CHAHAL ACADEMY

JUNE 2025

Kurukshetra

Food Security and Cooperatives

Scaling Up Enterprises by Incubation

Rural Prosperity Through SHGs

Eco-Friendly Technologies in Agricultures

Yoga: A Decade of Holistic Transformation

Inclusive Rural Growth

NEW DELHI | AHMEDABAD | BHAVNAGAR | CHANDIGARH | DEHRADUN | GANDHI NAGAR | HYDERABAD | JAIPUR | KANPUR | KOLKATA | LUCKNOW | MUMBAI | PATNA | RAIPUR | RAJKOT | SURAT | THANE | VADODARA

TOPIC 1: COOPERATIVES AND FOOD SECURITY – A GAME CHANGER FOR INDIA

I. Introduction: India's Unique Food Security Challenge

India's Demographic and Agricultural Contrast

- India has **11% of the world's cultivable land** (16 crore hectares) but needs to feed **18% of the global population** (140 crore people out of 790 crore globally).
- This indicates an **imbalance between food production capacity and consumption needs**.

Current Production and Storage Scenario

- **Food grain production in India (2021):** 311 million metric tonnes (MMT).
- **Storage capacity:** Only 145 MMT.
- **Deficit:** 166 MMT (a 47% shortfall in storage infrastructure).
- Countries elsewhere can store up to 131% of their food production;
- India struggles with post-harvest losses and poor distribution systems.

Government's Response (2023)

- Launch of the **World's Largest Grain Storage Plan in the Cooperative Sector**.
- **PACS (Primary Agricultural Credit Societies)** identified as **key enablers**.
- Plan aims to **diversify PACS functions** and empower them with services like inputs, credit, and infrastructure.

II. The Untapped Potential of the Cooperative Sector

Presence and Reach

- India has over **1.1 lakh PACS**.
- They represent around **130 million farmers**.

Cooperatives as Service Providers

- **Provide services in:**
  - Input delivery
  - Market access
  - Storage
  - Training and technology
- **Notable examples:**
  - **Tamil Nadu:** 94% of PDS shops run by cooperatives.
  - **Amul:** Transformed India into the largest milk producer.
  - **Mother Dairy:** Ensures affordable dairy and vegetables.
  - **Maharashtra:** Grain banks by Academy of Development Studies provide loans in grain form.

Buffer Stock Management

- **NAFED** maintains buffer stocks of onions, pulses, etc.
- Cooperatives can help create **centralized procurement and storage systems**.

Operational Gaps

- **Issues with PACS:** Poor management of storage, limited technical expertise.
- **Government response:** Vision of 'Sahakar-se-Samriddhi' (Prosperity through Cooperation).
- Plan for PACS diversification and modernization.

III. Food Storage in India – A Broken Backbone

Infrastructural Issues

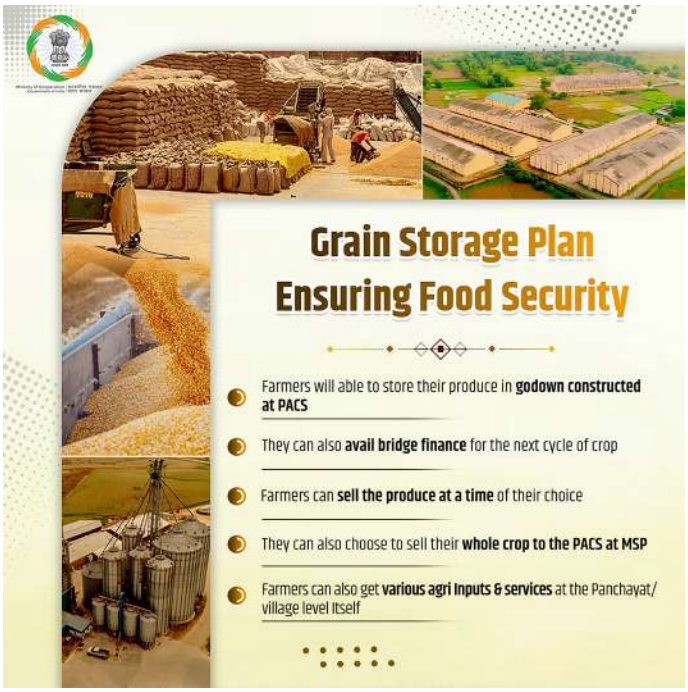
- **Food Corporation of India (FCI) godowns suffer from:**
  - Poor maintenance
  - Grain deterioration
  - High costs
  - Over-targeting of grains

- **Estimated losses:** 10-15% of total grain, equating to ₹90,000 crores annually.

Need for Cooperative-led Storage Governance

- **A cooperative-based model offers:**
  - Risk mitigation
  - Reduced losses
  - Community ownership

IV. PACS & Food Security: The New Roadmap



New Storage Initiative (2023)

- **Investment:** ₹1.25 lakh crore
- **Target:** 700 lakh tonnes of storage over 5 years
- **Reach:** 67,000 functional PACS to be involved.

Strategic Goals

- Reduce **post-harvest losses**
- Address **transportation inefficiencies**
- Enable **local storage**
- Empower **PACS** as **direct procurement agencies**
- Improve **MSP procurement access** and **farmer income**

Progress Indicators

- **Godown construction** began in **11 PACS** across **11 states.**
- **Foundation stones** laid in **500** more **PACS.**
- **576 PACS** initiated construction under specifications.
- **Computerization** done in 67,930 PACS; 43,658 fully operational.

Scheme Convergence

- **Merging support from:**
  - AIF
  - AMI
  - SMAM
  - PMFME
- **Additional support from:**
  - **PM-KISAN:** income support
  - **PMFBY:** crop insurance
  - **e-NAM:** digital market access

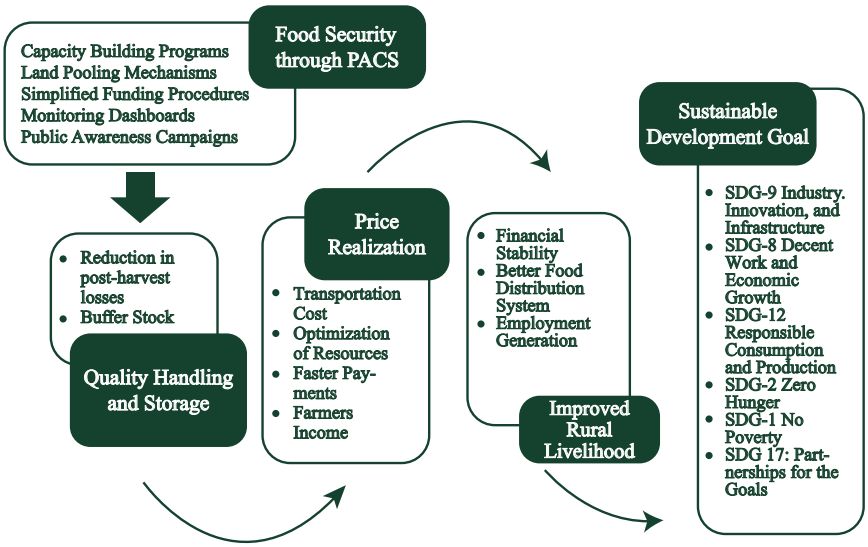
V. Governance and Institutional Framework for PACS

