



CLIMATE SMART GRAM PANCHAYAT

SUMMARY OF RECOMMENDATIONS

MARORA GRAM PANCHAYAT



Department of Environment, Forest and Climate Change

Government of Uttar Pradesh





Sustainable Agriculture

- Micro-irrigation
- Bunds
- Agricultural Service Centre
- Mini weather monitoring station
- Transition to natural farming
- Sustainable livestock management

Short Term

Introduction of micro-irrigation on 256 ha (30%) | Construction of Agricultural Service Centre | Setting up 1 mini weather monitoring station | Transitioning 99 ha (15%) of agricultural land to natural farming | ~330.5 ha (50%) to have bunds with trees

Medium Term

Expanding micro-irrigation on 341 ha (additional 40%) | Transitioning 165 ha (40%) to natural farming | All agriculture land ~661 ha (100%) to have bunds with trees

Long Term

Expanding micro-irrigation on 256 ha (100%) | Maintenance of infrastructure | 100% transition to natural farming

Departments

Department of Agriculture | Centre for Integrated Pest Management (CIMP) | Department of Horticulture and Food Processing | Department of Land Resources | Jal Shakti Department | Animal Husbandry Department | Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) | Regional Centres for Organic Farming | Krishi Vigyan Kendra, Jhansi

Estimated Cost

Over ₹24.7 crores across three phases (Short Term: ~₹5.1 crores | Medium Term: ~₹7.6 crores | Long Term: ~₹12.1 crores)

Management and Rejuvenation of Water Bodies

- Rainwater harvesting
- Rejuvenation of ponds
- Installation of handpumps
- Tree plantations
- Recharge pits
- Enhancing drainage infrastructure
- Capacity building

Short Term

Installation of RWH structures in government buildings (2) | Rejuvenation of 2 ponds | Installing siphons | ~500 trees planted around water bodies | Installation of handpumps (9) | Construction of 30 recharge pits | Construction of drainage network (1,500 m)

Medium Term

Maintenance of ponds (2), drainage channels and other water related infrastructure | Installation of RWH structures in 76 households | Additional ~500 trees planted around water bodies | Additional recharge pits constructed as per need

Long Term

Continued maintenance of water resources | Installation of RWH structures in 405 households | Additional ~1,000 trees planted around water bodies | Additional recharge pits constructed as per need

Key Departments

Rural Development Department | Irrigation and Water Resources Department | Uttar Pradesh Department of Land Resource

Estimated Cost

Over ₹2.7 crores across three phases (Short Term: ~₹86.2 lakhs | Medium Term: ~₹34.1 lakhs | Long Term: ~₹1.5 crores)

Enhancing Green Spaces and Biodiversity

- Plantation of trees
- Agroforestry

Short Term

Plantation of 1,500 tree saplings | Sequestration potential (in 15-20 years): 15,000 tCO₂ | Establishing *Arogya Van* on 0.1 ha allocated land

- *Arogya Van*
- People's Biodiversity Register

Medium Term

Plantation of 1,500 to 2,000 tree saplings | Sequestration potential (in 15-20 years): 20,000 tCO₂ | Adoption of Agroforestry in ~146 ha land | Sequestration potential (in 15-20 years): 1,46,000 tCO₂

Long Term

Additional 2,000 to 2,500 saplings planted | Sequestration potential (in 15-20 years): 25,000 tCO₂ | Adoption of Agroforestry in ~219 ha land | Sequestration potential (in 15-20 years): 2,19,000 tCO₂

Departments

Department of Environment, Forests and Climate Change | State Biodiversity Board | Panchayati Raj Department | Rural Development Department | Central Institute of Medicinal and Aromatic Plants, Lucknow | Infrastructure and Industrial Development Department

Estimated Cost

Over ₹2.2 crores across three phases (Short Term: ~₹19.3 lakhs | Medium Term: ~₹80.6 lakhs | Long Term: ~₹1.2 crores)

Sustainable Solid Waste Management

- Enhanced waste management infrastructure
- RRC centre
- Vermicompost pits
- Ban on single-use plastics

Short Term

Setting up segregation and storage facility | Installation of 40 bins | Procurement of 1 electric garbage van | Setting up of 1 RRC Centre | Setting up of 31 vermicomposting pits | Engagement of 100 women for manufacturing plastic-alternative products (SHG alignment) | Ban on single-use plastics

