन को इसके निर्माण में खर्च हुई चाल लाख की धनराशि की सीधे तौर पर चपत लगी है तो यहां जलसंरक्षण की उम्मीदों को भी गहरी ठेस लगी है। इलाकाई किसान चेकडेम

से आगे चलकर अपने खेतों की सिंचाई के लिए पानी मिलने को लेकर आशान्वित थे लेकिन उनकी भी मंशा धरी की धरी रह गयी। उधर मामले को लेकर जलनिगम के अधिशासी अभियंता का कहना है कि उन्हें पता नहीं कि विभाग द्वारा इस चेकडेम को कब तैयार कराया गया था। उन्होंने कहा कि फिर भी मामले की जाँच कराई जाएगी और दोषियों के खिलाफ कार्रवाई अमल में लाई जायेगी।



Reasons behind failure of rainwater harvesting

- Lack of knowledge and skill with some executive agency
- Improper site selection
- Faulty design (in majority of the cases structures are over designed)
- Quality and quantity were not maintained during construction of structures
- No provision of core wall in majority of earthen structures
- Lack of trained man power

How to overcome the problems ?

- Institutions having trained manpower and capability may be appointed as Nodal Agency for capacity building at different levels
- M & mid term E may be done by a competent 3rd party having experience of working in B'k region