Supporting Schemes and Institutions

- **AIF (Agricultural Infrastructure Fund):**
  - **Launched:** May 2020
  - **Outlay:** ₹1 lakh crore
  - Offers 3% interest subvention up to ₹2 crore for 7 years.
- **AMI:** 33% subsidy for PACS storage buildings.
- **NABARD:** Additional 1% interest subvention for PACS.
- **Other stakeholders:**
  - National Cold Chain Scheme
  - NCDC
  - Grameen Bhandaran Yojana

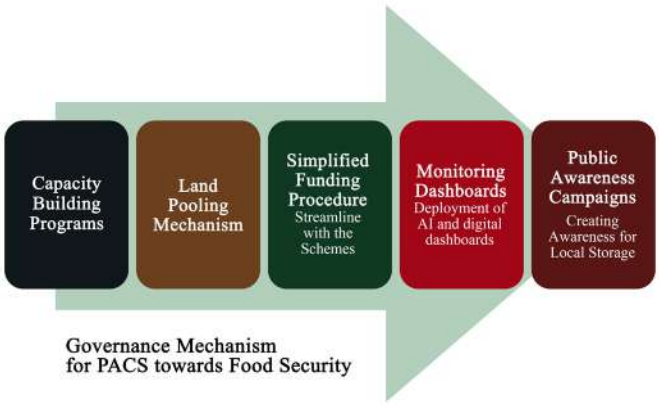
Implementation Challenges

- **Coordination bottlenecks** among government agencies, cooperatives, and banks.



- Issues with **timely fund disbursal** and **land availability**.
- Requires a **single-window mechanism** under the **Ministry of Cooperation.**

VI. Capacity Building and Land Pooling



Training Needs

- **Focus on:**
  - Inventory management
  - Digital procurement
  - Grain quality
  - Regulatory compliance
- **Objective:** Build a cadre of professional community-level managers.

Land Pooling

- Vital in **densely populated areas**.
- Land for godowns must be pooled via **Panchayats** for smooth construction and expansion.

VII. Financial Planning and Risk Management

Assessing Absorption Capacity

- PACS must prepare **financial roadmaps** to ensure **sustainability after government support ends**.

Simplified Funding Instruments

- **Tools provided:**
  - Subsidies
  - Interest subvention
  - Credit guarantees
- **PACS must also manage:**
  - Governance risks
  - Operational uncertainties
  - HR and accountability mechanisms

VIII. Monitoring via Digitalisation and AI

Use of Technology

- **Computerization ensures dashboard-based monitoring of:**
  - Storage capacity
  - Procurement data
  - Financial tracking
- AI tools support **data-driven governance** and **smart storage management**.

Institutional Monitoring Mechanism

- **Inter-Ministerial Committee (IMC):** Central-level oversight.
- **State Cooperative Development Committees:** State-level implementation.
- **District Cooperative Committees:** Grassroots monitoring.

IX. Farmer Participation and Awareness

Need for Engagement

- Farmers must be **aware of their roles** in storing and managing grain.

- **Public awareness campaigns** are crucial to ensure maximum engagement.

X. Project Impact on Food Security

Core Elements of Food Security

- **Buffer stock** maintenance
- Public Distribution System (PDS) management

Anticipated Outcomes

- Reduced **post-harvest losses**
- Better quality handling and price realization
- Improved **rural livelihood**
- **Achievement of SDGs:**
  - Zero Hunger
  - Sustainable Agriculture
  - Economic Empowerment

Technological Integration

- Use of **online procurement platforms** by PACS.
- Creation of **community-level, quality-controlled storage networks**.

XI. Conclusion and Way Forward

Transformational Potential

- The **World's Largest Grain Storage Plan** is a **game changer** in food security policy.
- By decentralizing storage, it brings **storage closer to farmers** and reduces reliance on centralized systems.

Role of PACS

- PACS to evolve into multifunctional cooperatives.
- They will
  - Manage procurement
  - Reduce grain losses
  - Enhance farmer income
  - Promote rural entrepreneurship

Challenges and Solutions

- **Land pooling, fund disbursal**, and **stakeholder coordination** must be resolved.
- Strong **institutional support** and **timely interventions** are crucial.

Vision for the Future

- With continued **government backing**, enhanced **technology integration**, and active **community participation**, this initiative has the potential to:
  - Revolutionize food grain storage
  - Enhance India's food security
  - Uplift farmers' livelihoods in a sustainable and inclusive manner

TOPIC 2: BUILDING A RESILIENT COOPERATIVE SECTOR

1. Introduction: The Dual Mandate of Cooperatives

- Cooperatives are ambidextrous institutions, balancing two roles:
  - **Protecting member interests:** Generally small equity holders facing livelihood stress.
  - **Competing in the market:** Must function as competitive business units.

Cooperatives link capitalism (business operation) and socialism (member welfare).

- **Serve as aggregators of:**
  - Small assets
  - Traditional skills
  - Inherited production processes
  - Local services
- Governed by members themselves (user-owned firms), not external investors.
- Need to develop entrepreneurial, governance, leadership, managerial, and technical skills.
- Must become globally competitive while leveraging local inputs.

2. Global Perspectives on Cooperatives and Skill Development

International Cooperative Alliance (ICA) and World Data

- 12% of the world population is part of **3 million cooperatives.**
- Top 300 cooperatives report turnover of USD 2,409.41 billion (World Cooperative Monitor 2023).
- 280 million people employed through cooperatives (10% of global workforce).

International Labour Organization (ILO) Perspectives

- 50% of global agricultural output is marketed via cooperatives.
- **ILO Recommendation 193:** Promote cooperatives through education and training.

- **ILO emphasizes:**
  - Job creation
  - Poverty reduction
  - Social inclusion
  - Decent work environment
- Supports green jobs (sustainable agriculture, eco-tourism, etc.).
- **Advocates:**
  - Vocational training
  - Upskilling/reskilling
  - Tools like THINK.COOP, START.COOP, MANAGE.COOP, MY.COOP

Committee for the Promotion and Advancement of Cooperatives (COPAC)

- Multi Stakeholder partnership supporting sustainable cooperatives.
- Advocates skill investment across cooperative ecosystems.
- Works with **ILO, FAO, ICA** to support skill-based cooperative development.
- Champions 2025 as **International Year of Cooperatives (IYC)**.

