

Watershed Development Program(NWDPPRA),India

Integrated Dicholi Watershed Development Programme - Experiences

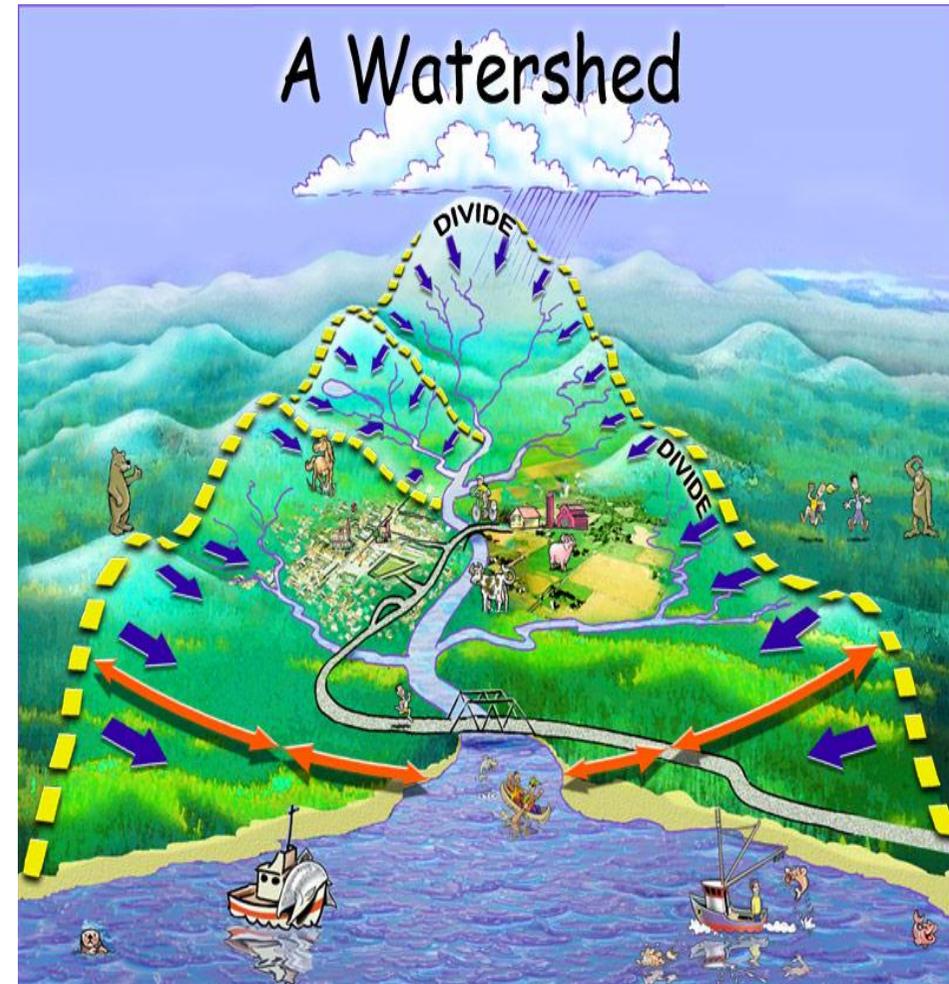
Presentation Outline

- Introduction
- Background on Watershed development programs in India
- Study Area
- Components of NWDPRAs Watershed program
- Preparatory phase of NWDPRAs
- Capacity Building
- Highlight on Implementation experience under the NWDPRAs
- Conclusions
- Highlight on problems faced during the implementation

Introduction

What is watershed?

The area of land that drains to a particular point along a stream. Each stream has its own watershed. Topography is the key element affecting this area of land. The boundary of a watershed is defined by the highest elevations surrounding the stream.



Changing FOCUS in the Policies...



RVP : Control siltation

**DPAP : Devt. of non-arable
and drainage lines**

**DDP : Arresting expansion of
desertification**

**IWDP : Arresting expansion of
desertification**

**NWDPRA : enhancing crop
productivity**

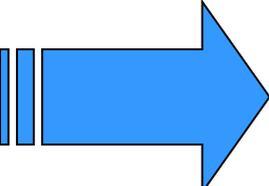
FFW : Relief in crisis

EAS : Employment guarantee

MoRD Guidelines :

- Participatory NRM
- Organizing community
- Focus on equity & livelihoods of the poor