Medium and Long Term

Setting up additional compost pits and waste bins | Maintenance of existing infrastructure | Engagement of additional 200 -300 women for manufacturing plastic-alternative products (SHG alignment) | Scaling up partnerships | Regular awareness, training and capacity-building programs

Departments

Panchayati Raj Department | Department of Health and Family Welfare | Department of Rural Development | Department of Agriculture | Uttar Pradesh Khadi and Village Industries Board

Estimated Cost

Approx ₹94.9 lakhs across three phases

Access to Clean, Sustainable, Affordable and Reliable Energy

- Solar rooftops
- Solar-powered pumps
- Agro-photovoltaics
- Clean cooking solutions- Household biogas, Solar induction cookstoves, improved chulhas, LPG
- Energy efficient (EE) fixtures
- Solar street lights

Short Term

Solar rooftop installation on all government buildings | Solar rooftop installation for suitable residential buildings | 9 diesel pumps replaced with solar pumps | Suitable households to adopt clean cooking interventions like household biogas, solar induction cookstoves and improved chulhas | Replacing existing fixtures in all government buildings with energy efficient fixtures (LED lights, EE fans) | Installation of 5 high-mast solar LED streetlights at key locations | Solar potential: 6 kWp | Mitigation potential: 17 tCO_{2e} per year

Medium Term

Solar rooftop installation on 40% of pucca houses (307) | Agro-photovoltaic installed on 2 ha | 13 more diesel pumps replaced with solar pumps | Installation of 15 high-mast solar LED streetlights at key locations in GP | Solar potential: ~1,421 kWp | Mitigation potential: ~1,574 tCO_{2e} per year

Long Term

Solar rooftop installation on 100% of pucca houses (461) | Agro-photovoltaic installed on 2 ha | 23 remaining diesel pumps replaced with solar pumps | Replacing all CFL light fixtures with LED tube lights/ bulbs; installation of EE fans across households | Solar potential: ~1,883 kWp | Mitigation potential: 2,091 tCO₂e per year

Departments

Ministry of New and Renewable Energy (MNRE) | Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) | Uttar Pradesh Power Corporation Limited (UPPCL) | Dakshinanchal Vidyut Vitran Nigam Limited | Panchayati Raj Department | Rural Development Department | Department of Agriculture | Education Department

Estimated Cost

Over ₹19.8 crores across three phases (Short Term: ~₹64.2 lakhs | Medium Term: ~₹8.6 crores | Long Term: ~₹10.5 crores)

Sustainable and Enhanced Mobility

- Enhancing public transport
- E-vehicles and E-tractors
- Road infrastructure

Short Term

Road RCC work (4 km) | Replace 2 auto-rickshaws with e-autorickshaws | Mitigation potential: 3.46 tCO₂e | Promoting adoption of 5 e-tractors and 5 e-goods carriers

Medium and Long Term

Maintenance of existing infrastructure | Expanding public transport (as required)

Departments

Infrastructure and Industrial Development Department | Transport Department | Panchayati Raj Department | Department of Rural Development

Estimated Cost

Over ₹2.4 crores across three phases

Enhancing Livelihoods and Green Entrepreneurship

- Engaging SHGs to manufacture sustainable products
- Promotion and Adoption of Agro-based Enterprise
- Organic fertilizer production
- E-tractor and e-goods carrier rental services
- Solar powered cold storage facility
- Production and sale of natural medicines and supplements
- O&M of RE installations

Short Term

Capacity building, training and support for 100 women and other entrepreneurs to establish enterprises across the GP | Involving 17 SHGs | Encouraging communities (100 women and farmers) and SHGs (5) to engage in mushroom cultivation | Establishing partnerships between Panchayat, community members, FPOs for marketing and selling of compost | Training of community members

Medium Term

Expanding capacity building programmes to cover 200 more women and other groups as per need and enhancing marketing of products and services | Setting up of cold storage (5-10 MT capacity)

Long Term

Continue scaling entrepreneurship opportunities and strengthening market linkages

Departments

Panchayati Raj Department | Department of Rural Development | Department of Horticulture and Food Processing | Uttar Pradesh Skill Development Mission | UP State Council for Vocational Training

Expansion of suggested climate smart activities and regular maintenance of any installations and infrastructure throughout the plan implementation and beyond

Please refer to action plan for detailed recommendations