United Nations Skill Policy and SDGs

- **Skilling supports SDGs:**
  - SDG 1 (Poverty reduction)
  - SDG 4 (Quality education)
  - SDG 8 (Decent work)
  - SDG 10 (Reduced inequality)
  - SDG 12 (Sustainable consumption)
- **Focus areas:**
  - Literacy
  - Youth employment
  - Innovation
  - Entrepreneurship

ICA(International Cooperative Alliance)'s Role in Skill Promotion

- Founded in 1895, ICA represents 1 billion members across 107 countries.
- ICA-AP promotes cooperative development in Asia-Pacific.
- **ICA initiatives:**
  - Coopathons (youth and women involvement)
  - ICA CCR (cooperative research)
  - ICA ICEI (education integration)
- Holds consultative status with UN ECOSOC.

3. Emerging Global Challenges in Cooperative Skilling

- **Skill mismatch:** Member skills vs. market demand.
- **Technological disruption:** Automation, AI.
- Digital literacy gaps.
- Relevance in Industry 4.0 standards.
- **Soft skill gaps:** Governance, leadership.
- Need for lifelong learning.
- Most members are marginal producers with livelihood stress, limited awareness.

- **Calls for:**
  - Awareness programs
  - Skilling infrastructure
  - Collective production asset base
  - Professional management in cooperatives

Educational Gaps Globally

- Cooperative education lacks global standardization.
- **Notable institutions:**
  - Mondragon University (Spain)
  - Cooperative universities in **Kenya, Tanzania, Africa**
  - University of Colombia (circular economy focus)
  - Agricultural cooperative universities in South Korea, India

4. Indian Cooperative Sector and Skilling Framework

Skill Policies and Programs

- **Key policies:**
  - National Policy on Skill Development **(2009)**
  - National Policy for Skill Development and Entrepreneurship **(2015)**
  - National Skill Development Mission **(NSDM, 2015)**
- **Institutions:**
  - Ministry of Skill Development and Entrepreneurship (MSDE)
  - NSDC, NSDA, DGT
  - Sector Skill Councils (SSCs)
- **Schemes:**
  - PMKVY
  - Skill India Mission
  - NAPS
  - JSS
  - SANKALP
  - STRIVE
  - PM-YUVA
  - India International Skill Centres (IISCs)

NEP 2020: Integrating Skill Development

- **Promotes:**
  - Multidisciplinary HEIs
  - Entrepreneurial learning
  - Skill integration
  - Social mobility and job-readiness

5. Institutional Innovation: Tribhuvan Sahkari University

- Introduced in 2025 via Bill to transform IRMA into a national cooperative university.
- **Objective:** Promote cooperative education, training, research.
- **Vision aligned with:**
  - "Sahkar Se Samriddhi"
  - "Viksit Bharat"
- First specialized university for cooperatives in India.

Importance and Roles

- Address fragmented training ecosystems.
- Set national and global education standards.
- Enable multidisciplinary learning.
- Encourage youth through incubation and entrepreneurship.
- Guide digital transformation in cooperatives.

Legacy of IRMA

- Founded in **1979** by **Dr. Verghese Kurien.**
- Pioneered rural development, **dairy revolution (White Revolution).**
- **Partnered with:**
  - NDDB
  - GCMMF (Amul)
  - NCDFI
  - Tribhuvandas Foundation
- **Known for:**
  - Research rigour
  - Consultancy
  - Rural development pedagogy.

Future Opportunities

- Support from MoC and other ministries
- Use of Cooperative Education Fund
- Access to IRMA's pedagogy and networks
- Opportunity to be global hub for cooperative education

6. Challenges and Opportunities Ahead

Opportunities

- Institutional standardization
- Grassroots capacity building
- Public-private partnerships
- Youth engagement in cooperatives

Challenges

- Cooperatives as state subject
- Heterogeneity across states/sectors
- Professionalizing cooperatives
- Attracting youth and professionals.

Sectoral Imbalance

- 8.5 lakh cooperatives with 29 crore members
- **Concentration in:**
  - Housing
  - Dairy
  - PACS, credit, thrift
- Low-skill employment in trade, hospitality, education, transport.

Government Initiatives

- National Cooperation Policy
- **Formation of:**
  - National Cooperative Organics Limited (NCOL)
  - National Cooperative Exports Ltd (NCEL)
  - Bhartiya Beej Sahkari Samiti Limited (BBSSL)
  - Digitalization of M-PACS

7. Conclusion

- Renewed national focus on cooperatives and education institutions is timely.
- **A systemic approach is needed:**
  - Policy alignment (centre and state)
  - Lifelong learning
  - Stakeholder partnerships
- **Skill is a strategic enabler:**
  - Builds cooperative resilience
  - Strengthens governance
  - Promotes economic and social sustainability
- Investing in skill development will unlock the potential of cooperatives and lead India to a more inclusive and self-reliant economic future.

TOPIC 3: WORLD ENVIRONMENT DAY

1. Introduction

- **World Environment Day (WED)** is celebrated annually on **5th June** as the principal platform of the United Nations to promote global environmental awareness and action.

- For **2025**, India launched the campaign **"One Nation, One Mission: End Plastic Pollution"**, aligned with **Mission LiFE (Lifestyle for Environment)**.
- Union Environment Minister Bhupender Yadav emphasized the transition from awareness to action through sustainable living practices.

2. Key Focus Areas of the 2025 Campaign

- **Awareness and Advocacy** about plastic pollution.
- **Reduction of Plastic Waste**, especially **Single Use Plastics (SUPs)**.
- **Plastic Waste Management** through segregation, collection, disposal, and recycling.
- **Promotion of Sustainable Alternatives** to replace single-use plastics.

3. Campaign Activities and Stakeholder Engagement

- The campaign encourages participation from ministries, state/UT governments, educational institutions, local bodies, industries, civil society, and community groups.

Major Activities:

Awareness and Outreach:

- Social media campaigns
- Nukkad nataks
- Public pledges
- Poster/essay competitions
- Environmental marathons

Clean-up Drives:

- At beaches, parks, riversides, railway stations, tourist sites, and rural areas

Workshops and Webinars:

- Focused on sustainable practices and alternatives to SUPs

Educational Activities:

- Art and craft from recycled materials
- Hackathons and quizzes
- School exhibitions and games

Community Involvement:

- RWAs, Anganwadi workers, cooperatives, etc., focusing on local waste segregation and recycling
- All initiatives are to be documented and uploaded on the **'Meri LiFE' portal**.

4. Restoration of Aravallis: Integrated Landscape Restoration

- The Aravalli Restoration is a major environmental initiative alongside WED.

National Workshop Highlights (Udaipur, 21 May 2025):

- **Focus:** Finalization of a **Detailed Action Plan** for Aravalli landscape restoration.
- **Organized by:** Ministry of Environment, Forest and Climate Change (MoEFCC) and Rajasthan Forest Department.

Objectives:

- Increase green cover and biodiversity
- Restore water bodies and improve soil fertility
- Generate livelihoods through eco-tourism and afforestation

Ministerial Highlights:

- **"Ek Ped Maa Ke Naam"** campaign initiated by PM Modi.
- Adoption of a **Whole of Government and Whole of Society Approach**.