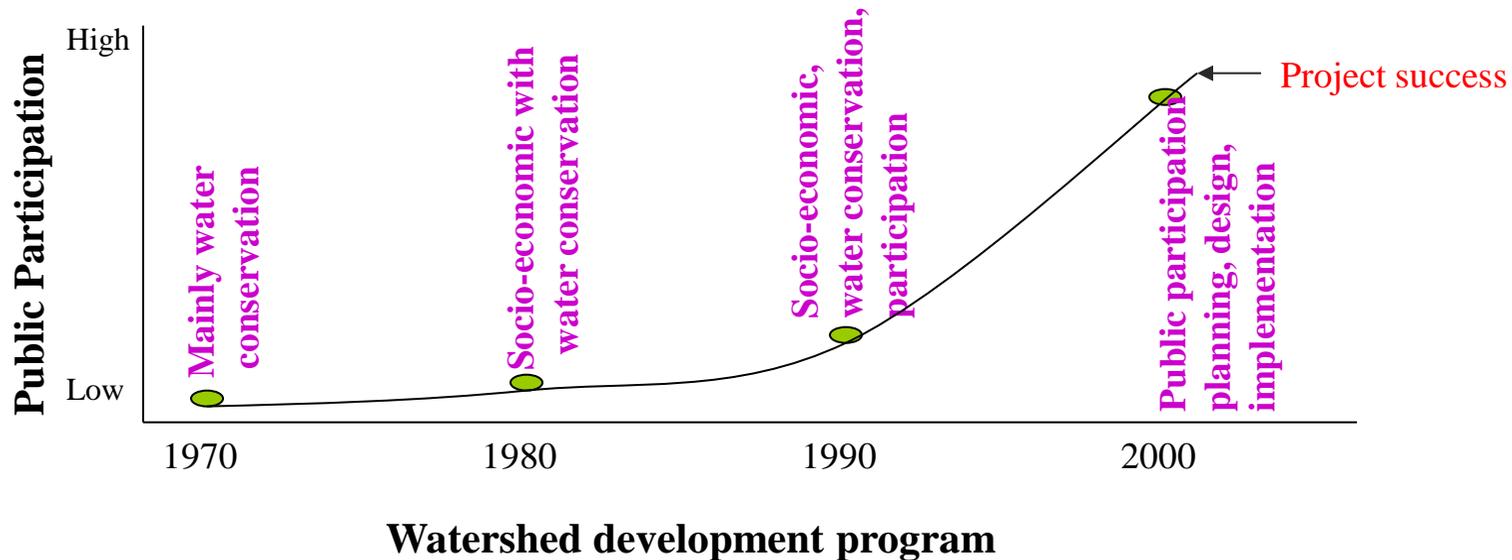
Hariyali – PRI



**Common Guidelines : NRM,
Livelihoods, Productivity**

Integrated Watershed Approach in India

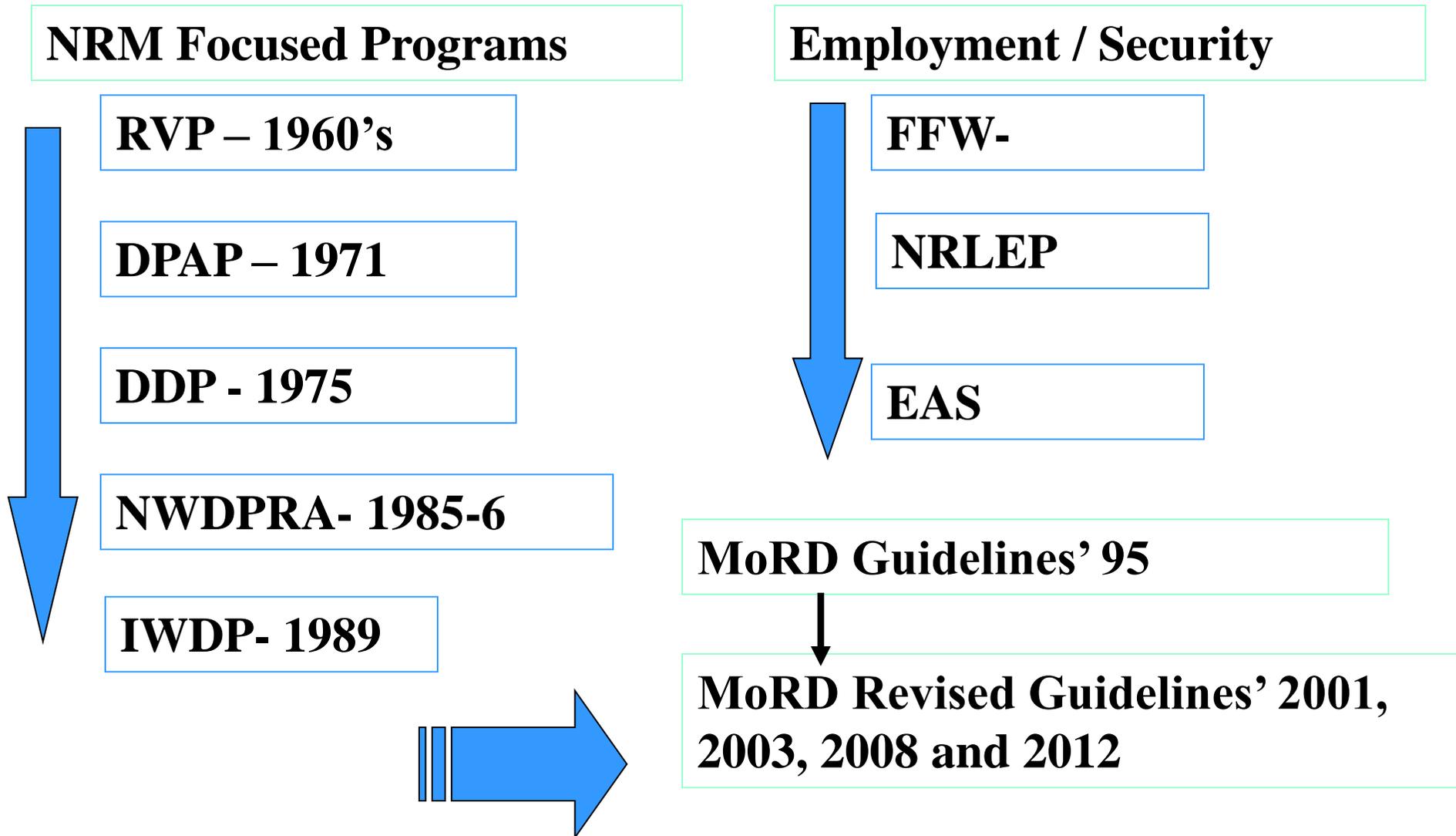
IWM is the process of planning and