

## Ensuring food security and effective climate Change mitigation through intensive community LED NRM interventions in the tribal regions of Western India

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# **ENSURING FOOD SECURITY AND EFFECTIVE CLIMATE CHANGE MITIGATION THROUGH INTENSIVE COMMUNITY LED NRM INTERVENTIONS IN THE TRIBAL REGIONS OF WESTERN INDIA**



**PRESENTATION AT CLIMATE CHANGE WORKSHOP  
ORGANISED BY NCCSD  
AT ANAND AGRICULTURE UNIVERSITY ON 2<sup>nd</sup> JUNE, 2015**

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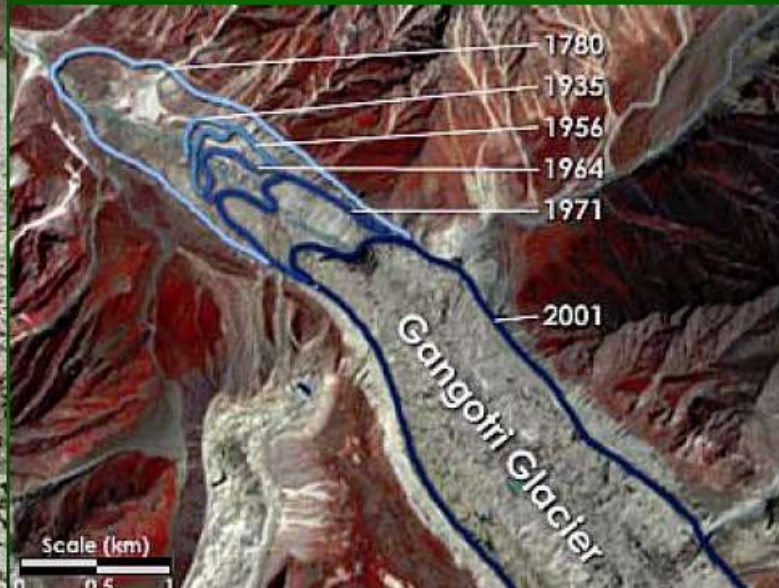
# 21<sup>st</sup> Century Climate Challenge

- It's global problem
- Effects are irreversible if not addressed well in time
- Today's emissions are tomorrow's problems
- Needs collective actions for mitigation

# *Developing Nations will face*

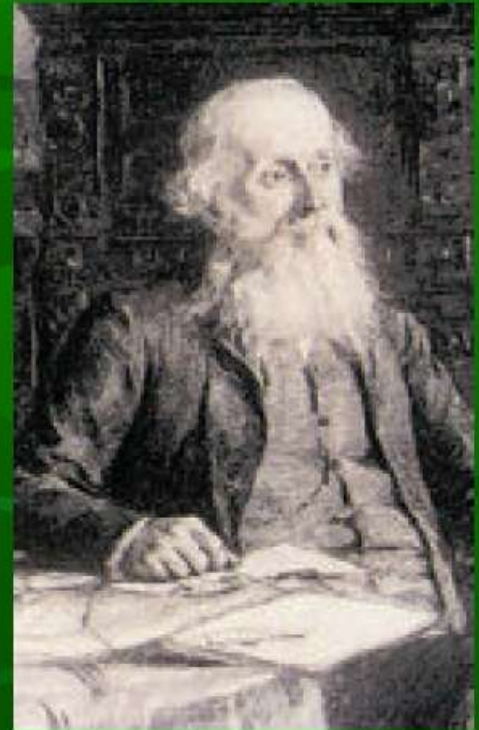
- **Reduced agricultural productivity**
- \* **Collapse of ecosystems**
- \* **Water scarcity – glacial melting**
- \* **Increased health risks**
- \* **Extreme weather: storms, floods, sea level rise**