Innovative Measures Proposed:

- Seedling nurseries in each Panchayat (via MNREGA, CAMPA)
- Youth involvement through MY Bharat volunteers
- Implementation of the Green Credit Programme
- Restoration of abandoned mines and water-filled pits

Ecotourism and Livelihood Opportunities:

- Safaris, trekking routes, eco-clubs, native species plantations
- Linking with Amrit Sarovars and water bodies
- Creation of research verticals under institutions like **BSI, ZSI**

Five-Pillar Restoration Approach:

- **Ecological Restoration:** Reforestation, soil and water conservation
- **Community Participation:** Women and youth in implementation
- **Policy and Governance:** Regulatory reform, scheme convergence

- **Sustainable Livelihoods:** Agroforestry, NTFP-based enterprises
- **Research and Innovation:** GIS, remote sensing, taxonomy

Participants:

- Senior MoEFCC officials, GIZ-India, scientists, civil society, state governments

5. Mangrove Conservation: Guardians of Life and Livelihoods

Navghar, Maharashtra - A Case Study

- Uncontrolled mangrove destruction led to marine life and livelihood loss.
- Restoration initiated through the Government of India, UNDP, and Green Climate Fund project.
- **Formed Mangrove Co-Management Committees involving:**
  - Villagers, Panchayat, and women's SHGs.

Livelihood Revival:

- Sustainable **crab farming** by groups like Wild Crab Aqua Farm
- Awareness drives linking mangroves with ecosystem services

Outcomes:

- Increased marine biodiversity
- Year-round employment for local women
- Improved community resilience to climate events

Scientific Background:

- **Mangroves:** Salt-tolerant plants found in intertidal tropical/subtropical zones
- Adapted to high rainfall, salinity, and tidal changes
- Provide critical bio-shields and biodiversity sanctuaries

6. India's Achievements in Mangrove Conservation

As per ISFR 2023:

- **Mangrove cover:** 4,991.68 sq.km (0.15% of India)
- **Net increase (2001–2023):** 509.68 sq.km (11.4%)
- **Leading states:**
  - **West Bengal:** 42.45%
  - **Gujarat:** 23.32%
  - **A&N Islands:** 12.19%
  - **Gujarat:** 253.06 sq.km increase (2001–2023) due to plantation and PPPs

Key Regulatory Measures:

- **CRZ Notification, 2019:**
  - Declares mangroves as ESAs
  - Establishes 50m no-development buffer
  - Mandates 3:1 compensatory replantation
- **Legal protection under:**
  - Wildlife Protection Act (1972)
  - Indian Forest Act (1927)
  - Biological Diversity Act (2002)

Promotional Initiatives:

MISHTI (2023)

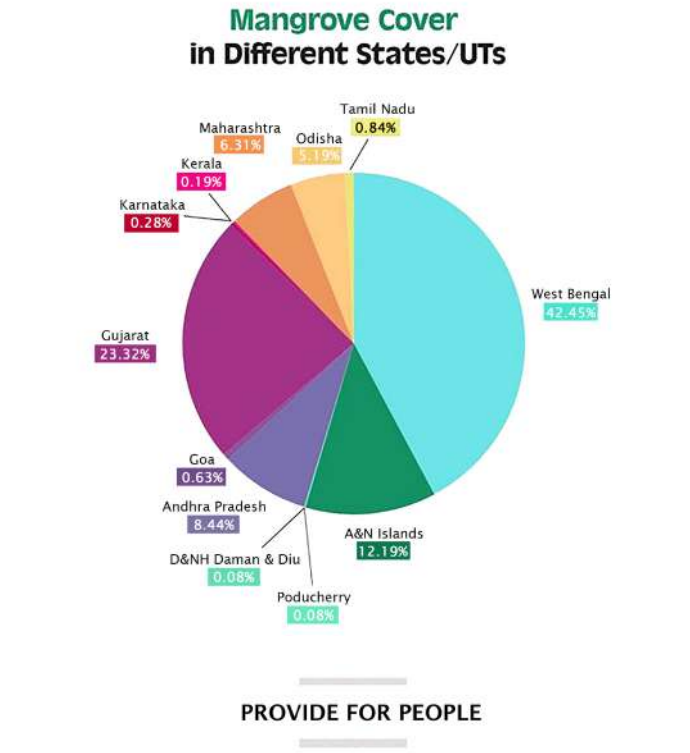
- Restoration across 540 sq.km in 9 coastal states and 4 UTs
- Convergence with CAMPA
- **FY 2024-25:** ₹17.96 crore for 3,836 hectares

National Coastal Mission

- Conservation of 38 mangrove and 4 coral reef sites
- Cost-sharing (60:40) between Centre and States
- ₹8.58 crore allocated (2021–23)

GCF-ECRICC Project

- Andhra Pradesh, Maharashtra, Odisha
- **Target:** 10,575 hectares; Restored by 2024: 3,114.29 hectares.



Mangroves and Climate Mitigation:

- Store **7.5–10x more carbon** than tropical forests
- Hold **21 gigatons** of carbon globally
- Restoring **1.6 million acres** can absorb **1 gigaton** more carbon

7. Conclusion: A Green Revolution in Action

- India's initiatives on World Environment Day 2025 reflect a shift from awareness to proactive environmental restoration.
- Campaigns like **End Plastic Pollution**, Aravalli Restoration, and Mangrove Revivals showcase integrated, participatory, and science-backed approaches.
- Women and communities emerge as active stakeholders in sustainable change.
- Nature-based solutions are central to **climate action**, **livelihood security**, and **ecological resilience**.

TOPIC 4: CROP RESIDUE BURNING CHALLENGES AND SUSTAINABLE SOLUTIONS

1. The Rise and Spread of Crop Residue Burning in India

Emergence of the Practice

- Began in India and other Asian countries in **1986** due to the rise of mechanized farming.
- Transition from manual harvesting (which left roots intact) to burning for cost-effective residue management.

Seasonal Patterns

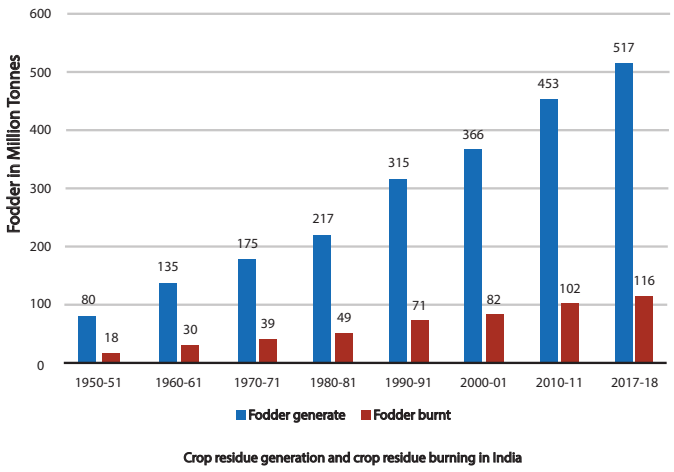
- **Rice residues:** Burnt pre-winter for wheat cultivation.
- **Wheat residues:** Burnt pre-monsoon.
- **Sugarcane residues:** Burnt post-harvest, mostly after monsoon or before summer.