implementing water and natural resources an emphasis on integrating the bio-physical, socio-economic and institutional aspects.



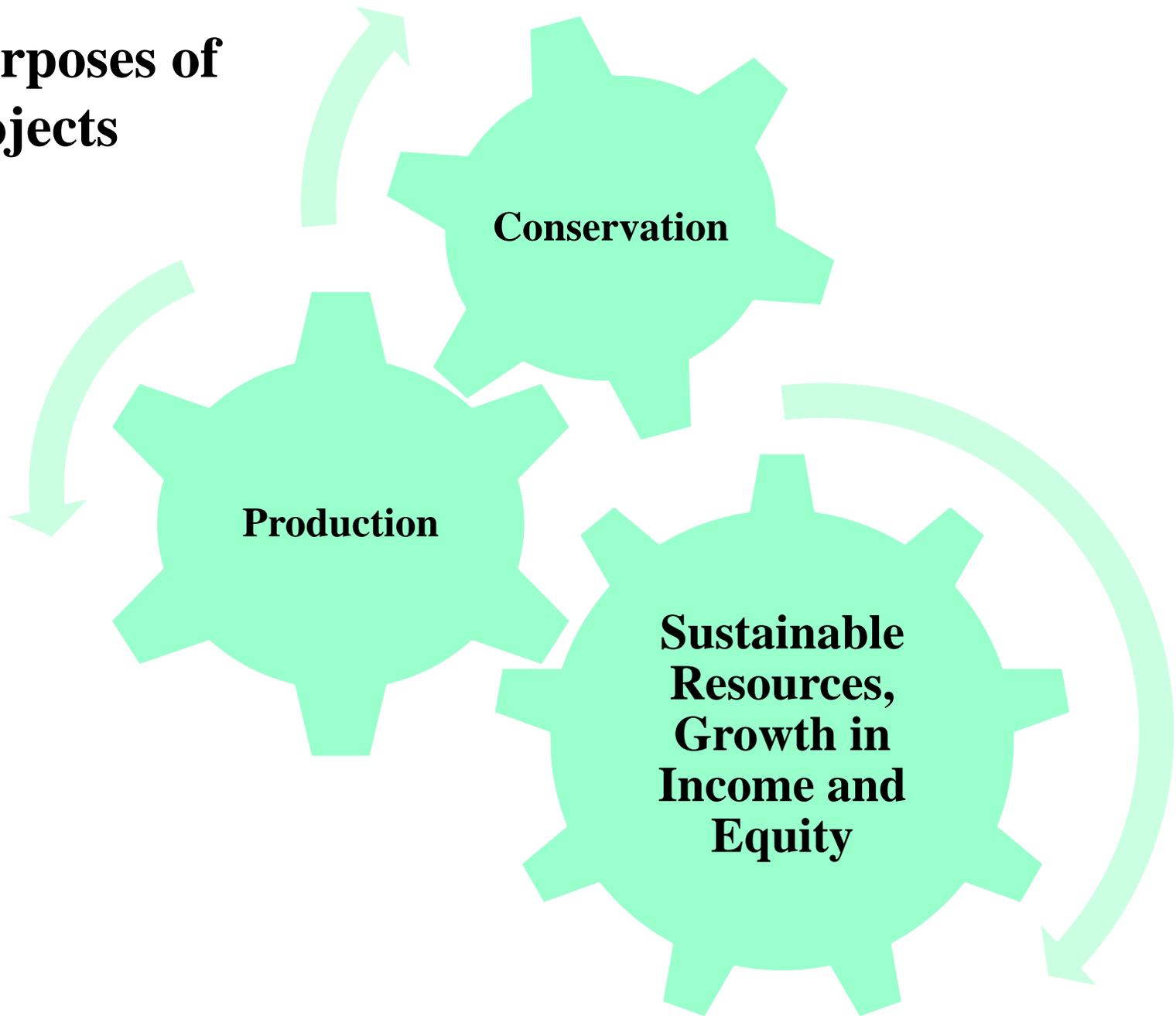
Social issues are addressed through involvement of women and minority.

