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CLIMATE SMART GRAM PANCHAYAT ACTION PLAN

Ainchhwara Gram Panchayat

Department of Environment, Forest and Climate Change
Government of Uttar Pradesh

GEAG
GORAKHPUR ENVIRONMENTAL ACTION GROUP

VASUDHA FOUNDATION
Green ways for a good earth!

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Government of Uttar Pradesh

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Vasudha Foundation
Gorakhpur Environmental Action Group (GEAG)

Guidance

Department of Environment, Forest and Climate Change, Government of Uttar Pradesh

Mr. Manoj Singh, IAS, Additional Chief Secretary

Mr. Ashish Tiwari, IFS, Secretary

District Administration

Mr. Abhishek Anand, IAS, District Magistrate (DM), Chitrakoot

Ms. Amritpal Kaur, IAS, Chief Development Officer (CDO), Chitrakoot

Vasudha Foundation

Mr. Srinivas Krishnaswamy, CEO

Mr. Raman Mehta, Programme Director

Dr. S. Satapathy, Expert Consultant

Gorakhpur Environmental Action Group (GEAG)

Dr. Shiraz Wajih, President

Authors

Vasudha Foundation
Ms. Riya Sethia, Ms. Shivika Solanki, Ms. Rini Dutt

Gorakhpur Environmental Action Group (GEAG)
Mr. Vijay Kumar Pandey and Mr. K K Singh

Research Support

Vasudha Foundation
Dr. Preeti Singh, Ms. Swati Gupta, Ms. Monika Chakraborty, Mr. Naveen Kumar, Ms. Fathima Saila

Ainchhwara Gram Panchayat
Mr. Sunil Shukla, Gram Pradhan

Field Research Support

Gram Unmesh Sansthan
Mr. Ambrish Kumar Srivastav, Mr. Sanjay Kumar, Mr. Hemraj Singh, Ms. Vandana

Design & Layout

Vasudha Foundation
Mr. Santosh Kumar Singh, Ms. Swati Bansal, Ms. Priya Kalia

अभिषेक आनन्द
आई.ए.एस.
जिलाधिकारी, चित्रकूट

कार्यालय
जिलाधिकारी, चित्रकूट

फोन : 05198-235118 (कार्यालय)
235305, 235016 (आवास)
मोबाइल : 9454417532
ई-मेल : dmchi@nic.in

संख्या ....मेमो/..

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संदेश

ग्राम पंचायतों को जलवायु सजग ग्राम पंचायत बनाने हेतु समर्पित क्लाइमेट स्मार्ट **ग्राम पंचायत एंचवारा, विकास खण्ड मानिकपुर, जनपद चित्रकूट** की कार्ययोजना हेतु संदेश लिखते हुए मुझे बहुत सम्मान का अनुभव हो रहा है। जैसा कि हम जलवायु परिवर्तन से उत्पन्न चुनौतियों को देख रहे हैं, हमारे लिये ज़मीनी स्तर पर तत्काल और व्यापक कार्यवाही किये जाने की आवश्यकता है। हमारी ग्राम पंचायतें, समुदाय के निकटतम शासन की एक आवश्यक इकाई होने के नाते जलवायु संबंधी चुनौतियों को कम करने और सतत् विकास को बढावा देने में महत्वपूर्ण भूमिका निभा सकती है। हमारे समुदाय, हमारा पारिस्थितिकी तंत्र और हमारी अर्थव्यवस्था सब आपस में जुडे है और हमारे लिये ऐसी रणनीतियों को अपनाना आवश्यक है जो जलवायु से जुडे जोखिमों को कम करती हों।

ग्राम पंचायतों हेतु तैयार यह कार्ययोजना जलवायु पर कार्य करने के प्रति हमारी प्रतिबद्धता है जो पंचायत को क्लाइमेट स्मार्ट पंचायत बनाने के लिये एक मार्गदर्शक के रूप में कार्य करेगी।

मैं इस क्लाइमेट स्मार्ट कार्ययोजना निर्माण के लिये **पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेश, तकनीकी सहयोगी वसुधा फाउंडेशन, नई दिल्ली**, स्थानीय सहयोगी संस्था **गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी), गोरखपुर तथा ग्राम उन्मेश संस्थान, चित्रकूट** को धन्यवाद करता हूँ और आशा करता हूँ कि निर्मित कार्ययोजना ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनने में सहयोगी होगी।

धन्यवाद !

(अभिषेक आनन्द)

चित्रकूट

पता:- विकास भवन, सोनेपुर,
चित्रकूट - 210205
दूरभाष:- 9454464772, 05198298323
ई-मेल:- cdo.ckt1@gmail.com

संदेश

ग्राम पंचायतों को जलवायु सजग ग्राम पंचायत बनाने हेतु समर्पित क्लाइमेट स्मार्ट **ग्राम पंचायत ऐंचवारा,** विकास खण्ड मानिकपुर, जनपद चित्रकूट की कार्ययोजना हेतु संदेश लिखते हुए मुझे अपार हर्ष हो रहा है। ग्राम पंचायत हेतु तैयार यह कार्ययोजना जलवायु पर कार्य करने के प्रति हमारी प्रतिबद्धता है, जो पंचायत को क्लाइमेट स्मार्ट पंचायत बनाने के लिए एक मार्गदर्शक के रूप में कार्य करेगी।

क्लाइमेट स्मार्ट ग्राम पंचायत योजना विकसित करने में **पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेश, तकनीकी सहयोगी वसुधा फाउंडेशन, नई दिल्ली,** स्थानीय सहयोगी संस्था **गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी), गोरखपुर तथा ग्राम उन्मेश संस्थान, चित्रकूट** के समर्पित प्रयासों के लिये हार्दिक शुभ कामनाओं के साथ एक बार फिर क्लाइमेट स्मार्ट कार्ययोजना तैयार करने में योगदान के लिये अभार व्यक्त करती हूँ तथा योजना के सफल कार्यान्वयन और समुदाय व पर्यावरण पर इसके सकारात्मक प्रभाव की आशा करती हूँ।

धन्यवाद !

भवदीया,

(अमृतपाल कौर)
मुख्य विकास अधिकारी,
चित्रकूट।

प्रधान ग्राम पंचायत ऐंचवारा

क्षेत्र पंचायत मानिकपुर (चित्रकूट) उ0प्र0

सुनील शुक्ल
प्रधान
ग्राम- ऐंचवारा

सम्पर्क सूत्र-
9455826501

ग्राम पंचायत एंचवारा, विकास खण्ड मानिकपुर,
जनपद चित्रकूट

पत्रांक-

दिनांक -

आभार

सर्वप्रथम आप सभी को प्रधान, ग्राम पंचायत एंचवारा, जनपद चित्रकूट की ओर से सादर नमस्कार और अभिनंदन। मुझे आशा ही नहीं पूर्ण विष्वास है कि आप सभी स्वास्थ्य होंगे। मै अपनी ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनाने की ओर हेतु बढ़ाये गये प्रथम कदम/प्रयास को आपसे साझा करते हुए रोमांचित हूँ।

जलवायु परिवर्तन से उत्पन्न चुनौतियाँ हर दिन अधिक स्पष्ट होती जा रही है और हमारे समुदाय और भावी पीढ़ियो की भलाई के लिये उन पर कार्य करना हमारी सामूहिक जिम्मेदारी है। इस विषय की गम्भीरता को समझते हुए सभी ग्रामवासियों की सर्वसहमति से हमने अपनी ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनाने की प्रक्रिया को प्रारम्भ किया। सर्वप्रथम आवष्यक था ग्राम पंचायत में जलवायु परिवर्तन संबंधी समस्याओं और मुद्दों की पहचान करना जिसके लिये सामुदायिक सहभागिता के साथ ग्राम सभा की बैठक एवं समूह केन्द्रित चर्चा के आयोजन के अतिरिक्त व्यक्तिगत चर्चा की गयी और आंकडों को एकत्र किया गया। आंकडे एकत्र करने की प्रक्रिया को पंचायत में क्रियान्वित करने के लिये मैं स्थानीय सहयोगी संस्था **गोरखपुर एनवायरमेंट एक्षन ग्रुप (जी.ई.ए.जी), गोरखपुर तथा ग्राम उन्मेष संस्थान, चित्रकूट** का तथा आंकडें एकत्र करने में हमारे सभी ग्रामवासियों के समर्थन और सक्रिय भागीदारी के लिये हृदय से धन्यवाद। हम सभी साथ मिलकर हमारी पंचायत में एक पर्यावरण अनुकूल वातावरण बनायेंगे जो न केवल हमारे प्राकृतिक संसाधनों की रक्षा करेगा अपितु प्रत्येक ग्रामीण के जीवन की समग्र गुणवत्ता को भी बढ़ायेगा।

इसके साथ ही मैं **पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेष** और तकनीकी सहयोगी पार्टनर **वसुधा फाउंडेषन, नई दिल्ली,** का भी आभारी हूँ जिन्होंने एकत्र किये गये आंकडों को कार्ययोजना का स्वरूप दिया तथा मार्गदर्षन एवं तकनीकी सहयोग प्रदान किया।

मैं सभी ग्रामवासियों अपनी पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनाने के लिये हाथ मिलाकर आगे बढ़ने का आग्रह करता हूँ। आइये हम सभी एक सकारात्मक बदलाव की ओर आगे बढ़े और दूसरों के लिये उदाहरण स्थापित करें।

धन्यवाद !