Regional Spread

- Originated in **Punjab**.
- Expanded to **Haryana** and **Uttar Pradesh**.

Scale of Residue Generation

- India produces ~686 million tonnes of crop residues annually.
- **Cereal crops:** ~368 million tonnes (~70%).
- **Rice:** Alone contributes 34%.



Crop residue generation and crop residue burning in India

2. Rising Environmental Concerns

Soil Health and Nutrient Loss

- Burning destroys 80% of vital nutrients: nitrogen, phosphorus, potassium, sulphur, and organic carbon.
- Increases soil temperature, harms beneficial organisms, and depletes nutrients in the 0-15 cm root zone.

Greenhouse Gas Emissions

- Emissions include CH4, CO, N_2O, NOx, and hydrocarbons.
- **From rice straw:**
  - 70% carbon → CO_2
  - 7% carbon → CO
  - 0.66% carbon → CH_4
  - 2.09% nitrogen → N_2O

Air Pollution

- Releases particulate matter with carcinogens.
- Causes respiratory and airborne diseases.

3. Crop Residue Management (CRM) Options in India

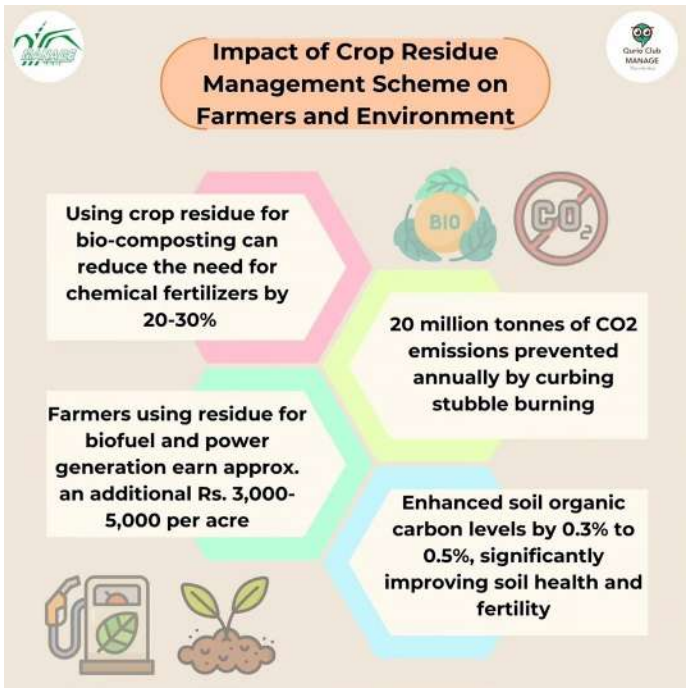
In-situ Management Techniques and Tools

- **Mulching:** Moisture retention, weed suppression, and nutrient enrichment.
  - **Tools:** Straw mulchers, Super Straw Management System (Super SMS).
- **No-Till Farming:**
  - **Tools:** Happy Seeder (no-till planting), Zero-till drills.
- **Strip-Till Farming:** Tills narrow rows, maintains residue elsewhere.
  - **Tools:** Rotavators mix residues into soil.
- **Cover Crops:** Provide natural mulch and enrich soil.
- **Crop Rotation:** Prevents erosion, enriches soil, and breaks pest cycles.

Ex-situ Management Techniques

- **Biomass Power:** Generates electricity or heat.
- **Animal Feed:** Converts residues into fodder.
- **Composting:** Uses Pusa Decomposer to turn residues into manure.
- **Biochar Production:** Enhances fertility and water retention.
- **Industrial Uses:** Paper, textiles, building materials.

4. Reasons for Residue Burning by Farmers



Time Constraints

- Short gap (Oct-Nov) between rice harvesting and wheat sowing.
- Burning is quick and convenient.

High Manual Removal Costs

- Rs. 6,000-7,000 per acre, unaffordable for small farmers.

Limited Access to Technologies

- **Happy Seeder:** Rs. 1,000 rental + Rs. 2,000 diesel per acre.
- High cost of Rotavators and Straw Balers despite subsidies.

Infrastructure Deficiencies

- Lack of large-scale collection, storage, and transport facilities.

Weak Enforcement

- National Green Tribunal (NGT) penalties inconsistently applied.

Small Farmer Constraints

- Focus on cost-saving and immediate efficiency due to limited income.

5. Government Interventions

Crop Residue Management (CRM) Scheme (2018)

- Targeted at **Punjab, Haryana, UP,** and **Delhi**.
- Demonstrates bio-decomposer use and promotes CRM.

Restructured Rashtriya Krishi Vikas Yojana (RKVY - 2022-23)

- Sub-Mission on Agricultural Mechanization.
- Financial support for CRM equipment and machinery.

Supplementary Programs

- Support from AIF and extension programs.

Custom Hiring Centres (CHCs)

- 40,000+ CHCs with over 2.95 lakh CRM machines.

Biomass Supply Chain Development

- Capital support for collection and supply infrastructure.

ICAR Demonstrations

- 20,000 hectares covered (2022-23).
- Training for farmers on CRM equipment use.

6. Way Forward

Financial Measures

- Increase subsidies.
- Promote co-ownership of machines.
- Encourage fast-maturing crop varieties.

Infrastructure and Awareness

- Invest in decentralized CRM systems.
- Strengthen collection, storage, and sale infrastructure.
- Raise awareness about sustainable practices.

Industry and Innovation

- Fiscal support to biomass-based power plants.
- Promote biofuels (e.g., biodiesel).
- **Use residues in:**
  - ➢ Cement (rice husk ash)
  - ➢ Paper (banana peels, sugarcane)
  - ➢ Mushroom cultivation (bagasse ash, husk).

Addressing Fodder Deficit

- **National fodder deficit:** 23.4%; western zone: 43.5%.
- Transfer surplus to deficit regions.
- Bale and transport fodder effectively.

Conclusion

Crop residue burning, while a quick solution for farmers, poses serious environmental and health risks. Sustainable alternatives exist through both in-situ and ex-situ residue management, but adoption remains low due to high costs, limited infrastructure, and awareness gaps. Government schemes like CRM, RKVY, and CHCs have made progress, but a multi-pronged strategy is essential. By improving financial access, promoting eco-friendly technologies, supporting biomass-based industries, and addressing fodder needs, India can reduce stubble burning while ensuring environmental and economic sustainability in agriculture.

TOPIC 5: SCALING UP ENTERPRISES BY INCUBATION

1. Context and Background

DAY-NRLM Expansion:

- Implemented in **7,139 blocks** across **742 districts** in **28 States** and **6 UTs.**
- Mobilized over 10 crore rural women into community institutions.
- Provided capitalization support worth **₹49,000+ crores.**
- **Bank credit accessed by SHGs:** ₹9.85 lakh crores since 2013–14.

Need for Scaling:

- Existing interventions like MKSP, FPOs, and SVEP yielded results.
- Rising expectations to create large, visible success stories like unicorns and "**Lakhpati Didis**."