Community led water users groups have led the implementation efforts.

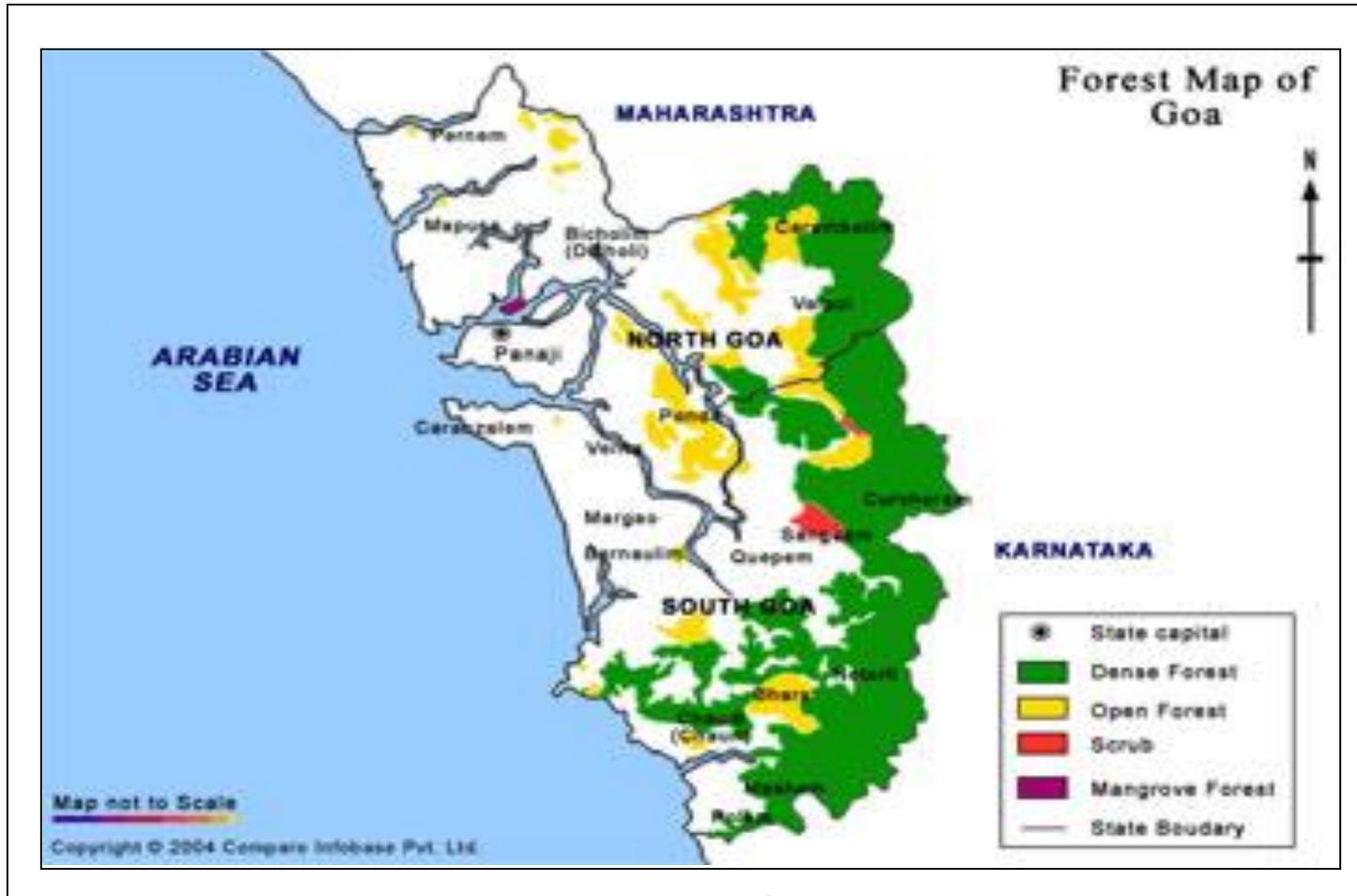
Convergences of Programs and Funds



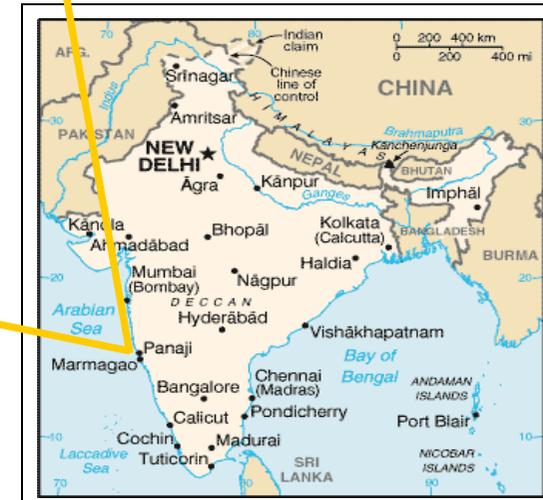
Main Purposes of WSD Projects



Locating Goa



- Western coast of India
- 3 major geographic regions
- Population: 3200,000 : Area: 3,700sq. km



Locating the Study Area

Map Showing Clusters Within Study Area



Across 3 sub-districts or “*talukas*”

Mining area in Goa: 18% of total land; 10% of population of Goa

Goan Iron-ore Industry

- Started in the late 1940s early 50s
- Privately owned companies
- Export-oriented
- 6%-8% share in global market
- Share in India's export of iron-ore is 60%
- Major foreign exchange earner