(प्रधान) 24-1-24

ग्राम पंचायत एंचवारा

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1 Executive Summary

The Ainchhwara Gram Panchayat in the District of Chitrakoot lies in Bundelkhand agro-climatic zone of Uttar Pradesh. The Climate Smart Gram Panchayat Action Plan of Ainchhwara has been prepared with an aim to strengthen climate action at the Gram Panchayat level (GP) and make it climate smart/ resilient by 2035. The action plan provides a GP-specific roadmap to aid in building resilience, enhancing adaptive capacity, reducing vulnerabilities and associated risks as well as mitigating greenhouse gas emissions, while reaping other co-benefits like, additional revenue generation, overall socio-economic development, improved health, and natural resources management.

The Action Plan has been prepared by adopting the draft Standard Operating Procedure (SOP) for Development of Climate Smart Gram Panchayat Action Plans prepared by the Department of Environment, Forests and Climate Change, Government of Uttar Pradesh. The Climate Smart Gram Panchayat Action Plan (CSGPAP) for Ainchhwara is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Ainchhwara GP.

The action plan[1] captures the key demographic and socio-economic aspects, key issues pertaining to the Bundelkhand agro-climatic zone, climate variability, carbon footprint analysis of the GP, and current status of natural resources. The action plan also includes inputs from the community members of Ainchhwara GP gathered through field surveys, focus group discussions and relevant government departments and agencies. This helped in building a baseline and identifying the key issues of Ainchhwara.

The GP has one revenue village and ten hamlets and 900 households with a total population of 6,000 as reported during field surveys. The main economic

Approach

Development of primary survey tool

Survey & primary data collection: Survey was carried out with support from Gram Pradhan and community members. Participatory Rural Appraisal (PRA) activities included Focus Group Discussions (FGDs) with residents and community members, transect walks, development of social resource map, etc.

Data analyses & plan development:

- ***Development of GP profile:*** A detailed GP profile was developed based on the responses received on the Survey Questionnaire. This profile includes demographics, climate variability, key economic activities, natural resources, and amenities of Ainchhwara.
- ***Identification of key issues:*** An exhaustive list of key developmental & environmental issues was identified through responses received in Survey Questionnaire & HRVCA.
- ***Carbon footprint:*** Carbon footprint was estimated for key activities* in Ainchhwara.
- ***Proposed recommendations:*** Recommendations were developed for Ainchhwara based on the environmental and climatic issues identified. These recommendations also take into account the prevailing agro-climatic characteristics of Bundelkhand region. Additionally, sector-wise adaptation needs & mitigation potential of Ainchhwara have been determined.

A participatory approach was followed throughout the development of the action plan. This will result in enhancing the capacity of the community for climate leadership while fostering a sense of ownership and accountability at the local level.

* Activities include-residential cooking, emissions arising from diesel pump usage, transport, electricity consumption, crop residue burning, livestock emissions, fertilizer emissions, rice cultivation & domestic wastewater.

1 The Gram Panchayat Action Plan includes aspects of climate change adaptation, mitigation and Hazard Risk Vulnerability and Capacity Assessment (HRVCA)

activities include agriculture and animal husbandry. A baseline assessment shows that Ainchhwara GP has a carbon footprint of ~1,965 tCO_2e.[2]

A few priority areas for immediate action identified in Ainchhwara GP are:

1. Harnessing Renewable Energy (RE) and energy efficiency solutions such as solar rooftop installations, solar-powered pumps, and energy efficient fixtures in households and public utilities amongst others.
2. Enhancing green cover through plantation activities along roads, agricultural fields, water bodies and available common land
3. Strengthening sustainable and drought resilient cultivation practices by promoting micro-irrigation and zero budget natural farming techniques
4. Diversifying livelihood options and creating opportunities for green jobs

Taking in to account the vulnerable sectors, issues emerging from focus group discussions, field surveys, and ongoing activities in the GP, the recommendations have been proposed. The recommendations cover the thematic areas of agriculture, water, clean energy, enhancing green spaces, sustainable waste management, sustainable mobility, and enhanced livelihoods and green entrepreneurship.

The activities under these recommendations have been divided into 3 phases- Phase I (2024-2027), Phase II (2027-2030) & Phase III (2030-2035). The phase-wise targets can further be distributed into annual targets as per the discretion of the Gram Panchayats. Moreover, the financing avenues for the suggested activities have been indicated along with phase-wise targets, potential costs, and supporting Central and State schemes.

The Climate Smart Gram Panchayat Action Plan (CSGPAP) for Ainchhwara is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Ainchhwara GP.

CSGPAP will supplement and complement the Ainchhwara GPDP by:

a. Broad-basing existing development initiatives and activities with a climate perspective
b. Dovetailing ongoing national and state programs on climate change with the proposed development activities in the GPDP

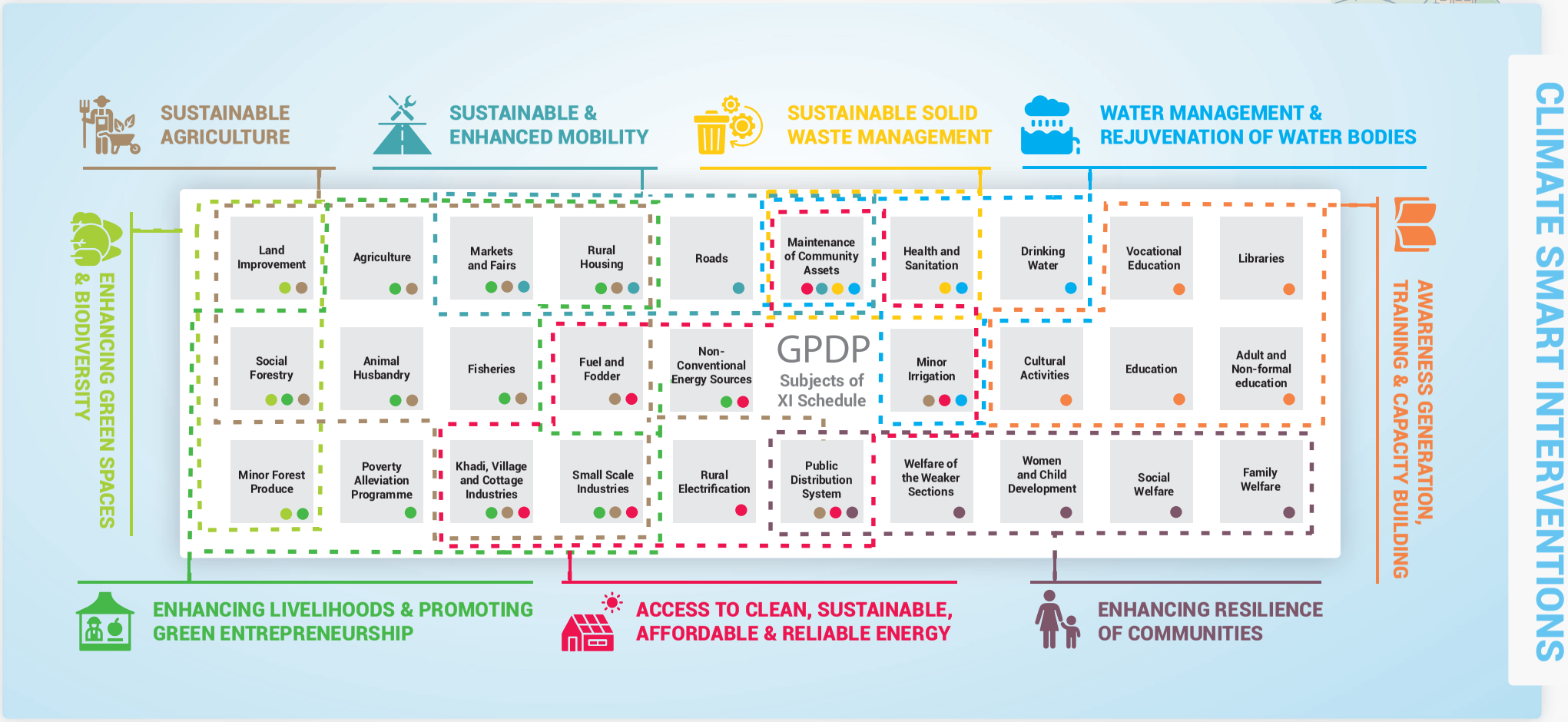
2 Emissions from electricity consumption in the Gram Panchayat, considering Scope 2 emissions (data can be obtained from UPPCL).