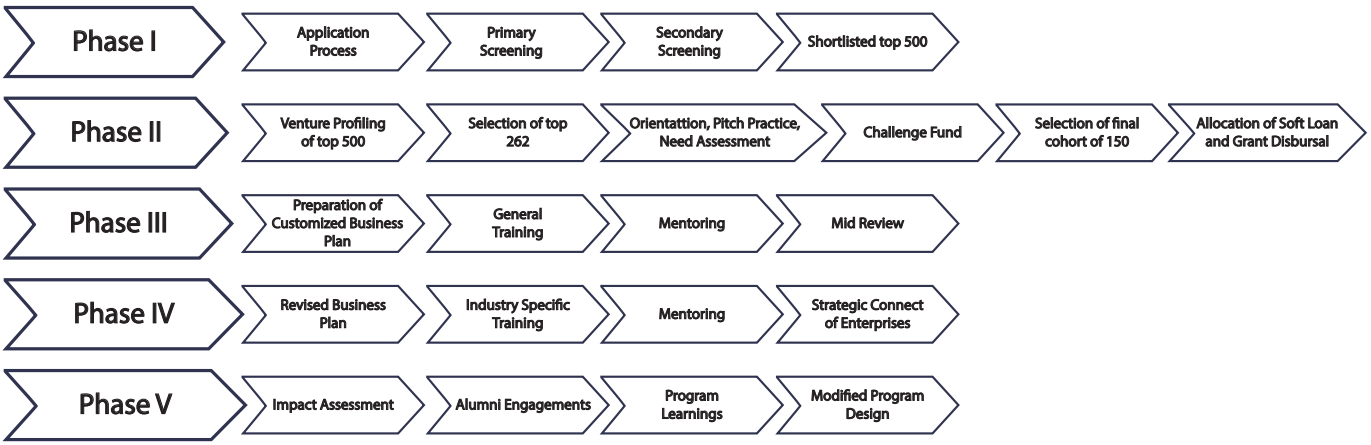
2. Rationale for the Incubation Initiative

Many SHG women entrepreneurs:

- Have outgrown basic loan requirements.
- Seek formalization, profitability, scale, and bank access.

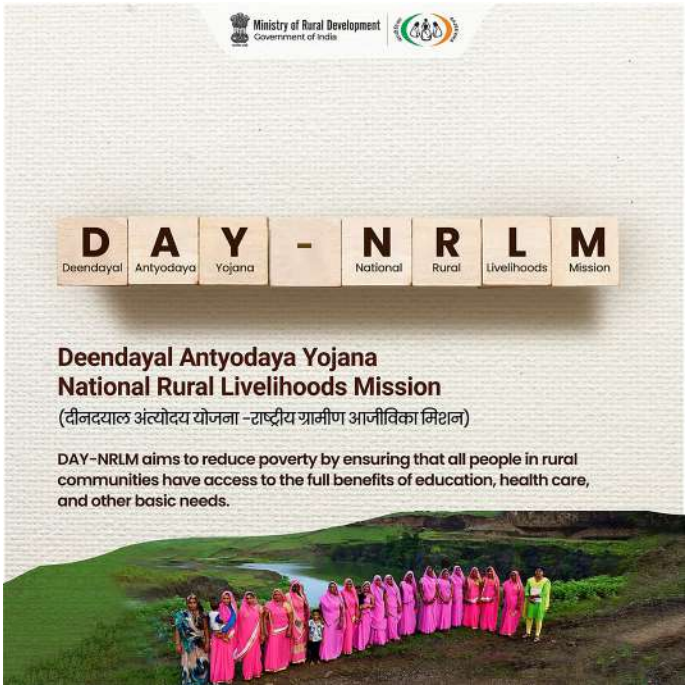
Design of Implementation

Based on the guidelines, the programme design has the following phases:



- Require tailored, dedicated business development support.

NRETP Intervention:



- Piloted India's first rural incubation programme.
- Funded by the World Bank under DAY-NRLM.
- Aimed to transition micro-enterprises to growth-stage enterprises creating local employment.

3. Objectives of the Incubation Programme

- Support 100–150 women-led growth-oriented enterprises per State.
- Focus on manufacturing and services facing market constraints.
- **Key Objectives:**
  - Formalize enterprises with strong business models.
  - Achieve 15% YoY revenue growth in 18 months.
  - Create local employment models.
  - Improve creditworthiness for formal loans.
  - Develop replicable enterprise growth models.
  - Empower women to manage businesses independently.
  - Forge partnerships to catalyze enterprise growth.

4. Process of Developing Guidelines

- **Based on:**
  - Studies of existing incubator models (Govt, Invest India, social incubators).
  - Feedback from existing incubators and social enterprise players.
- **Insights:**
  - Existing incubators focused more on funding, co-working, and investor visibility.
  - Mentorship and rural outreach were weak.
  - **NRLM enterprises had unique needs:**
  - Couldn't leave work for long training sessions.
  - Depended on enterprise for family income.
  - Lacked access to urban markets and organized buyers.
  - Needed localized mentorship and low-risk support.

5. Implementation and Incubator Selection

- **Selected Incubators:**
  - IIM Calcutta Innovation Park (IIM-CIP) for Assam, Bihar, West Bengal.
  - NSCREL (IIM Bangalore) for Karnataka.
- **Challenge Round Outreach:**
  - Outreach through SHG networks, SRLM staff, CBOs, and SMS campaigns.
  - Assisted application filing at block level.
- **Applications Received:**
  - Assam – 9,774
  - Bihar – 26,469
  - Karnataka – 40,138
  - West Bengal – 29,674
- **Eligibility:**
  - Enterprises with ≥ ₹12 lakh turnover/year (₹15 lakh for SHG collectives; ₹20 lakh for GST-registered firms).
  - Criteria relaxed in Assam and Karnataka due to fewer eligible applicants.

6. Financial and Institutional Support Provided

- **Out of 150 enterprises per State:**
  - 18 awarded grants up to ₹15 lakh.
  - 132 received interest-free soft loans up to ₹5 lakh.
- **Support Components:**
  - Business and domain-specific training.
  - Mentorship (1 mentor per 10 enterprises).
  - Market and finance linkages.
  - Enterprise formalization, branding, packaging, and digital support.
- Funds released through **Cluster Level Federations (CLFs)** using the FDM module.

7. Case Study: Papiya Khatun (West Bengal)

- **Business:** 'Payle Koyel Kantha Stitch', Birbhum district.
- **Incubation Benefits:**
  - Bookkeeping and financial management.
  - Product design training (Tata Taneira).
  - Market linkages through buyer-seller meets (Saras 23/24, Sabala 24).
  - E-commerce onboarding (Yespoho, Meesho).
  - Financial aid (Mudra via Jansamarth Portal).
  - **Formalization:** Artisan card, GST, Udyam Aadhar, IT returns.
  - **Branding:** QR code tagging, catalog, logo, photo shoots.
- **Impact:**
  - **Revenue doubled:** ₹46.6 lakh (FY 22–23) ₹95.3 lakh (FY 23–24).
  - **Employment:** 500 → 750.
  - **Geographic expansion:** West Bengal Karnataka & Maharashtra.
  - **Sales channels diversified:** B2C, B2B, E-commerce.