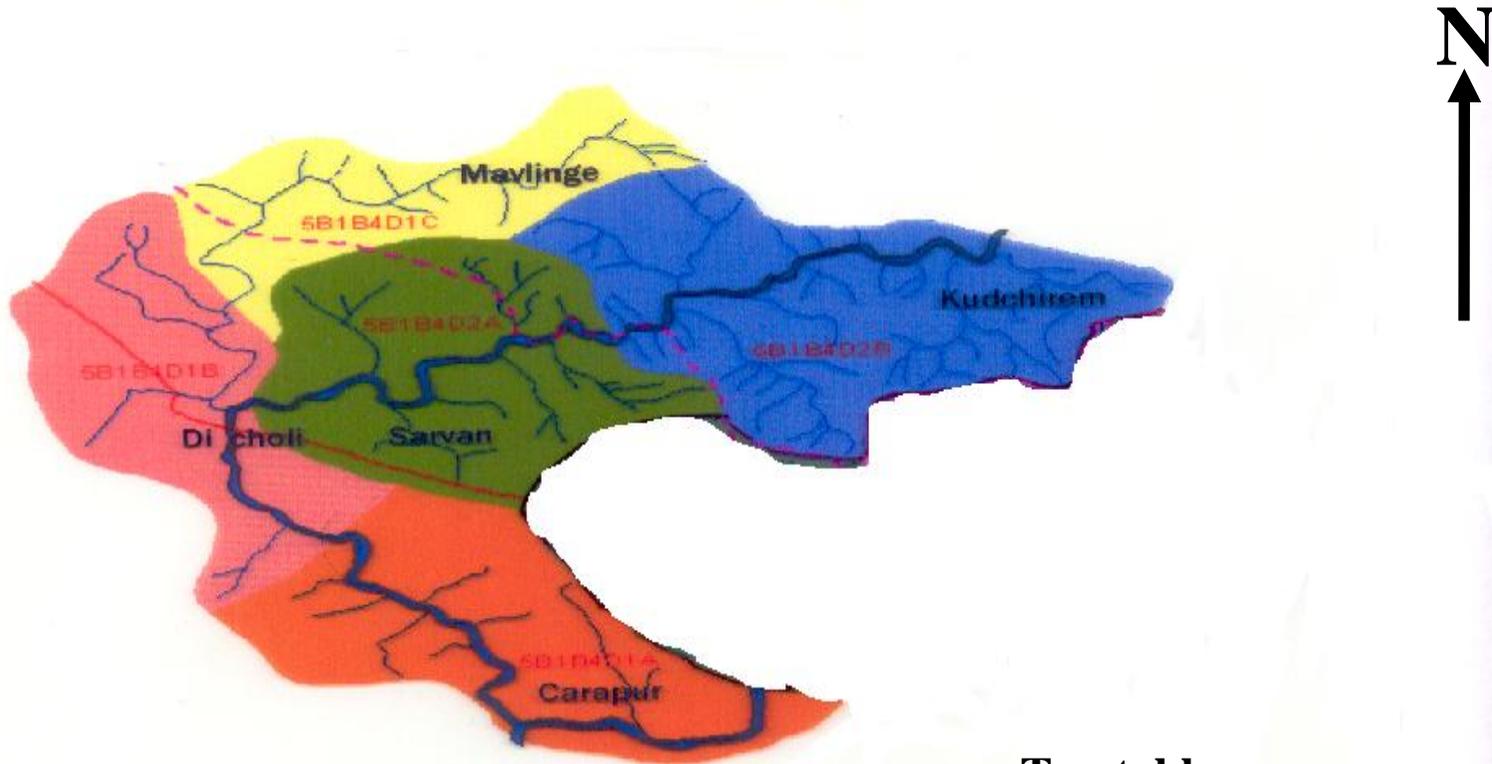
HOW?



Impact of degraded land on people

- Decreased agricultural yields
- Cessation of agricultural activities
- Loss of livelihoods and productive assets
 - Compensation Culture
- Brings about conflict/tensions in society, polarizes the community
- Makes community more prone to political manipulations

Integrated Dicholim Watershed Development Area, Bicholim Taluka, North Goa



Treatable area

- Mavelinge -412 Ha
- Bordem -635 Ha
- Sarvan -733 Ha
- Karapur -792 Ha
- Kudcherim -1100 Ha

Salient features of Dicholim watershed area

Description of the area	Units
Total area	3,955 hectares
Irrigation by source	50 hectares
Number of villages	05
Population 2001	19000
Total number of households	2514
Number of persons below poverty line (BPL)	400
Highest point above MSL (mts)	500
Lowest point above MSL (mts)	10
Length of watershed – North-South direction	10 kms
Length of watershed – East-West direction	8.5 kms

Source: Primary Survey, TERI, 2002

Objective

- ◆ To map, conserve, develop and manage land and water resources of the watershed in a sustainable manner
