

# Best Practices

Use of Remote Sensing &  
Geographical Information  
System in (PMKSY) IWMP  
Project- Maharashtra State





## Our Strength

### Remote Sensing & GIS cells established at Agriculture Divisions

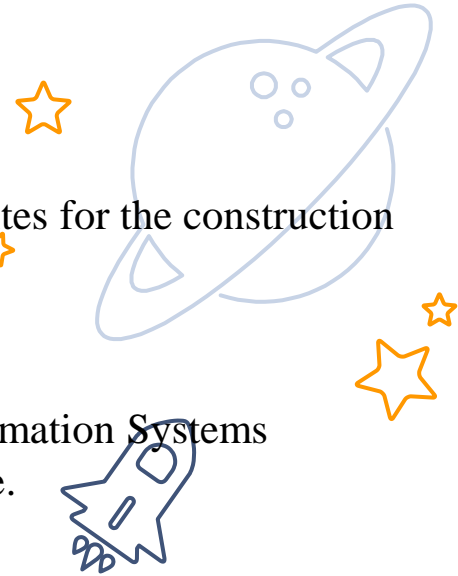
GIS Cell Location Agri. Division Wise	No. of Post Sanctioned (RS &GIS Associate)
Agriculture Commissioner office, Pune	1 + (One GIS Expert for state coordination)
JDA, Amravati	1
JDA, Aurangabad	1
JDA, Kolhapur	1
JDA, Latur	1
JDA, Nagpur	1
JDA, Nashik	1
JDA, Pune	1
JDA, Thane	1



# CONCEPT

## Cluster Wise Potential Map

- ✓ Main objective of this research is to identify geographically suitable sites for the construction of soil & water conservation measures.
- ✓ The Emphasizes capabilities of Remote Sensing and Geographic Information Systems (RS&GIS) technology for the 'Soil & Water Conservation' programme.
- ✓ Resulted in developing strategies for the policy makers with minimal human efforts to increase protective irrigation area and sustain crop productivity
- ✓ Conservation of degraded natural resources like soil, vegetation and water to support multi-cropping i.e. Sustainable livelihoods to the people residing in the watershed area.



# Collaboration With



# Use of GIS technology

## Layer Generation for Each Villages

(In collaboration with State Remote Sensing Centre)

### Contour / Elevation

- Contours with 5 meter interval



### Land Use

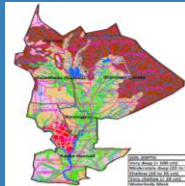
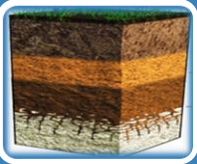
### Land Cover



#### Land Use Land Cover

Forest - Dense, Open, Scurb, Blanck, Plantation	Kharif Crop
Forest - Tree Clad - Dense, Open	Rabi Crop
Wasteland	Double Crop
Wetland	Fallow Land
Canal	Agro Horticulture Plantation

### Soil Depth

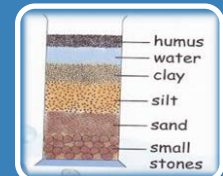


Very deep	> 100 cm
Deep to very deep	> 50 cm
Deep	50 to 100 cm
Moderately deep	25 to 50 cm
Shallow	10 to 25 cm
Shallow to very shallow	< 25 cm
Very shallow	< 10 cm

#### Soil Texture Classes

Clayey	Silty loam	Gravelly clay
Clay loam	Sandy	Gravelly clay loam
Loamy	Sandy	Gravelly silty clay
Loamy sand	Sandy clay loam	Gravelly silty loam
Silty clay	Sandy loam	Gravelly sandy loam
Silty clay loam	Gravelly loam	Gravelly sandy clay loam
Mining		

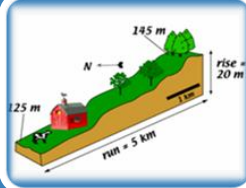
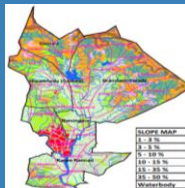
### Soil Texture



#### Slope Types

0-1%	10-15%
1-3%	15-35%
3-5%	35-50%
5-10%	

### Land Slope



### Soil Erosion

#### Soil Erosion

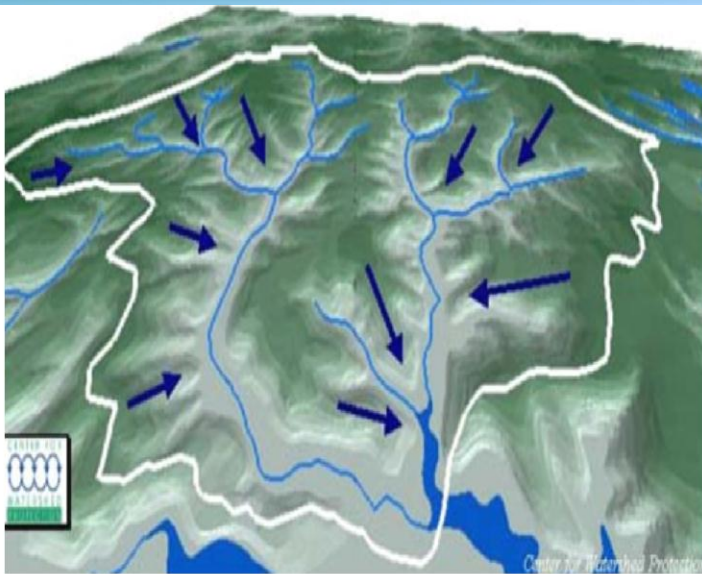
None	Moderate to Severe
None to slight	Severe
Slight	Severe to Very Severe
Slight to moderate	Very Severe
Moderate	Salt-pan
	Mining



# The Potential Treatment Maps

Watershed wise suggestion map for '*Drainage Line*' and '*Area Treatment*' activities.