8. Key Learnings from the Programme

- SHG entrepreneurs performed exceptionally in challenge rounds.
- Demonstrated learning zeal, enthusiasm, and resilience.
- Leadership reviews ensured smooth execution.
- Peer learning and flexible processes across incubators helped.
- Payment delays harmed trust—entrepreneurs withheld financial data.
- Buyer-seller meets proved useful for marketing.
- Entrepreneurs learned business regulations and compliance.
- Understood branding, packaging, customer segmentation.
- Improved financial discipline (cashbooks, bookkeeping).
- Diversified distribution (E-commerce adoption).
- Emphasized quality, design, and industry best practices.
- Understood cash flow management and decision-making.

9. Best Practices Developed

- E-application software for challenge rounds.
- Performance tracking via the same software.
- Buddy system with existing women entrepreneurs.
- Digital literacy training for SHG entrepreneurs.
- Buyer-seller meets as effective market channel openers.

10. Way Forward

Strengthen Programme Strategy

- Emphasize incubation/mentorship over funding in outreach.
- Educate entrepreneurs about the value of 1-on-1 mentoring.
- Avoid launching in districts with inadequate SRLM capacity.
- Target enterprise hubs, not entire States.
- Focus on sector-specific incubations for scalable replication.

11. Improve Execution Framework

- Clarify SRLM roles, enhance their capacity.
- Address over-reliance on SRLM staff by group enterprises.
- Ensure consistent training participation by same members.
- Provide sector-specific advice, not generic tips.

Refine Selection and Support Systems

- **Segregate enterprises by size:** small (incubator) vs large (accelerator).
- Define minimum education criteria for entrepreneurs.
- Spread business training across more bootcamps and time.

Address Financial and Partnership Gaps

- Resolve fund disbursement bottlenecks.
- Reevaluate partnership model due to poor funding and execution.
- Offer more targeted, actionable guidance to entrepreneurs.

12. Conclusion

The rural incubation model under DAY-NRLM has emerged as a transformative approach to nurturing scalable, women-led enterprises in rural India. By addressing systemic gaps in mentorship, formalization, access to credit and markets, and tailored capacity building, it has created a blueprint for empowering grassroots entrepreneurship. Scaling this model across States, with fine-tuning and strategic focus, can make the vision of "3 crore Lakhpati Didis" a national reality by 2047, contributing to India's inclusive and sustainable economic development.

TOPIC 6: INCLUSIVE RURAL GROWTH THROUGH COOPERATIVES

1. Context and Background

Agriculture and Rural India:

- Agriculture remains the backbone of India's rural economy.
- Despite its centrality, Indian agriculture faces:
  - Low per acre productivity.
  - Unfavourable trade terms between farm and non-farm sectors.
  - Fragmented landholdings, with a dominance of small and marginal farmers.
- These structural challenges limit both individual farmer development and broader rural economic progress.

Need for Access:

- **Inclusive growth requires that farmers have access to:**
  - Credit, insurance, water, quality inputs.
  - Knowledge and market linkages.
  - Connectivity with research institutions and policymakers.

2. Existing Institutional Gaps

- **Limitations of Past Approaches:**
  - India followed a "**supply-leading approach**" to rural institution building.
  - However, lack of a robust farmer-owned and controlled cooperative network has impeded success.

Cooperatives as a Solution:

- **Cooperatives are seen as vehicles for:**
  - Economic equity.
  - Social empowerment.
  - Reducing vulnerability in rural communities.

3. Potential of Rural Economy and Agriculture

- **Natural Advantages:**
  - Vast arable land.
  - Diverse agro-climatic zones.
  - Rising demand driven by shifting consumption patterns.
- **Transformational Needs:**
  - Sustainable systems enhance productivity while conserving natural resources.

- Indigenous knowledge integration and community-based models.
- Emphasis on holistic, inclusive, and disruptive innovations across the agricultural value chain.

4. Role of Cooperatives in Inclusive Growth

Empowering Farmers Collectively:

- **Cooperatives can:**
  - Improve soil health and biodiversity.
  - Enhance resilience and income.
  - Provide nature-based solutions for sustainable agriculture.

Reducing Government Burden:

- **With strong cooperative networks, the government can:**
  - Step back from direct food production roles.
  - Entrust cooperatives with food security and agricultural development tasks.

5. Village-Centric Cooperative Model

Vision of a Cooperative Village:

- Every village should have a self-sufficient cooperative as its economic hub.
- **Villagers to pool resources (land, water, cattle) for:**
  - Efficient use.
  - Conservation and minimal input waste.

Structural Framework:

- **Village-Level Cooperative:**
  - Manages all village-level economic activities.
  - Equipped with machinery and cattle resource centers.
- **Higher-Tier Cooperative (2–3 villages):**
  - Offers storage, sorting, grading, processing, packaging, and trading.
  - Provides credit, vocational training, green energy, health, tourism and education services.
  - Acts as the government's designated agency for food security programs.

6. Cooperative-Based National Food Network

Grain Collection and Compensation:

- All produce flows through cooperatives.
- Value of produce directly credited to farmer's accounts at MSP or best market rates.
- Option to defer sales lies with the farmer.

Grain Stocking for Welfare:

- Higher-tier cooperatives to stock grain for government welfare schemes.
- Paid storage and handling charges by the government.

Scale and Scope:

- **Nationwide system:**
  - ~7 lakh village cooperatives.
  - ~3.5 lakh higher-tier cooperatives.
- Digitally connected under a **National Cooperative Food Network**.
- **Benefits:**
  - Reduces food production costs.
  - Streamlines government food subsidy expenditure.
  - Boosts rural employment and enterprise.
  - Strengthens village-level dignity, independence, and prosperity.

7. Strategic Role of Cooperatives

- **Key Functions:**
  - Agriculture production system management.
  - Food security and supply chain development.
  - Climate resilience and environmental protection
  - Green energy promotion.
  - Social cohesion and equity.

- **Cooperative Values:**
  - ➢ Democratic decision-making.
  - ➢ Professional governance.
  - ➢ Shared prosperity and local entrepreneurship.

8. Revitalizing the Cooperative Movement

Need for Reforms:

- Re-establish democratic control with professional management.
- Shift from isolated units to an integrated, networked cooperative system.
- **Address structural weaknesses through:**
  - ➢ Common digital platforms.
  - ➢ Unified management training systems.
  - ➢ Resource sharing frameworks.

Holding Entity Model:

- Functionally autonomous cooperatives operating under one digital and operational umbrella.
- Largest potential business network in the country.

9. Policy and Institutional Support

- **Ministry of Cooperation (2021):**
  - ➢ Established to prioritize cooperative development.
  - ➢ Reflects government commitment to inclusive, self-reliant (Aatma Nirbhar) India.
- **National Mission:**
  - ➢ Create 3 crore "**Lakhpati Didis**."
  - ➢ Empower rural women and men through cooperative enterprise and self-employment.