- ◆ To increase and stabilize agricultural incomes
- ◆ To enable water availability throughout the year
- ◆ To develop local capacity for community organization
- ◆ To create sustainable livelihood opportunities for rural communities, especially women
- ◆ To reduce migration to urban areas

Methodology

Phase I – Preparatory Phase
(DPR, Institution and CB)

Phase II – Watershed Works Phase
(NRM, LBE & Non LBE)

Phase III – Consolidation and
Withdrawal Phase



Why socio-economic survey ?

To analyze the following

- ✓ STRENGTHS
- ✓ WEAKNESSES
- ✓ OPPORTUNITIES
- ✓ THREATS

Socio-economic and Participatory indicators

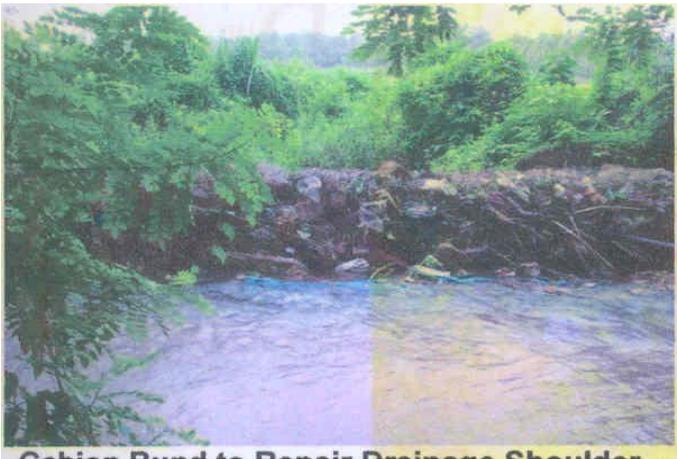
- Employment generation
- Income level
- Consumer durable and assets acquisition
- Land value improvement
- Village infrastructure development
- Community participation
- Credit utilization pattern
- Change in attitude and behaviour
- Technology adoption
- Capacity building
- Community institutions development
- Decision making in planning and monitoring of community institutions
- Legal awareness