**Holy Ganges alone supports 400 million farmers !**



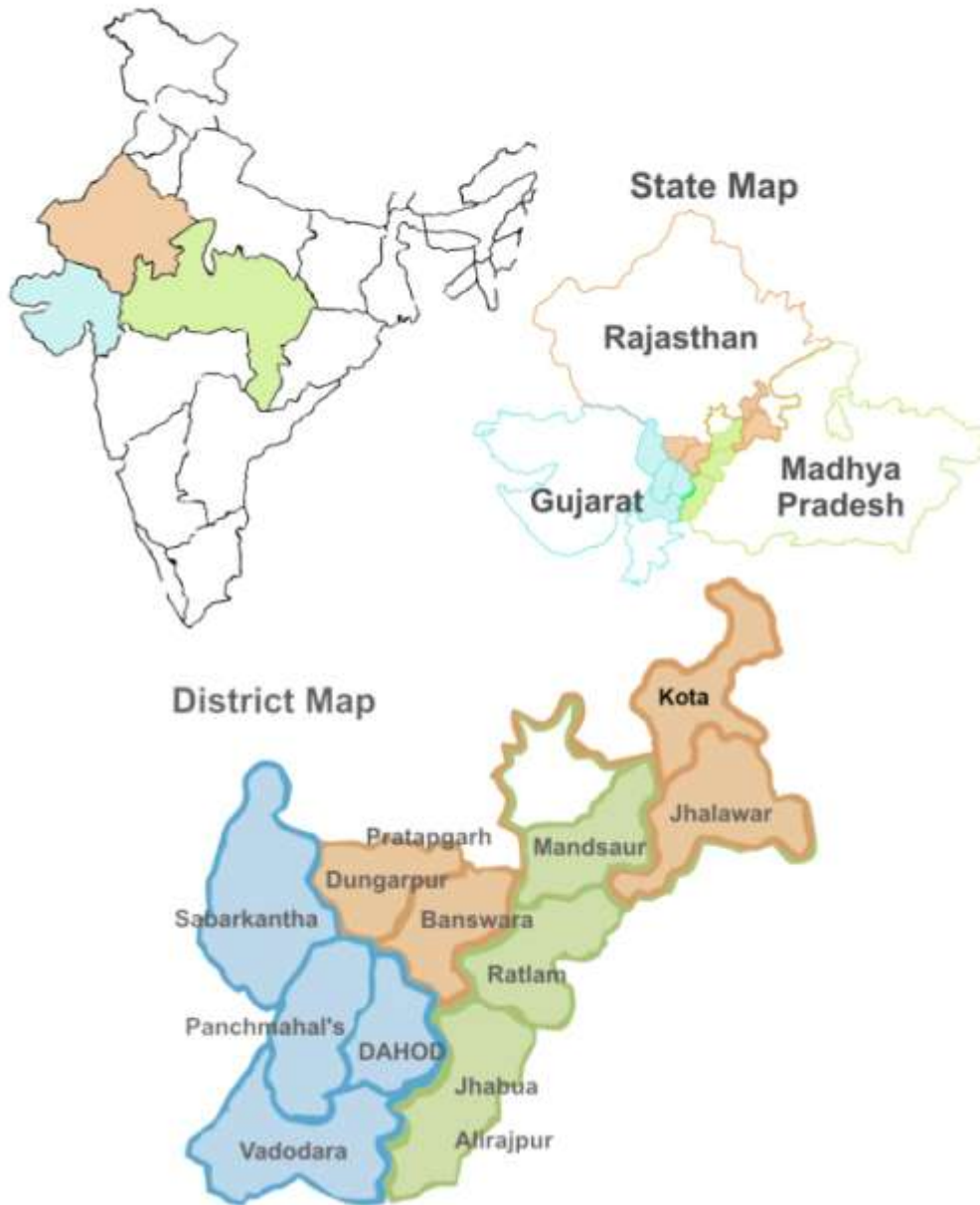


# Climate Change is an Old News in India.. Earliest whistle blower was.....



**Hume Cleghorn - India's first IG of Forests reported on the dangers of deforestation leading to climate change to the British Association for the Advancement of Science in 1851**