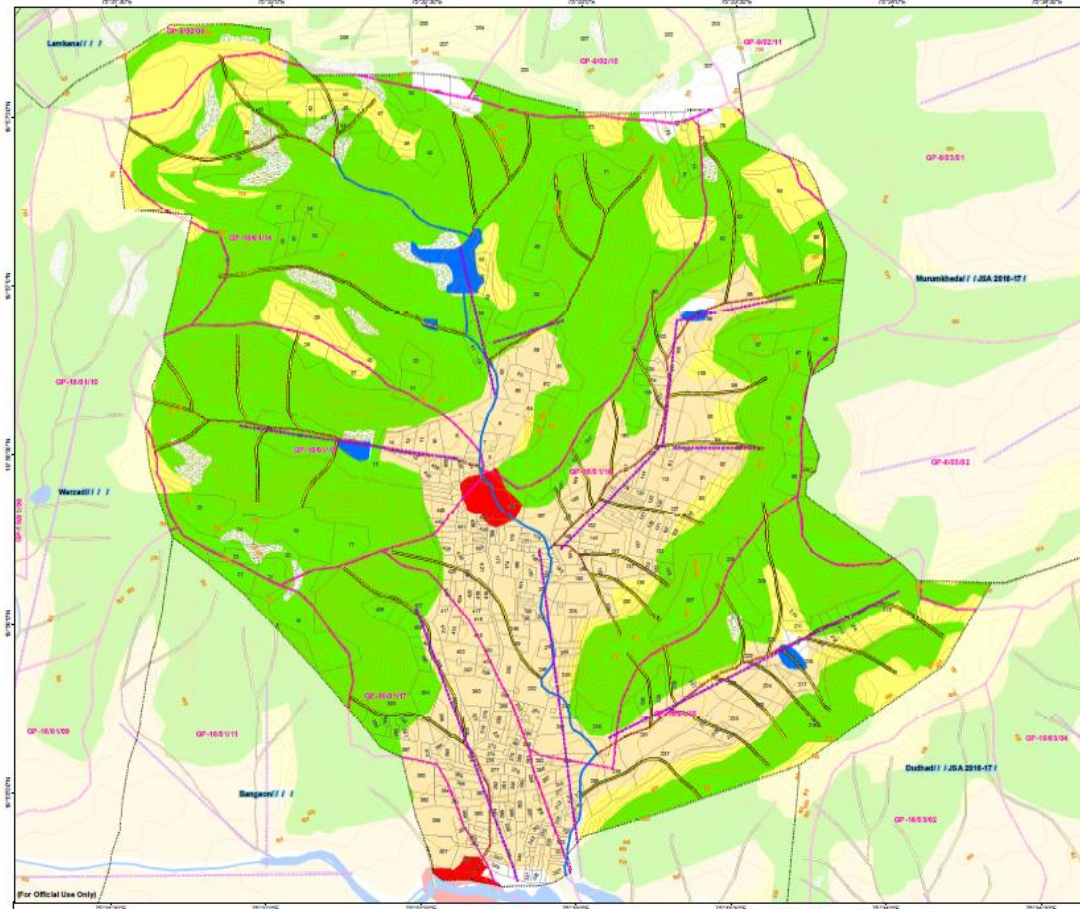
## 1. Drainage Line Treatment



## 2. Area Treatment







(For Official Use Only)

DATA SOURCES:-  
Village Map: Directorate of Land Records  
Lineaments/Dyke: Derived from Satellite Data MRSAC,  
Contour Smt: Derived from SRTM Data MRSAC,  
Watershed Boundary - AISLUS & GSDA,  
Drainage Line Treatment: GSDA, Pune



Vasundhara Watershed Development Agency  
Maharashtra, Pune-1  
And  
Director of Soil and Water Conservation  
Maharashtra, Pune-1

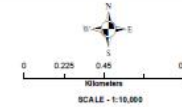


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An Autonomous Body of Planning Department,  
GoM, VNIT Campus, South Ambazari Road,  
Nagpur - 440010, Maharashtra.



Groundwater Survey and Development Agency  
Bhujal Bhavan, Shivaji Nagar,  
Pune, Maharashtra

## IWMP



## Legend

- Village Boundary
- Cadastral Boundary
- Watershed Boundary
- Drainage Line Treatment**
  - Gully Plug or LBS
  - Earthen Nalla Bund/Gabion Bandhara
  - Nalla Dredging/C.N.B.N.T
  - Drainage
- Area Treatment**
  - Dry Land Agriculture/Contour Bunding/Farm Pond
  - Afforestation/ Dry Land Horticulture/Plantation
  - CCT/Dap/ CCT/WAT/Forest Pond
  - Compensated Bunding/Grassed Bunding/Farm Pond/Well Recharge
- River/Waterbody
- Village Area
- Other**
  - Lineaments/Dyke
  - Contour 5 Meter

Existing Activities are shown in Red Colour and  
Proposed Activities are to be marked in Green Colour

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Location Map



## Annual Award Event, New Delhi

**'Implementation of Mission Water Conservation/NRM' works Using Potential Treatment Map and represented Maharashtra State at MGNREGA.**









# Welcome to Maharashtra