Sources of Data/Information

Key informants	Knowledge base
Government officials	✓ Development strategies, macro level constraints
Extension/Developmental worker	✓ General situation, macro and micro level constraints
Research Worker	✓ Potentials and opportunities
Village elders	✓ Historical development, tradition, customs consensus
Priests	✓ Beliefs, taboos, religious obligations
Women	✓ Gender issues, decision making, family member role
Local business man	✓ Marketing channels, banking, loan condition
Traders and merchants	✓ Prices, trade regulations, transport, storage facilities.
Women farmer producers	✓ Socio-religious-cultural – economic constraints

Capacity Building

- ✓ Orientation of members of various management committees and institution heads
- ✓ Training of Project Implementation Agency / Watershed Development Team
- ✓ Training of office bearers of Watershed Association, Watershed Committee
- User Groups, Self Help Groups



Type of Activities Taken Up for Watershed Development Program Under NWDPRA

- Formation of Self Help Groups / User Groups
- Formation of Watershed Association
- Formation Watershed Committee
- Registration of Watershed Association under the societies registration act.
- Opening of Bank Accounts of Watershed Association
- Capacity Building of Watershed Development Team, SHGs / UGs and Watershed Committee members
- Opening of Bank Accounts of SHGs / UGs;
- Transfer of project fund to the bank account of Watershed Association;
- Preparation of annual action plan / strategic plan ;
- Execution of schemes by the Watershed Association on Natural Resource Management, Farm Production System, Livelihood Support System etc.

Soil & Water Conservation Measures Taken Up Under NWDPRA

- **Area Development** – Cultivable wastelands are developed to arable lands through bunding, levelling, bench terracing etc.
- **Water Resources Development** – Excavation / re-excavation of farm ponds, water harvesting structures, surface water bodies etc.
- **Removal drainage congestion** – To remove inundation in the coastal saline zone during rainy season to allow cultivation HYV instead of local.
- **Plantation** – Saplings of mango, guava, lemon and forest species are planted on the wastelands.

Table: Details on Population and House holds in Watershed villages (Number of Persons)

Village	Total Population	No. of HH	No. of BPL	No.of Wado
•Sarvona	2000	247	32	06
•Karapur	5200	915	155	10
•Kudhirem	3800	342	110	08
•Maveligem	1500	210	80	07
•Bordem	7000	800	---	05

Table: Details on Socio-economic Status across villages
(Number of Persons)

Village	Agri.Labours	Cultivators	HHI	Mining Quarry
Sarvona	50	157	36	46
Karapur	55	256	304	115
Mavelingem	51	185	18	21
Kudchirem	30	338	22	142
Bordem	51	109	338	83

Community Organisation

Formation of SHG'S (Details as on date)

- Karapur - 15 Self Help Groups (186 Families involved)
 - Mavelinge - 7 Self Help Groups (90 Families involved)
 - Kudchirem - 16 Self Help Groups (214 Families involved)
 - Bordem - 5 Self Help Groups (55 Families involved)
 - Sarvona - 8 Self Help Groups (82 Families involved)
-
- Total SHG'S formed = 51
 - Total number of members – 627
 - Total number of trained members - 350
 - Total Fund given under the watershed programme:12,19,840
 - Total Number of SHG's linked to Bank- 38

Formation of User Groups (As on date)

- Karapur -6 User groups (134 Families involved)**
- Mavelinge -7 User Groups (85 Families involved)**
- Kudcherim -7 User Groups (135 Families involved)**
- Bordem -6 User Groups (76 Families involved)**
- Sarvona -7 User Groups (87 Families involved)**

Total Number of UG's = 33

Total number of Families involved =517

Total number of trained members = 412

Formation of Watershed Associations

Watershed Associations have been formed & Registered Under Societies Act 1860 with District Registration Office, Panaji-Goa

Village	President	WDT (TERI)
• Karapur	Mrs. Aparnadevi Rane	Santosh
• Mavelinge	Mr. Milind Bhide	Santosh
• Kudchirem	Mr.Savlo Gaonkar	Santosh
• Bordem	Mr.Babi Pal	Santosh
• Sarvona	Mr. Rayu Sawant	Santosh