The interventions and annual targets under this Action Plan can be implemented in convergence with the planned activities of the Ainchhwara GPDP. The existing budgetary allocations earmarked for certain programs under the GPDP can be used for climate adaptation and mitigation activities proposed in this plan. For example, water body rejuvenation carried out through schemes like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) will have climate change adaptation benefits as well. Similarly, funds earmarked under the "non-conventional energy" subject of the Eleventh Schedule (basis of GPDP) can be utilized to scale up renewable energy deployment.

The total emissions avoided/mitigated through the implementation of this plan is estimated to be 4,286 tCO_2e per annum and the sequestration potential goes up to 95,000 tCO_2 over the next 20-25 years. The total cost estimated for the implementation of this plan across the three phases is approximately ₹59 crores (for 11 years), comprising of community investment, public finance, private finance and potential CSR funding. From this, 30-35 percent (approximately ₹20 crores) of the required funding can be availed from Central and State Schemes/Missions/Programmes, while the remaining cost can be secured from CSR and private funds. The Government of UP has adopted an innovative approach of 'Panchayat-Private-Partnership' to engage CSRs and mobilize private finance.

Climate Smart and Sustainable Gram Panchayats by 2035

Mainstreaming Climate Action with Development



2 Gram Panchayat Profile

Ainchhwara

Ainchhwara Gram Panchayat at a Glance†

Location	Manikpur Block, Chitrakoot District
Total Area[3]	1,430 ha
Composition	1 Revenue Village 10 Hamlets
Total Population[4]	6,000
No. of Males	3,143
No. of Females	2,857
Total Households[5]	900
Panchayat Infrastructure	6 (Gram Panchayat Bhavan, Primary, Junior and Junior High Schools, Anganwadis and ASHA Centre)
Primary Economic Activity	Agriculture
Land-use[6]	300 ha Agriculture Land 400 ha Common Land 522 ha Forest Land 208 ha Other Land

Water Resources[7]	Balmiki River[8] 6 Ponds 25 Wells

Agro-climatic Zone[9]: Bundelkhand

- Climatic conditions: semi-arid with low rainfall and high temperatures
- Maximum Temperature: 47.8°C
- Minimum Temperature: 3°C
- Average Annual Rainfall: 867 mm
- Soil type: rocky and less fertile
- Suitable Crops: pulses, oilseeds, coarse grains, and drought-resistant crops like barley and jowar
- Vulnerability: prone to droughts

Composite Vulnerability[10] of the District
Moderate

Sectoral Vulnerability of District

- Agriculture Vulnerability: Very High
- Disaster Management Vulnerability: High
- Energy Vulnerability: High
- Water Vulnerability: Moderate
- Rural Vulnerability: Moderate
- Health Vulnerability: Moderate
- Forest Vulnerability: Moderate

† Data from Field Survey conducted for preparation of the Plan (February, 2023)
3 Sourced from Bhuvan Panchayat website (https://bhuvanpanchayat.nrsc.gov.in/index.html)
4 As per survey by DoEFCC, GoUP
5 As per discussion with Gram Panchayat and Gram Pradhan (in second round of data collection)
As per Census 2011: Total Households - 643
6 Data received from after multiple rounds of discussion with the GP
7 As per discussion with Gram Panchayat and HRVCA
8 Located 15 km from Chitrakoot Dham Karvi
9 Department of Agriculture, Govt. of UP
10 UP State Action Plan on Climate Change 2.0

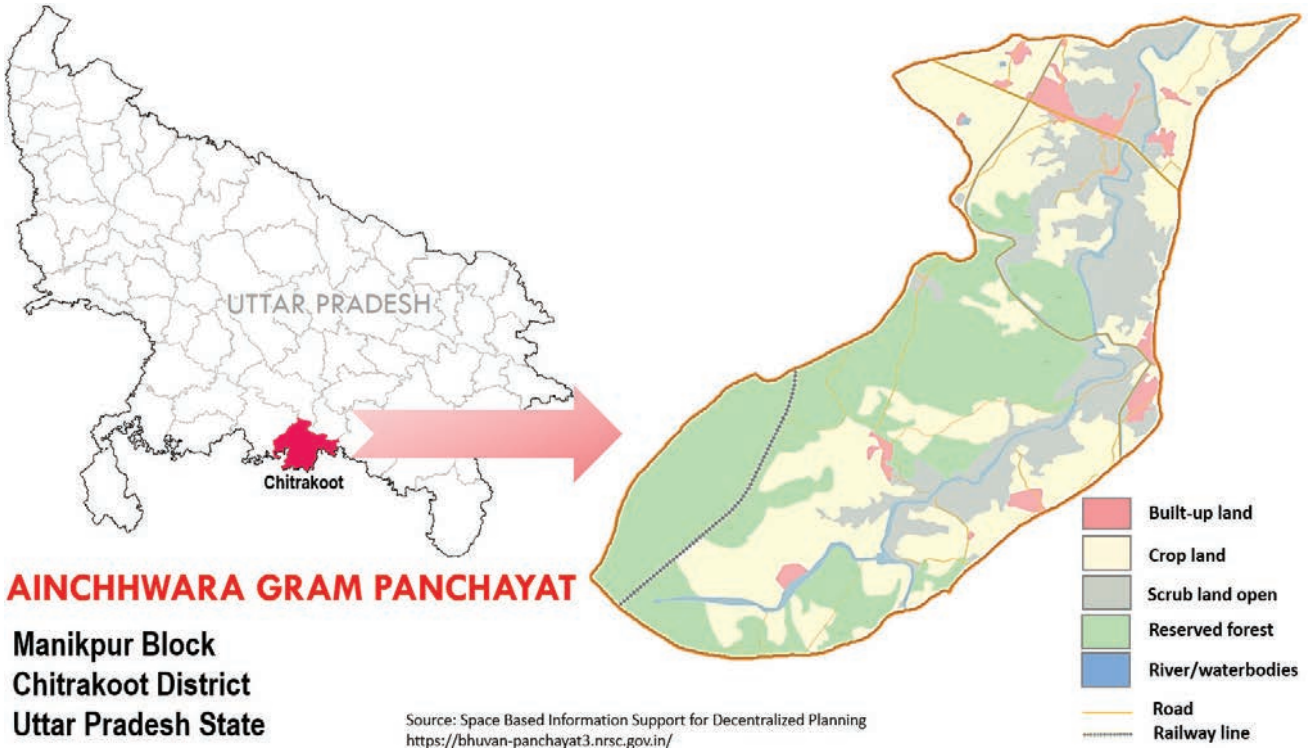


Figure 1: Land-use map of Ainchhwara Gram Panchayat, Chitrakoot District

Climate Variability Profile

The climate variability data (temperature and rainfall) received from the India Meteorological Department (IMD)[11] - indicates that there has been a slight decrease in the annual average maximum and minimum temperature in the region (Chitrakoot district) between 1990 and 2020 (see Figure 2). During the same time frame, annual rainfall has also declined (see Figure 3). However, the IMD data does not capture granular temperature variability at the Panchayat level and further, there are days for which data was not available.

A recent report by World Meteorological Organization, indicates that Asia as a whole has warmed faster than the global land and ocean average between 1991 to 2023 and there has been an evident surge in warm days across large parts of South Asia in the decade of 2010-2020.[12] Similar findings are also confirmed by IPCC[13], and Ministry of Earth Sciences (MoES)[14], Government of India.

Further, the perception of communities on weather changes informed from the field survey and focus group discussion indicates that across the decade of 2010-2020, the GP has witnessed an increase in the number of summer days by an average of 20 days and decrease in the number of winter days by approximately 30 days. Further, they also indicated that the number of rainy days has also decreased by roughly 20-25 days[15].

The climate variability analysis undertaken for the GP accounted for both IMD data as well as community perception to bring out a balanced view of the prevailing climate variability in the GP.