10. Cooperative Enterprises: Nature and Role

- **Definition and Essence:**
  - ➢ Cooperatives are natural economic and business entities.
  - ➢ Built on synergy between people and nature.
  - ➢ Allow pooled resources for objectives unachievable individually.
- **Functional Advantages:**
  - ➢ Market access and bargaining power.
  - ➢ Economies of scale and scope.
  - ➢ Stable social and economic structures.

TOPIC 7 : HOLISTIC VILLAGE TRANSFORMATION IN INDIA – A DECADE EMPOWERED BY YOGA

1. Introduction: Yoga as a Timeless and Transformative Practice

- Yoga is rooted in ancient Indian tradition, focusing on the balance between the body, mind, and spirit.
- Beyond a physical regimen, yoga offers a comprehensive system for holistic well-being and inner harmony.
- It has universal relevance and is increasingly being used as a tool for individual health, social cohesion, and rural empowerment.

2. Global Recognition and India's Leadership

- On 11 December 2014, the UN declared June 21 as the International Day of Yoga (IDY) following PM Narendra Modi's proposal.
- **PM Modi's speech at the 69th UNGA emphasized:**
  - ➢ Yoga is a gift of ancient Indian tradition.
  - ➢ It signifies harmony of mind and body, restraint and fulfillment, and a holistic health approach.
- Since 2015, Yoga Day has become a global mass movement.
- **Activities include:**
  - ➢ Yoga chains, rings, youth-led programs.
  - ➢ Celebrations at iconic global landmarks.
  - ➢ Community-driven participation and innovation in yoga practices.

3. From Global Stage to Rural India: Yoga as a Tool of Transformation

Why Yoga for Villages?

- Rural India faces health and lifestyle challenges including chronic diseases, limited healthcare access, and lack of wellness infrastructure.
- Yoga offers a low-cost, equipment-free, preventive healthcare model.
- It fosters resilience, mental peace, physical well-being, and community bonding.
- PM Modi's vision transformed yoga from an urban elite practice to a grassroots movement.

4. Case Studies of Village-Led Yoga Transformation

(i) YogAndhra Abhiyan – Andhra Pradesh

- A mass movement to cultivate a yoga culture across the state.
- **Aim:** Create 10 lakh regular yoga practitioners, especially in the NTR district.
- **Key Highlights:**
  - 2,500 yoga trainers deployed.
  - 7 trainers assigned per village/ward secretariat.
  - **Inclusive participation:** Farmers, wage workers, doctors, lawyers, women entrepreneurs, and others.
  - Focus on simple, daily routines and wellness practices.
- **Outcomes:**
  - Yoga turned into a people's movement.
  - Enabled access to preventive healthcare at the grassroots.

(ii) Kunnamthanam, Kerala – My Village, Healthy Village

- **Context:** Pathanamthitta district panchayat spent heavily on medical aid due to lifestyle diseases.
- **Innovation:**
  - Launched in 2017 with the help of Pranavom Yoga Centre.
  - Secular framing of yoga to ensure inclusive participation.
- **Achievements:**
  - 7,000 families targeted; 8,000+ trained.
  - 28 yoga training centers across 15 wards.
  - Large-scale community participation, including the entire village council.
  - IDY saw over 5,000 people practicing yoga together.
- **Results:**
  - Visible health improvements.
  - Reduced medical assistance burden.
  - Freed resources for other developmental work.

(iii) Papanashi, Karnataka – The 'Yoga Gram'

- A model wellness village with 80% of 2,000 residents practicing yoga.
- Driven by Ayurvedic doctor Dr. Ashok Mattikatti.
- **Organic expansion during COVID:**
  - Villagers practiced yoga individually or in small groups.
  - Children aged 12–18 became yoga teachers.
- **Features:**
  - Homegrown trainers.
  - Use of local medicinal plants from Kappatagudda.
  - Integration of Ayurveda and yoga.
- **Remarkable outcome:**
  - Only 4 **COVID-19 infections** in the village.
  - High community pride and resilience.

5. Yoga as a Social Intervention: Combating Drug Abuse in Punjab

- Punjab has adopted yoga as part of its anti-drug campaign.
- Awareness campaigns combined with yoga classes through '**CM di Yogshala**.'
- **Strategy:**
  - Free community classes.
  - Focus on replacing addictive behaviors with health-positive habits.
- **Impact:**
  - Improved physical and mental health among vulnerable groups.
  - Yoga is used as both a preventive and rehabilitative tool.

6. Global Example: Yugouliang, China – Yoga as a Tool for Rural Empowerment

- Village near Beijing, once poverty-stricken, transformed through yoga.
- **Since 2016:**
  - Villagers engaged in a yoga-based lifestyle.
  - Yoga helped market agricultural produce like quinoa at higher prices.
  - Income of the poor increased by 1,100 yuan (excluding subsidies).

- **Impact:**
  - Number of poor families fell from 254 to 4.
  - Spiritual well-being of "left-behind elderly" improved.
- **Teaching Innovation:**
  - Relatable terminology used (e.g., "butt-flipping" for downward dog).
  - Public yoga performances during national events.

7. Institutionalizing Yoga in Rural Healthcare – India's AYUSH-Led Model

- Government initiative to integrate yoga into primary healthcare.
- **In Andhra Pradesh:**
  - 70 naturopathy doctors trained 2,920 mid-level health providers (MLHPs).
  - **Training included yoga for lifestyle diseases:** diabetes, hypertension, thyroid issues, PCOD.
- **Implementation:**
  - MLHPs posted in PHCs across rural areas.
  - Conducted two yoga sessions daily for the elderly and pregnant women.
  - Accountability through regular reporting and testing.

8. Key Takeaways and Vision Ahead

Yoga for Holistic Rural Development

- Improves physical health and reduces medical costs.
- Builds community cohesion and intergenerational engagement.
- Bridges gaps in rural healthcare access.

Model Villages as Catalysts

- Kunnamthanam, Papanashi, and others serve as replicable models.
- Grassroots leadership and local trainers are essential.

Integrated Wellness Approach

- Combining yoga, Ayurveda, and local traditions leads to sustainable wellness.
- Yoga acts as both preventive and curative health intervention.

Cross-Border Relevance

- Examples like Yugouliang prove yoga's universal applicability.
- Can serve as a non-intrusive soft power tool for global development models.

9. Conclusion: A Decade of Quiet Revolution

- The past decade has marked a significant shift in how India views yoga—not as ancient nostalgia, but as a 21st-century tool for village empowerment, preventive healthcare, and holistic transformation.
- Rural India is experiencing a quiet wellness revolution powered by yoga.
- Yoga's power lies in its accessibility, universality, and its ability to connect inner strength with collective progress.
- As India looks toward building a "**Viksit Bharat**," yoga will continue to play a pivotal role in shaping healthy, resilient, and self-reliant villages.