•

List of Entry point Activities (Rs. 8.0 Lakh)

<i>micro-watershed</i>	<i>Activity</i>	<i>Amount (in Rs)</i>	<i>Employment generated</i>
Bordem	1.Fixing of gate	6882	09
	2. Barbed wire fencing	18000	90
Sarvona	1.Construction of plat farm at Vavty	22450	112
	2.Construction of Foot path at Sarvona	26200	131
Mavelinge	1.Repair of well at Harijhan wada	1904	10
	2.Repair of well at Gadiwada	5818	29
	3.Repair of well at Paltadwad	6390	32
	4.Desilting of Nala at Ona	19000	08
Karapur	1.Construction of Stage at Vitalapur	23700	118
	2.Construction of foot path at Kudap	19150	95
	3.Construction of foot path at Gavandiwada	16500	83
	4.Construction of foot path at Bandirwada	14523	72
	5.Construction of foot path at Vitalapur	14207	71
	6.Construction of steps at Bolwada	9590	48
	7.Repair of well at Harijhan wada	2400	12
Kudchire	1.Construction of steps at Nigani	4692	23
	2.Construction of foot path at Nigani	11525	58
	3.Construction of well at Saterwada	12000	60
	4.Construction of Tali at Madalowada	15000	75
	5.Construction of platfarm	29000	145
	6.Construction platform at Bhatwadi	30640	153
	7.Construction of platform at Nigini	10000	50

List of development Activities taken up by Watershed Associations

Development component	Type of activities
Natural Resource management	<ul style="list-style-type: none">.Trenches-2,50,963.Drainage line treatment -312.Renovation of ponds -50.Construction of farm ponds-35.Construction of check dams-05.Construction of Jalkundas-12.Treatment of drainage shoulder-6
Farm Production system and livestock development	<ul style="list-style-type: none">.Development of nurseries.Development of vermi-compost pits.Live fencing – (80,000 RM).Plantations –(1,20,000 nos).Demonstration plots – vegetable, floriculture, plantation in rocky areas.Livestock development -Gear Cows, Goats Rabbit rearing etc.
Livelihood support system	<ul style="list-style-type: none">.Linking of groups to various banks for loan.Support for various enterprises.Support for development of nurseries, livestock development.Training on skill development etc

Report on Activities - Micro-watersheds under NWDPPRA (as on March 2008)

Watershed	Treatable area (ha)	Treated area (ha)	Project cost (Lakh)	Amount released (Lakh)	Total expenditure (Lakh)
Mavelinge	412	365	18.54	16.92	15.50
Bordem	635	472	28.57	23.83	21.0
Sarvona	733	665	32.98	29.91	27.0
Kudchire	1100	1020	66.0	56.86	52.0
Karapur	792	710	35.64	31.47	29.0
Total	3672	3232	1.817	159.82	144.50

Details on the Corpus as on date – Dicholi Watershed

Name of micro-watershed	Corpus deposited as on date (in Rs)	Name of Bank and account Number
Karapur	2,26,705	Goa State Co-operative, A/C. 168
Sarvona	2,25,854	Bank of India, Bicholim A/C. SB-10002
Kuchirem	4,38,291	Goa State Co-operative, A/C. LB-204
Bordem	1,41,197	Goa State Co-operative, A/C. 203
Mavelinge	1,02,636	Bank of India, Bicholim A/C. SB-10162
Total	11,34,683	

• **Contribution on Individual activities – 10%**

• **Contribution on Group activities – 5%**





A View of developed nursery at Karapur



Vermi-compost Unit



View of plantation (Sarvana)



View of live fencing

Case Stories – Give People A Voice



Conclusions

- During the initiation of the project some conflicts emerged but the efforts of PIA and WDT members resolved the conflicts.
- Despite the heterogeneity, the villagers have realised the benefits through series of negotiations as well as collective action mechanisms.
- However, it is observed that the withdrawal mechanisms were not addressed properly.

Problems faced during the Implementation of the Project

- Late commencement of the Project
- Short time schedule given for the community organization
- It was a challenge to convince community regarding benefit and their involvement in the programme
- Insufficient funds for PIA administration component
- Low salaries for WDT, thereby frequent changes in team composition
- Faced problems while identifying key community organizers
- Complex land rights in micro-watersheds, hurdle development activities
- Too many formats of reporting the progress made under project



Thank you