11 India Meteorological Department data from 1990 to 2020 (Daily temperature (maximum and minimum) data and daily rainfall data taken for Ainchhwara from weather stations of Fatehpur, Banda & Allahabad)

12 "https://library.wmo.int/records/item/68890-state-of-the-climate-in-asia-2023"State of the Climate in Asia 2023 (wmo.int)

13 "https://www.ipcc.ch/report/ar6/syr/"AR6 Synthesis Report: Climate Change 2023 (ipcc.ch)

14 "https://link.springer.com/book/10.1007/978-981-15-4327-2"Assessment of Climate Change over the Indian Region: A Report of the Ministry of Earth Sciences (MoES), Government of India | SpringerLink

15 Data from Field Survey conducted for preparation of the Plan

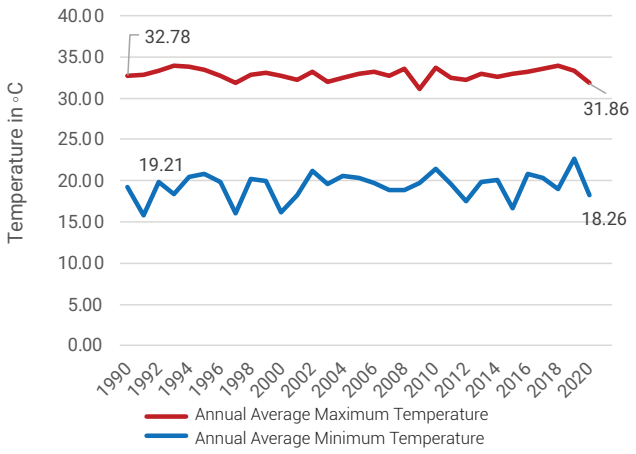


Figure 2: Annual average maximum and minimum temperature in Ainchhwara, 1990-2020

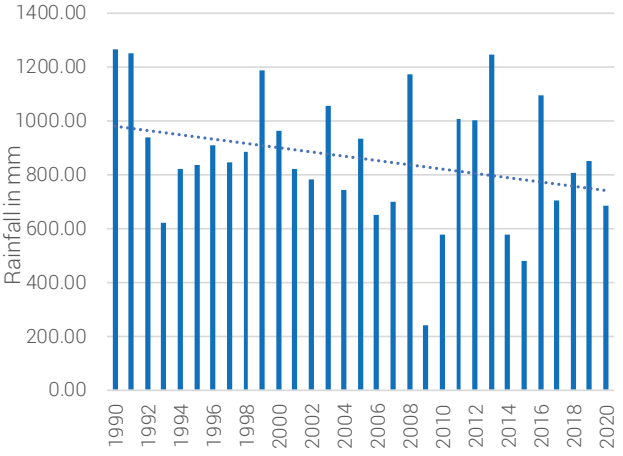


Figure 3: Annual rainfall in Ainchhwara, 1990-2020

Key Economic Activities

Agriculture is the primary source of household income in the GP with 35 percent of the households engaged in it as per inputs received in the field survey. This is followed by engagement in animal husbandry activities and non-farm wage-labour. Some households are involved in businesses, service sector, small scale/ cottage industries, arts/handicrafts and others (Figure 4).

Household level income estimates obtained from the focus-group discussions reveal that 25 percent of the households earn less than Rs. 50,000 per annum and only a small fraction (10 percent) of the households earn more than Rs. 5,00,000 per annum (see Figure 5).

At the time of the survey, 450 households were Below Poverty Line (BPL) i.e. ~ 50 percent of the total households.

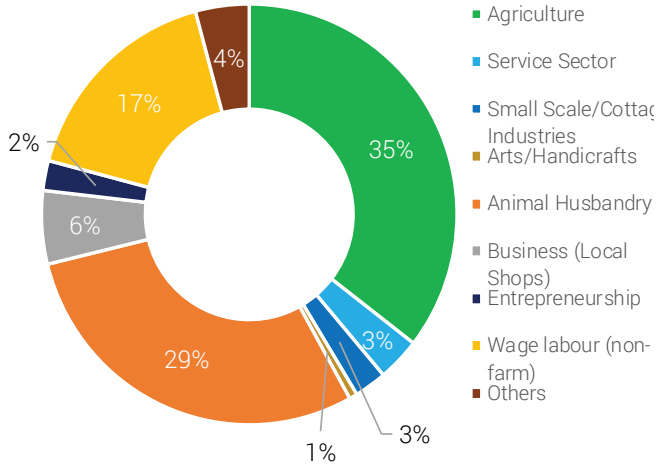


Figure 4: Household level primary source of income in Ainchhwara

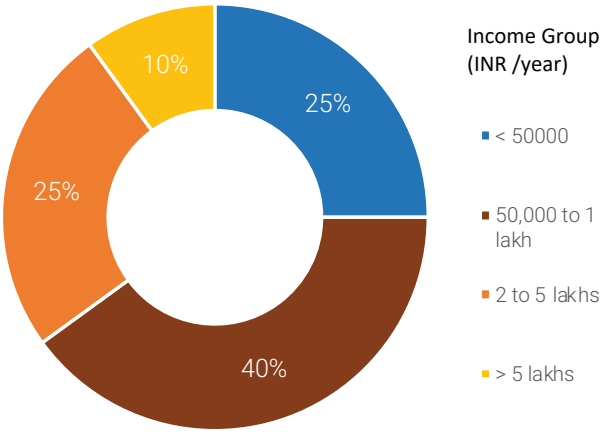


Figure 5: Household level income estimates in Ainchhwara

Women's Employment

There are 135 working women in the GP. Majority of them are engaged in wage-labour (non-farm), followed by agricultural activities, while others are involved in animal husbandry, service sector, small scale/cottage industries and other activities like stitching/tailoring.

The field survey indicated that there is an active network of Self-Help Groups (SHG) in the GP. There are 9 SHGs in the panchayat that are involved in activities like goat and hen rearing, small shops, dairy products and idol making from cow dung.

Agriculture

35 percent of the households in Ainchhwara are dependent on agriculture for their income. Households are involved in agriculture in various ways as indicated in Figure 6[16].

The net sown area in the GP is 300 ha while the gross cropped area is 616.2 ha[17]. The major kharif crop grown is paddy and the major rabi crop grown is wheat. The other major crops grown are mustard, pea and chickpea as shown in Figures 7 and 8.

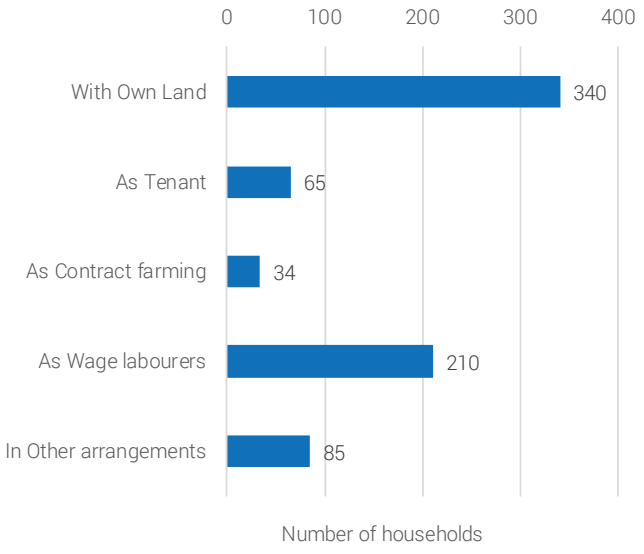


Figure 6: Agriculture only dependent households in Ainchhwara

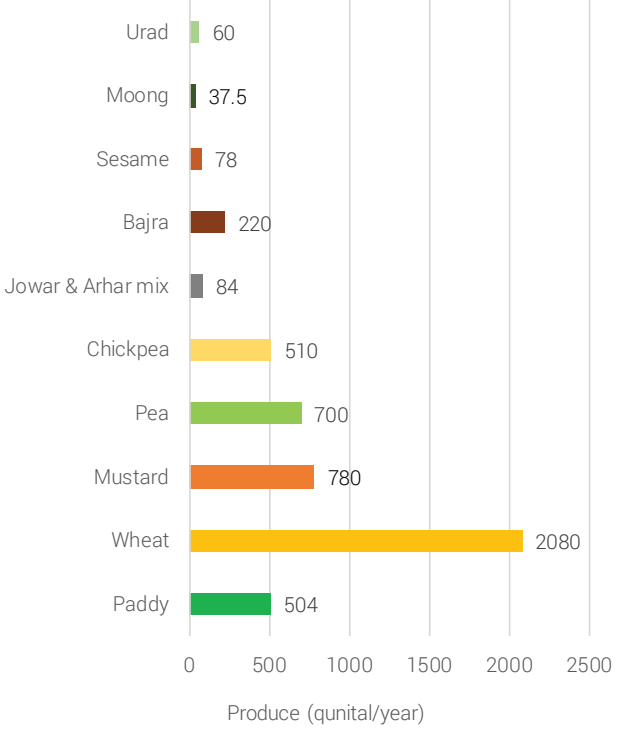


Figure 7: Crop production by crop type in Ainchhwara

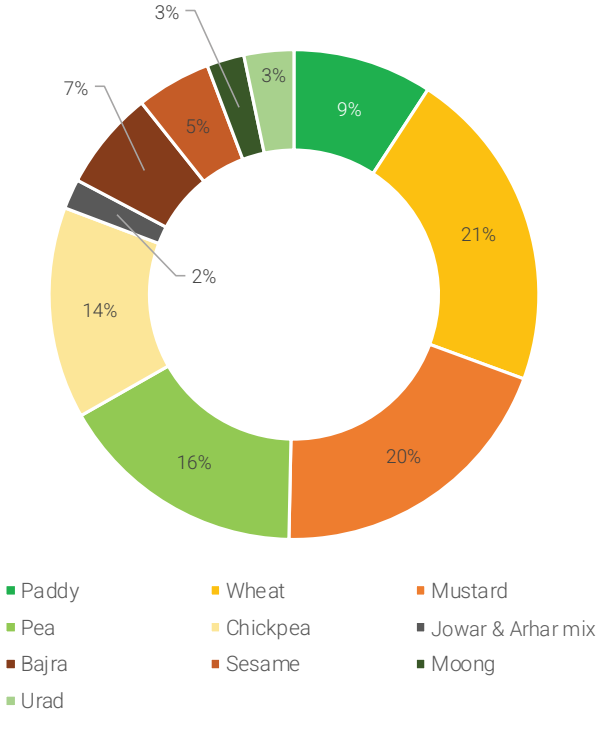


Figure 8: Crop-wise distribution of gross cropped area in Ainchhwara

16 It may be noted that a number of households may be engaged in agriculture in more than one way. For example, small landowners could also be working as wage-labourers on larger farms. Additionally, large-land owning farmers could also be practicing contract farming.