Program area of  
NMSWDF



**Sadguru Model of  
Development in  
villages ensures  
Food Security and  
Effectively Mitigates  
Climate Change**

**Model is replicable in  
developing nations**



# ***Sadguru's Eco-friendly Small Dams*** ***Government / Private / Community Partnership***

**In mitigating climate change**



**Building Small Dams**



**Providing Water to People**



**Community Managed Small Dam**



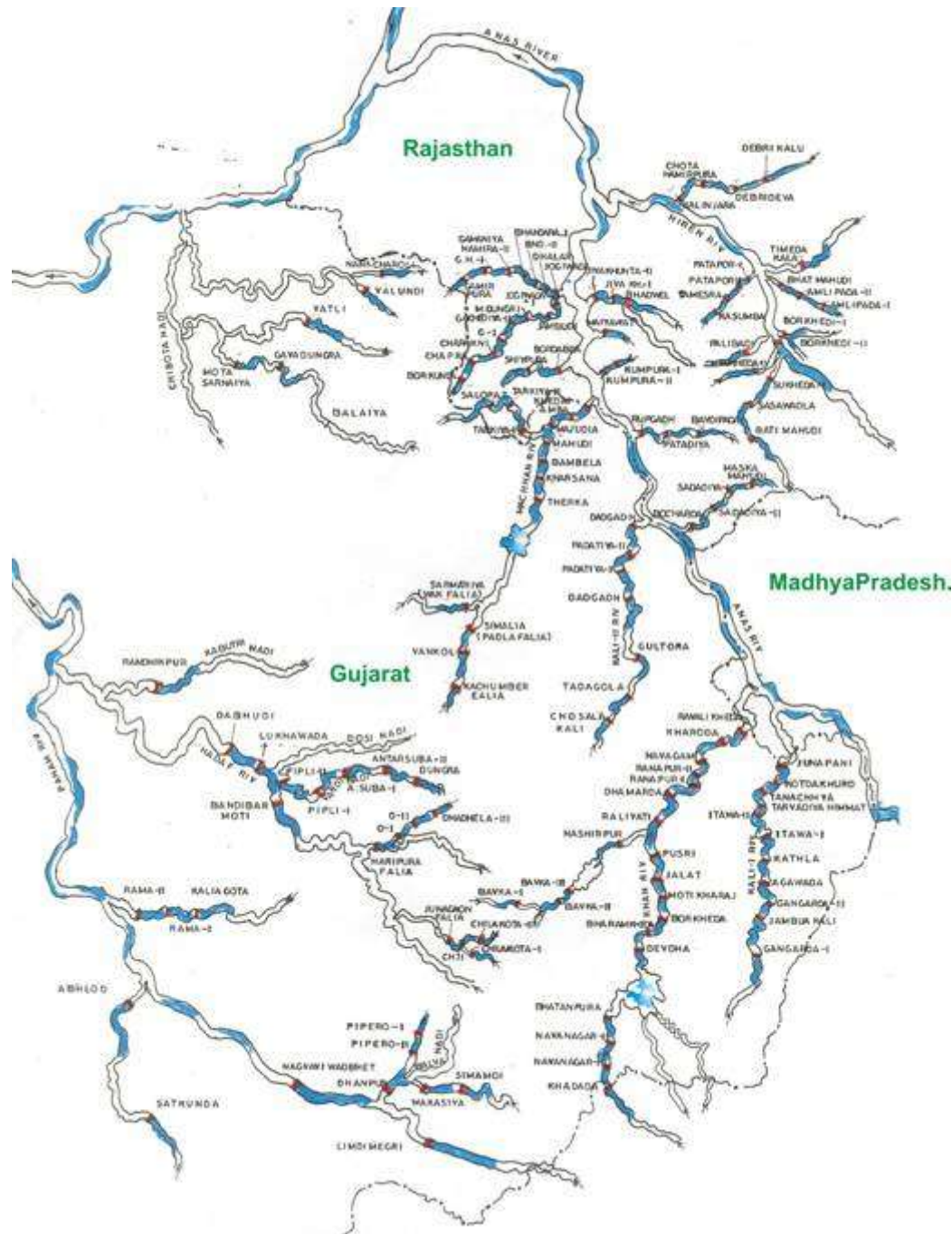
# Water: Surface water harvesting, storage and conservation



## Community water harvesting structures

376 check dams,  
55,976 acre land irrigated and  
24,418 households benefited





**65 Local rivers and rivulets have been made perennial and 5 more are in the process of becoming perennial.**

# Water: Irrigation efficiency



## Community Lift Irrigation Schemes

401 schemes covering 52,344 acres: 27,200 households



# Soil and Water Conservation

## Micro watershed area development



**1,04,633 acres land treated**  
**32,171 households benefited**



# Drainage line treatment and grade stabilization





**Well became perennial**



**Total 18,459 such wells developed or recharged**

# **Climate change - Agriculture - Livelihood**



# Agriculture: improved crop land management



Post monsoon crop is possible with community lift irrigation system



# Agriculture Production Enhancement (through knowledge application and capacity building)



Rice in Kharif



Maize in Kharif



POP

Non POP

Wheat in Rabi



# Diversification in Agriculture

## Climate friendly Horticulture

31,910 plots covering 31,910 farmers







**Floriculture on small piece of land means surety for about 10 fold income compared to traditional crop**



# Traditional vegetable

Every year more than 20000 farmers opting vegetable cultivation





# Vegetable cultivation : (Trellis system (4,946 plots and farmers)

Rs. 50,000/- to 75,000/-





# SPICES CULTIVATION

Chilly



Ginger



Turmeric



Onion





# DAIRY DEVELOPMENT



**The tribal youth giving up government job opted for Self Employment in Dairy. He earns Rs.40,000/- per month**



# DAIRY DEVELOPMENT



**Shantaben Bhuriya earning Rs. 80,000 per month from Dairy.  
She is also leader of SHG Federation of Garbada taluka of Dahod district**

**96 Milk co-operatives with a total of 6,226 members engaged in Dairy**

## Agriculture: eco-friendly organic manure (Vermi compost)



More than 10,000 households having Vermicompost units economizing on the use of fertilizer and cost of cultivation