17 The net sown area and gross cropped area is based on inputs received from multiple rounds of discussions with the GP

Sustainable farming practices like crop rotation, compost, natural pest manage-ment are also practiced. Organic farming of *jowar and arhar* (mix), sesame and pulses like *moong and urad* is done in the GP.

Irrigation pattern is rainfed along with use of tube wells and pumping sets. The GP is mostly reliant on diesel pumps for irrigation with around 120 diesel pumps. As the GP falls under Bundelkhand agro-climatic region, it has lateritic soil.

Nearly 44 percent of the households are engaged in dairy and poultry farming in the GP. The total livestock population is 1,448 (168 cows, 300 buffalos, 860 goats, 120 pigs) and there are 3,600 poultry birds in the GP.

Natural Resources

The field survey indicated that Ainchhwara has 522 ha of forest land. Over 400 ha of common land is available in the GP, out of which 225 ha is currently encroached[18]. There are 6 ponds in the GP.

Plantation activities in the form of agro-forestry and social forestry were carried out on approximately 2.02 ha of land 10 years ago (before 2013). Agro-forestry and social forestry plantation includes monoculture and mixed species like teak, mango, guava*, sheesham, mahua and aamla* that were implemented through the Integrated Watershed Management Programme and Rain-fed Area Programme. Additionally, social forestry was also done in Ainchhwara forest area (*sheesham*, teak, *aamla* and blackberry) on 15 ha of land in 2021-22. The initiative was implemented through National Agroforestry Mission, Integrated Watershed Management Programme, Rain-fed area Programme and MGNREGA.

18 Based on field surveys and discussion with Gram Pradhan

Amenities of Ainchhwara

Electricity & LPG

- Electricity access: 92% households
- LPG coverage: 81% households

Water

- Main source of water for household use and GP level supply – groundwater and Balmiki River

Waste

- Household toilet coverage: 87%

Mobility and Market Access

- Connectivity to State Highway (SH-1) at a distance of 12 km
- Railway station, Karwi at a distance of 15 km
- Bus station at a distance of 15 km
- Fire station at a distance of 15 km
- Nearest agriculture market at a distance of 12 km
- Ration shop, post office and a bank within village

Education

- Primary School, Junior private school
- Junior High School
- Institute/College (Tyagi Inter college)
- 4 Anganwadis

Health

- 1 ASHA Centre
- Primary Health Centre
- Health Camps/Melas

3 Carbon Footprint

While the Carbon Footprint (in other words, Greenhouse Gas (GHG) emissions) from rural areas is not significant, this exercise has been carried out to develop a complete baseline of the Gram Panchayat. It may be noted that the objective of this plan is not to develop a carbon neutral GP, but a Climate Smart GP. However, the recommendations will have emission reduction benefits which perhaps will help make the GP carbon neutral or even carbon negative. Keeping this in view, this exercise therefore does not include GHG projections.

Further, the carbon footprint also aids in providing recommendations to ensure sustainable development that aligns with the principles of the LiFE Mission. Overall, in 2022, Ainchhwara GP emitted approximately 1,964.9 tonnes of carbon dioxide equivalent (tCO_2e) from a wide range of activities (see Figure 9).

Activities in energy, agriculture and waste sectors contributed to the carbon footprint of Ainchhwara. Energy sector emissions are due to electricity consumption[19], combustion of fuelwood and LPG for cooking, use of diesel pumps for irrigation, use of generators for power backup and use of fossil fuels in various means of transport. Agriculture sector emissions include those due to rice cultivation, application of fertiliser on agricultural fields, livestock and manure management and crop residue burning. Emissions due to domestic wastewater are included in the waste sector.

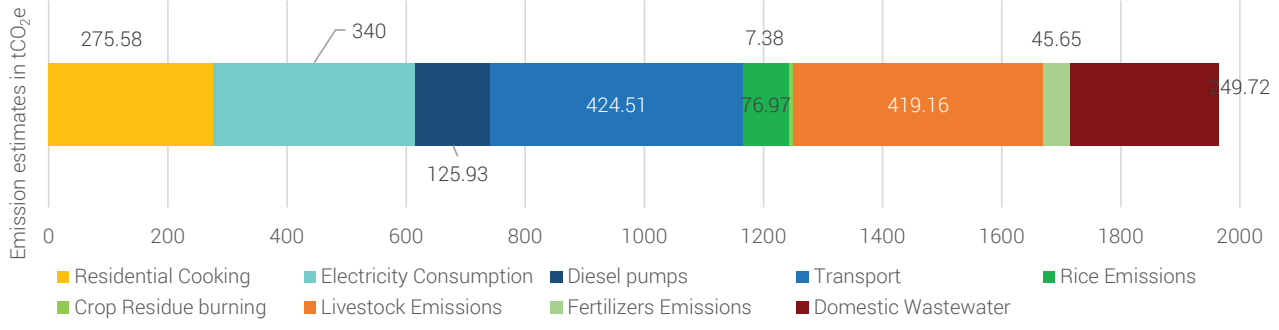


Figure 9: Carbon footprint of various activities in Ainchhwara in 2022

The energy sector accounted for 59 percent of the total emissions. Within the sector, the transport category was the key emitter (424.51 tCO_2e), this was followed by electricity consumption (340 tCO_2e), residential cooking (275.58 tCO_2e) and diesel pump sets (125.93 tCO_2e). Emissions from the agriculture sector accounted for 28 per cent of the total emissions of Ainchhwara GP, with emissions from livestock (419.16 tCO_2e) and rice cultivation (76.97 tCO_2e) being the leading causes of GHG emissions. The waste sector accounted for 13 percent of the total emissions.

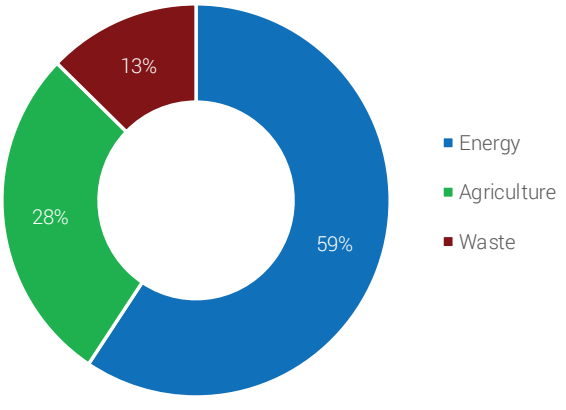


Figure 10: Share of sectors in carbon footprint of Ainchhwara in 2022

19 Emissions due to electricity consumption are categorized as Scope 2 emissions, as the fuel (coal) combustion for electricity generation takes place outside the GP boundary.

4 Broad Issues Identified

The broad issues identified are based on the data collected and analyses conducted to establish the GP baseline, the inherent characteristics of the agro-climatic zone in which the GP is located as well as the inputs received from the community members during field surveys, and focus group discussions. Wherever possible, this information was corroborated with available government data sources. However, certain issues are completely based on information from the community because for these GP level data was not available for corroboration. The issues identified in the GP are summarized below. Further, the detailed issues are listed in the respective themes of the recommendations section.

Broad Issues:

- Changes in seasonal durations and erratic rainfall affecting sowing time, harvesting time and irrigation needs of crops among other impacts in the GP
- Frequent occurrence of droughts in June/July and hailstorms in January/March
- Poor maintenance of natural resources including green cover and water bodies
- Inadequate water availability
- Unsustainable agricultural and animal husbandry practices
- Limited sanitation and waste management practices
- Dependence on fossil fuels and traditional fuels for cooking, agricultural and transport needs
- Limited inter and intra village connectivity/ limited para-transit
- Lack of awareness about climate change impacts
- Lack of awareness about various schemes and programmes of the Central and State governments on clean energy and climate change

5 Proposed Recommendations

Each thematic issue consists of several interventions, with focus on both mitigation and adaptation, described with phased targets and cost estimates[20] (to the extent possible). The targets are spread across three phases: Phase-I (2024-25 to 2026-2027); Phase-II (2027-28 to 2029-30); and Phase-III (2030-31 to 2034-35).

Targets under each phase can be further distributed into annual targets (Year-on-year targets) ensuring effective and monitored implementation. The template for developing Year-on-year targets can be referred from the document "Standard Operating Procedure (SOP) for development of Climate Smart Gram Panchayat Action Plan". The SOP is a step-by-step approach to be used by Gram Pradhans, community members or other stakeholders to develop Climate Smart Action Plans for their respective Gram Panchayats.