# Biogas plant

Mitigating climate change



**2,975 households having biogas plants and housemakers enjoying cooking with biogas**

**Eliminating use of fuel wood, reducing use of chemical fertilizer and kerosene**





# Use of Solar Lantern

Mitigating climate change

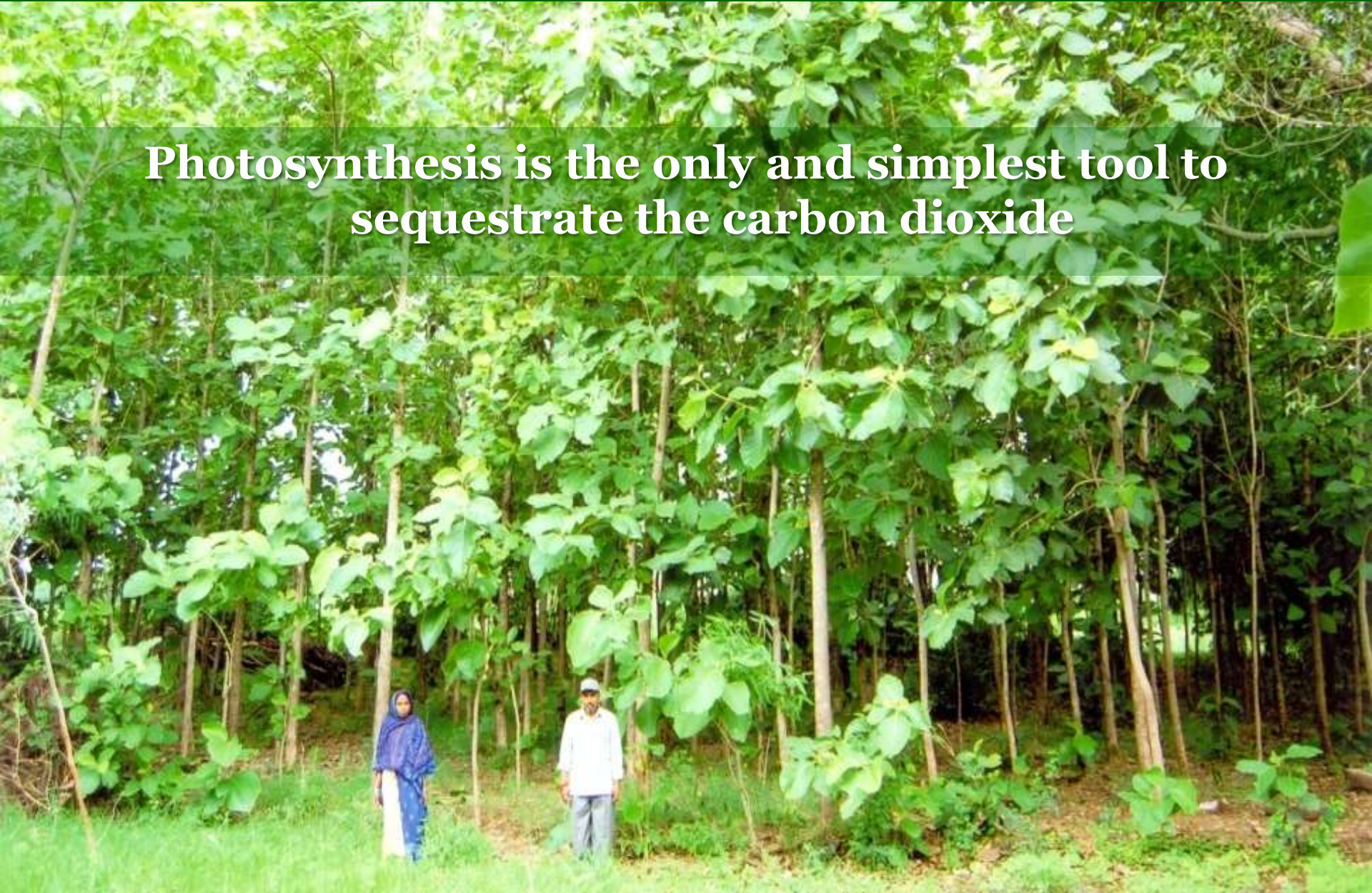




# Agro Forestry : reforestation, afforestation on the barren lands

## A natural renewable resource

**Photosynthesis is the only and simplest tool to sequester the carbon dioxide**





# Tree plantation on the farm bunds



**6,75,38,564 plants: 1,32,456 households**  
**70,702 acres – long term survival 50 %**



## **MAGNITUDE OF IMPACT AT A GLANCE TOWARDS CLIMATE CHANGE MITIGATE (AS ON 31.03.2015):**



- 1,45,476 acres land under irrigation (LI + Check dam + Wells)
- More than 2,000 mcft water is stored
- 1,04,633 acres land treated under micro watershed development
- 6.75 crores plants / saplings planted under social forestry program
- 31,910 horticulture plots by equal number of farmers
- 3,30,234 families covered in different programs
- 3,82,382 acres dry land transformed under different programs
- More than 64 lakh acres influenced at national level through training and technical inputs in watershed development





# Thanks



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