The financing avenues identified include central or state schemes, various tied and untied funds of the gram panchayat or private finance through CSR interventions. The detailed recommendations are in the following section.

Recommendations suggested in the action plan span across the following themes:

1. **Enhancing Green Spaces and Biodiversity**
2. **Management and Rejuvenation of Water Bodies**
3. **Sustainable Agriculture**
4. **Sustainable Waste Management**
5. **Access to Clean, Sustainable, Affordable and Reliable Energy**
6. **Sustainable and Enhanced Mobility**
7. **Enhancing Livelihoods & Green Entrepreneurship**

Further, while not forming a part of the recommendations, a list of possible initiatives has also been listed out for consideration by the Panchayats. These initiatives have been implemented successfully in some parts of India and could be replicated here as well. However, since these initiatives are not covered by any ongoing schemes/programmes of the Government of Uttar Pradesh, the funding for these initiatives at this point in time will have to be borne by the communities or by exploring CSR and private sources. Hence, they are not included in the main recommendations.

20 Costs have been estimated based on different methods like:
- » inputs from key members of the Gram Panchayat,
- » OR cost estimates as per relevant schemes and policies,
- » OR approximate per unit costs of inputs required
- » OR schedules of rates of various departments.

1. Enhancing Green Spaces and Biodiversity

Context and Issues

1. Although Ainchhwara has a demarcated forest area of 522 ha[21], a significant portion of it degraded and not well-maintained.
2. Plantations in the GP include agro-forestry and social forestry on 2.02 ha of land which was carried out 10 years ago. The prominent species include teak, mango, guava, *sheesham*, *mahua and aamla*[22].
3. Additionally, in 2021-22, another 15 ha of land is covered under social forestry (*sheesham*, teak, *aamla* and blackberry).

Aincchwara gram panchayat has potential to maintain the existing lung spaces and restore the degraded tree cover. This will not only improve thermal comfort and provide shade but also help improve soil health and water levels in the long term, in addition to enhancing carbon sink in the GP.

Improving Green Cover

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Restoration and conservation of existing forest area (in hilly region) 2. Planting saplings through community engagement: a. Green Stewardship Programme for students b. Creation of Food Forest by planting fruit trees c. In forest, along roads/ pathways, around water bodies, etc.	1. Additional plantation of saplings: a. Creation of Bal Van b. In forest, along roads/pathways, around water bodies, etc. 2. Establishment of *Arogya Van* and development of production units for natural medicines and supplements	1. Maintenance of GP Forest area, *Bal Van*, Food Forest and other plantations 2. Maintenance of *Arogya Van* and production of natural medicines and supplements 3. Additional plantation activities (in forest, along roads/pathways, around water bodies)

21 As reported during the field surveys
22 As reported during the field surveys

Suggested Climate Smart Activities	3. Initiating *Arogya Van* through allocation of land to establish *Arogya Van* 4. Awareness and training sessions for students, youth and local communities on: a. Importance of forest and green cover b. How to plant and nurture trees c. Appropriate tree species for plantation and its vulnerability *(For plantation/green cover, trees to be planted include - monoculture and mixed species like Mango, Guava, Sheesham, Mahua, Teak, Aamla and Blackberry)*	3. Encouragement to farmers to adopt agroforestry; Awareness and capacity building programmes for farmers 4. Maintenance of GP Forest area, forest resources, Food Forest and other plantations 5. Partnership building between panchayat, CIMAP-Lucknow, FPO's, Women groups, youth groups, etc. for production and sale of natural medicines and supplements (explained in detail in "Enhancing livelihoods & Green Entrepreneurship section") 6. Skill development and training by CIMAP-Lucknow to all stakeholders 7. Awareness and training sessions for students, youth and local communities *(Bal van: New parents can be gifted with saplings of indigenous evergreen trees as a celebration of birth of their children and to be encouraged to nurture the plants through their children's life)*	4. Scaling up agroforestry adoption 5. Scaling up partnership beyond GP to other villages/districts 6. Skill development and training by CIMAP-Lucknow to all stakeholders 7. Awareness and training sessions for students, youth and local communities
Target	1. Restoration and conservation of existing forest area (on hilly terrain i.e. 522 ha) 2. Planting 1500 saplings sequestering 3,400 tCO_2 to 5,400 tCO_2 in 15-20 years (ensuring at least 65% survival rate) 3. Allocation of around 2 ha[23] of existing vacant land to establish *Arogya Van*	1. Planting additional 1500 to 2000 saplings sequestering 3,400 tCO_2 to 7,200 tCO_2 in 15-20 years (ensuring at least 65% survival rate) 2. Establishment of 2 ha of *Arogya Van* 3. Adoption of Agro-forestry in 40 ha of land[24]	1. Planting additional 2000 to 2500 saplings sequestering 4,600 tCO_2 to 8,900 tCO_2 in 15-20 years (ensuring at least 65% survival rate) 2. Adoption of Agro-forestry in 80 ha (cumulatively) of land 3. Maintenance of *Arogya Van*, *Bal Van*, Food Forest and all plantations across GP

23 As per inputs received from Gram Pradhan/Gram Panchayat

24 Agroforestry adopted in suitable land. Over here we have considered a portion of land which is currently cultivated with vegetables and fruits

Estimated Cost	Plantation activities[25]: Rs. 19,00,000	4. Maintenance of Food Forest and all plantations across GP 5. Partnership and Capacity building Plantation activities: Rs. 26 Lakhs Agroforestry: Rs. 76 Lakhs *Total cost: Rs. 1.02 Crores*	4. Production of natural medicines and supplements 5. Scaling up partnership and Capacity building Plantation activities: Rs. 32 Lakhs Agroforestry: Rs. 1.52 Crores *Total cost: Rs. 1.84 Crores*

People's Biodiversity Register

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Updating People's Biodiversity Register 2. Build awareness amongst community and all stakeholders	1. Update of People's Biodiversity Register 2. Awareness building amongst community and all stakeholders	1. Update of People's Biodiversity Register 2. Awareness building amongst community and all stakeholders
Target	1. Participatory updating of the people's biodiversity register 2. Awareness and capacity building	1. Participatory updating of the people's biodiversity register 2. Awareness and capacity building	1. Participatory updating of the people's biodiversity register 2. Awareness and capacity building
Estimated Cost	Formation, registration and training of Biodiversity Management Committees (BMCs)[26] = Rs. 25,000		

25 Plantations mentioned in the water sector recommendations will also be covered through above mentioned action points/ recommendations. Therefore, cost estimated here will cover all plantation activities and double counting must be avoided when totalling up the cost of all the recommendations

26 Guidelines for Operationalising Biodiversity Management Committees (BMCs), 2013, National Biodiversity Authority. http://nbaindia.org/uploaded/pdf/Guidelines%20for%20BMC.pdf

Existing Schemes and Programmes

- Plantation activities can be aligned and carried out through provisions under 'Trees Outside Forests in India' initiative by MoEFCC, Green India Mission, Jal Jeevan Mission and UP State Plantation Targets.
- Annual budgeting[27] under UP State Compensatory Afforestation Fund Management and Planning Authority Fund (State CAMPA fund) can be directed for:
  - » Afforestation, enrichment of biodiversity, improvement of wildlife habitat, and soil and water conservation activities in the GP
- Plantation activities can be aligned with MGNREGS and the local community can also be engaged in providing *shramdaan.*
- The Sub-Mission on Agroforestry under the National Mission on Sustainable Agriculture can be leveraged to:
  - » Avail Rs 28,000 per ha of agroforestry plantation
  - » Assistance for plantations can be availed in year-wise proportion of 40:20:20:20 for four years
- Skill development and training programme of the Central Institute of Medicinal and Aromatic Plants, Lucknow can be helpful in setting up *Arogya Van* in the GP.
- Programmes by the National Biodiversity Authority and Uttar Pradesh State Biodiversity Board can be tapped into for training and capacity building of BMCs.

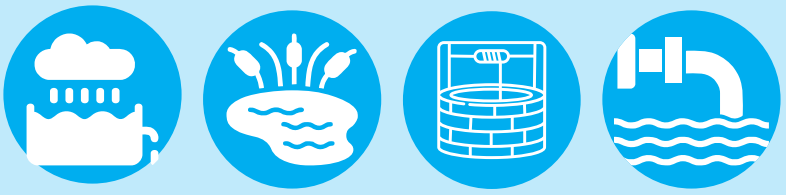
Other Sources of Finance

- Resources allocated to Gram Panchayat under 15th Finance Commission and Own Source Revenue (OSR).
- CSR funds for purchase of saplings, organising plantation drive, erection of tree guards to ensure protection of saplings can be availed. CSR support can be utilised for creation of Arogya Van and establishing production unit for herbal products as described in the recommendation on "Enhancing Livelihoods and Promoting Green Entrepreneurship".

Key Departments

- Department of Environment, Forest and Climate Change
- State Biodiversity Board
- Panchayati Raj Department
- Rural Development Department
- Central Institute of Medicinal and Aromatic Plants, Lucknow

27 CAMPA funds utilised for compensating the loss of forest land and ecosystem services by raising of compensatory afforestation and improving quality of forests. (March 2023). PIB. Link



2. Management and Rejuvenation of Water Bodies

Context and Issues

1. Ainchhwara GP relies on groundwater as the primary source of water for both agricultural and domestic needs in the GP.
2. There have been frequent (four) incidences of droughts in the months of June-July between 2018 to 2022.[28] Therefore, there is a need to enhance watershed management in Ainchhwara.
3. Ainchhwara faces drinking water crisis due to frequent decline in the water level (2-3 m decline in water level of 25 wells, 70 hand pumps and 14 private tube wells) during summer.[29]
4. There are 6 ponds in Ainchhwara, many of which get dried up every year during dry seasons.
5. Only around 50 percent of households in the GP have piped water connections.[30]

Dependence on groundwater, frequent incidences of droughts, drying up of ponds and declining ground water levels highlight the urgent need for watershed management to conserve water and replenish groundwater resources. The following recommendations are proposed to reduce vulnerability, build resilience and improve water security in Ainchhwara.

Rainwater Harvesting (RwH) Structures

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Construction of RwH structures in all government/PRI buildings (Panchayat Bhavan, Primary & Secondary schools, Inter college, PHC)	1. Construction of RwH structures in residential buildings (pucca houses) 2. Mandatory construction of RwH structures in all new buildings	1. Construction of RwH structures in residential buildings (pucca houses) 2. Mandatory construction of RwH structures in all new buildings

28 As reported during the field surveys
29 HRVCA Report - Ainchhwara GP
30 As reported during the field surveys

Target	RwH structure in all (100%) government/ public buildings	1. RwH structure in 100 (25%) Pucca houses 2. 100% new buildings constructed during Phase II having RwH structures *Existing Pucca houses = 400*	1. RwH structure in remaining 300 (75%) Pucca houses 2. 100% new buildings constructed during Phase III having RwH structures *Existing Pucca houses = 400*
Estimated Cost	RwH (7 RwH Structures with recharge pit of 10 m^3 capacity) = Rs. 2,45,000	RwH (100 RwH Structures with recharge pit of 10 m^3 capacity) = Rs. 35,00,000	RwH (300 RwH Structures with recharge pit of 10 m^3 capacity) = Rs. 1,05,00,000

Rejuvenation of Water Bodies and Creation of Retention Ponds

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Restoration & rejuvenation of existing 6 ponds[31] by: a. Cleaning and desilting b. Increasing the depth of catchment area c. Creation of embankment to widen catchment area d. Tree plantation with tree guards around water bodies	1. Maintenance and management of all water bodies (natural ponds and retention ponds) 2. Additional tree plantation around water bodies and maintenance of existing plantations 3. Construction of additional retention ponds in low-lying areas 4. Scaling up community involvement in maintenance and construction works	1. Maintenance and management of all water bodies (natural ponds and retention ponds) 2. Additional tree plantation around water bodies and maintenance of existing plantations 3. Scaling up community involvement in maintenance and construction works 4. Regular capacity building of the community and all other stakeholders

31 6 ponds as informed during second round of focus group discussion:
Gargan, Pokhri, Ghatakpar Baba, Laughata, Barora Baba, Swatantrata Senani, Ayappandai

	2. Construction of retention ponds (man-made ponds) in low-lying areas 3. Training and orientation sessions to encourage community involvement in restoration of water bodies and creation of retention pond 4. Capacity building of the GP's Water and Sanitation Committee (WSC)[32] and Construction Work Committee (CWC) to enhance awareness among various key community groups to improve water use efficiency and water conservation	5. Regular capacity building of the community and all other stakeholders	
Target	1. Cleaning & desilting of 6 village ponds 2. Increase in the catchment area of all 6 ponds 3. Plantation of 1000 trees with tree guards (around water bodies) (as part of activities proposed in Enhancing Green Spaces and Biodiversity section) 4. Construction of 1 retention pond in an identified low-lying area	1. Effective maintenance of 6 ponds and 1 retention pond 2. Plantation of additional 1000 trees with tree guards (around water bodies) (as part of activities proposed in Enhancing Green Spaces and Biodiversity section) 3. Construction of 2 more retention ponds in identified low-lying areas 4. Involvement of community in maintenance and restoration works	1. Effective maintenance of 6 ponds and 3 retention ponds 2. Involvement of community in maintenance and restoration works

32 VWSC Handbook, https://phed.cg.gov.in/sites/default/files/gphandbook-0.pdf

Estimated Cost	1. Restoration of 6 ponds = Rs. 45 Lakhs 2. 1 Retention Pond (300 m^3 capacity) = Rs. 7 Lakhs[33] 3. Tree plantation = Rs. 20 Lakhs (already accounted in Enhancing Green Spaces and Biodiversity section) *Total cost = Rs. 52 Lakhs*	1. Maintenance of 6 ponds = Rs. 23 lakhs 2. Maintenance of 1 retention pond = Rs. 50,000 3. Construction of 2 retention ponds (300 m^3 capacity) = Rs. 14 Lakhs 4. Tree plantation = Rs. 20 Lakhs + Maintenance of tree plantation = Rs. 2.5 lakhs (already accounted in Enhancing Green Spaces and Biodiversity section) *Total cost = Rs. 37.5 lakhs*	1. Maintenance of 6 ponds = Rs. 23 lakhs 2. Maintenance of 3 retention ponds = Rs. 1.5 Lakhs 3. Maintenance of tree plantation = Rs. 5 lakhs (already accounted in Enhancing Green Spaces and Biodiversity section) *Total cost = Rs. 24.5 lakhs*

Restoration of Wells & Enhancing Ground Water Recharge

Phase	**I** **2024-25 to 2026-27**	**II** **2027-28 to 2029-30**	**III** **2030-31 to 2034-35**
Suggested Climate Smart Activities	1. Cleaning and restoration of all wells 2. Reboring of hand pumps for availability of drinking water 3. Constructing recharge pits for ground water management	Regular maintenance of all existing wells, handpumps and recharge pits	Regular maintenance of all existing wells, handpumps and recharge pits
Target	1. Cleaning, safety and repair work of 4 wells: through Enchewara Khas via Laughata Ainchhwara[34] 2. Cleaning and restoration of remaining 21 wells 3. Rebore 10 hand pumps at strategic locations 4. 30 recharge pits at strategic locations	1. Maintenance of all 25 wells 2. Maintenance of 70 hand pumps (total in GP) and 30 recharge pits	1. Maintenance of all 25 wells 2. Maintenance of 70 hand pumps (total in GP) and 30 recharge pits

33 https://builderbaron.com/retention-ponds/#google_vignette
34 HRVCA Report - Ainchhwara GP

Estimated Cost	1. Cleaning & restoration of wells = Rs. 12,50,000 2. Reboring of 10 Handpumps = Rs. 6 Lakhs 3. 30 Recharge pits - Rs. 3 Lakhs *Total cost = Rs. 21,50,000*	Maintenance of 25 wells = Rs. 15 Lakhs	Maintenance of 25 wells = Rs. 15 Lakhs

Enhancing Drainage Infrastructure

Phase	**I** 2024-25 to 2026-27	**II** 2027-28 to 2029-30	**III** 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Construction of culverts for wastewater/ stormwater drainage and eliminating waterflow via roads 2. Construction of canals for water recharge and agricultural irrigation	1. Maintenance of existing culverts and canals 2. Construction of additional culverts & canals (if required)	1. Maintenance of existing culverts and canals 2. Construction of additional culverts & canals (if required)
Target	1. Construction of culverts at different locations 2. Construction of canals at different locations	Maintenance of existing infrastructure	Maintenance of existing infrastructure
Estimated Cost	1. Construction of culverts = Rs. 1 crore 2. Construction of canals = Rs. 20 Lakhs *Total cost = Rs. 1,20,00,000*	As per requirement	As per requirement

Existing Schemes and Programmes

- Development of rainwater harvesting systems can be carried out through provisions and resources made available through Jal Shakti Abhiyan: Catch the Rain campaign.
- UP State Annual Budget under Irrigation Department can be channelled for GP level water body conservation and restoration activities.
- Annual budgets under MGNREGA and Watershed Development Component under PMKSY can be leveraged for watershed development activities.

Other Sources of Finance

- Corporate/ CSR can be encouraged to 'Adopt a water body' to contribute to the maintenance and upkeep of water bodies and wells

Key Departments

- Rural Development Department
- Irrigation and Water Resources Department, Ministry of Jal Shakti
- Uttar Pradesh Department of Land Resources

3. Sustainable Agriculture

Context and Issues

1. The total area under agriculture in Ainchhwara is 300 ha and the gross cropped area is nearly 616.2 ha.
2. 35 percent of the households in the GP depend on agriculture practices and 29 percent of households depend on animal husbandry as a source of income.
3. As per inputs received from the community, a significant portion of land is currently fallow land due to poor soil quality (rocky soil).
4. The major crops grown are wheat (~52 ha), mustard (~48 ha), pea (~40 ha), chickpea (~34 ha), paddy (~22 ha), *bajra* (~16 ha), sesame (~12 ha), *urad* (~8 ha) and *moong* (~6 ha), across kharif and rabi seasons.
5. The GP has experienced 4 droughts annually between 2018 to 2022, typically during June - July impacting agricultural produce.[35]
6. The sowing time for *jowar*, *moong* and *bajra* has shifted from June 2nd/3rd week to July due to delayed rainfall, more intense summers and droughts. In the case of wheat, the sowing time has shifted from October to November-December end due to the late arrival of winter. For mustard too, the sowing time has shifted from October to the last week of September due to the risk of getting affected by *Maahu* disease.[36]
7. From the years 2018 to 2022, crop losses have been caused due to erratic rainfall, animal intrusion in fields as well as diseases. The losses amounted to around 685 quintals of produce or around Rs 41.25 lakhs (corroborated by prevailing MSP of the respective years).
8. Farmers use 31.5 tonnes of urea and other nitrogenous fertilizers per year, leading to GHG emissions of 45.65 tonnes CO_2e per year. The farmers also rely on other chemical inputs such as pesticides and weedicides.
9. Natural farming is practiced on ~70 ha of land in Ainchhwara for crops such as *jowar, bajra, moong, urad*, sesame, and paddy.
10. Agricultural water demand has increased (more than doubled in last 25 years) as reported in the field surveys, stressing on the need for water conservation and improved irrigation techniques.

The above points highlight the need for adopting sustainable and climate resilient agricultural practices to enhance adaptive capacity.

35 Based on inputs from community during field surveys
36 As reported by GP during field surveys

Drought Management for Agriculture

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Adoption of micro irrigation practices like drip irrigation and sprinkler irrigation 2. Construction of bunds with trees around agricultural fields 3. Construction of farm ponds 4. Adoption of drought tolerant varieties of rice and wheat 5. Shift to dry direct-seeded rice	1. Expansion of micro irrigation practices 2. Construction of additional bunds with trees around agricultural fields 3. Construction of more farm ponds 4. Regular maintenance of existing farm ponds and bunds with trees 5. Scaling up adoption of drought tolerant variety of rice and wheat 6. Adoption of drought resistance crops such as millets and legumes	1. Expansion of micro irrigation practices 2. Maintenance of bunds and tree plantation 3. Additional tree plantation (as required) 4. Maintenance of existing farm ponds 5. Scaling up adoption of drought tolerant variety of rice and wheat 6. Scaling up adoption of drought resistance crops such as millets and legumes
Target	1. Micro irrigation on 60 ha (60% of land under vegetable and fruits cultivation) of agricultural land 2. Consruction of bunds with trees around 100 ha of agricultural land 3. Construction of 10 farm ponds of capacity 300 m^3 each	1. Micro irrigation on additional 40 ha (cumulative 100% of land under vegetable and fruits cultivation) of agricultural land 2. Consruction of bunds with trees around remaining 200 ha (67%) of agricultural land 3. Construction of 15 more farm ponds of capacity 300 m^3 each 4. Maintenance of existing farm ponds and bunds with trees	1. Micro irrigation on additional agricultural land (as per requirement) 2. Maintenance of existing farm ponds and bunds with trees 3. Additional tree plantation (as required) 4. 100% use of drought tolerant variety of rice and wheat

Estimated Cost	1. Micro-irrigation = Rs. 60 Lakhs 2. Farm Ponds = Rs. 15 to 20 Lakhs 3. Bunds with trees = Rs. 1.5 Lakhs *Total Cost = Rs. 81.5 Lakhs*	1. Micro-irrigation = Rs. 40 Lakhs 2. Farm Ponds = Rs. 22,50,000 to 30 Lakhs 3. Bunds with trees = Rs. 3 Lakhs *Total Cost = Rs. 73 Lakhs*	As per requirement

Shift to Natural Farming

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Adoption of natural fertilizers, bio-pesticides and bio-weedicides 2. Setting up and adoption of natural produce certification process 3. Exploring and establishment market linkages for organic farm produce 4. Adoption of practices such as mixed cropping, crop rotation, mulching and zero tillage 5. Training Sessions and demonstrations for farmers, FPOs and other relevant stakeholder groups on: a. Importance of natural farming and drought tolerant crops b. Techniques to adopt resilient cropping pattern c. Sustainable irrigation methods d. Certification systems e. Market outreach and profitability	1. Scaling up adoption of natural fertilizers, bio-pesticides and bio-weedicides 2. Scaling up adoption of natural produce certification process 3. Expansion of market linkages and consumer market for organic farm produce 4. Scaling up adoption of practices such as mixed cropping, crop rotation, mulching and zero tillage 5. Periodic training Sessions and demonstrations for farmers, FPOs and other relevant stakeholder groups	1. Scaling up adoption of natural fertilizers, bio-pesticides and bio-weedicides 2. Creating mandate for adoption of natural produce certification process 3. Expansion of market linkages and consumer market for organic farm produce 4. Scaling up adoption of practices such as mixed cropping, crop rotation, mulching and zero tillage 5. Periodic training Sessions and demonstrations for farmers, FPOs and other relevant stakeholder groups

Target	Natural farming on 60 ha of agricultural land	Natural farming on additional 100 ha of agricultural land	Natural farming on additional 140 ha of agricultural land
Estimated Cost	Approximate Cost: 1. Training & Demonstration = Rs. 20,000 to 30,000 per session 2. Conversion of land to natural farming = Rs. 1,48,20,000 *Total Cost = Rs. 1,48,50,000*	Approximate Cost: 1. Training & Demonstration = Rs. 20,000 to 30,000 per session 2. Conversion of land to natural farming = Rs. 2,47,30,000 *Total Cost = Rs. 2,47,60,000*	Approximate Cost: 1. Training & Demonstration = Rs. 20,000 to 30,000 per session 2. Conversion of land to natural farming = Rs. 3,45,80,000 *Total Cost = Rs. 3,46,10,000*

Sustainable Livestock Management

Phase	**I** 2024-25 to 2026-27	**II** 2027-28 to 2029-30	**III** 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Raising awareness and capacity building for households engaged in animal husbandry for livestock management 2. Training community members as animal health workers/para-vet training for improving access to livestock health services 3. Refer to section "Additional Recommendations" for intervention on reducing methane emission from livestock.	1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement	1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement

Target	1. Workshops organised for households engaged in animal husbandry on sustainable rearing practices, disease prevention, and management of livestock health 2. Training of 2 para-vets[37]	1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock	1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock
Estimated Cost	Cost of workshop and para-vet training: As per requirement	As per requirement	As per requirement

Existing Schemes and Programmes

- Drought management and proofing practices can be supported through funds and subsidies from Pradhan Mantri Krishi Sinchai Yojana (PMKSY), UP Millets Revival Programme, Pradhan Mantri Fasal Bima Yojana, National Agricultural Insurance Scheme, Weather-based Crop Insurance Scheme, Gramin Krishi Mausam Seva Scheme.
- Automatic weather stations can be installed under the Weather Information Network and Data Systems (WINDS) program to enhance the crop planning and disaster management
  - » The Uttar Pradesh government has announced the implementation of WINDS program, under which an automatic weather station will be installed at each tehsil headquarter and at least two automatic rain gauges in each block.
- Drought proofing activities and creation of nurseries and seed banks can be streamlined through MGNREGA
- Organic farming practices can be supported through funds and subsidies provided under various schemes such as: Paramparagat Krishi Vikas Yojana (PKVY) and Soil Health Management Scheme
- Technical and knowledge support as well as organic farming demonstrations for farmers can be enabled through National and Regional Centres for Organic Farming (NCOF & RCOF), Krishi Vigyan Kendra (KVK), nearest Organic Farming Cell of the Department of Agriculture, Cooperation and Farmer Welfare.
- Agricultural Technology Management Agency (ATMA) can be tapped into for support for training and capacity building of the farmers and FPOs for technology upgradation and sustainable farming.
- Krishi Raksha Scheme supports farmers in pest control through different ecological resources and to promote use of bio-chemicals.
- Para-veterinarian training and capacity building can be leveraged through state schemes like State Rural Livelihood Mission, Uttar Pradesh Pashudhan Swasthya Evam Rog Niyantran Yojana, and Rashtriya Gokul Mission.

37 No. of community-based animal health workers trained to be based on requirement of the GP

Other Sources of Finance

- Set-up & operationalise (in alignment with schemes mentioned in `Access to Clean, Sustainable, Affordable and Reliable Energy' section
  - » Cold-storage facility to help minimise post-harvest losses
  - » Renewable Energy (RE) powered cattle sheds
- Raising awareness: Information on organic farming practices and benefits, inputs required, demonstrations, relevant sources of information and guidance, registration process, verification and certification process, market linkages and weather-based information services etc.
- Provide guidance, training and capacity building to farmers, FPOs, SHGs and other community members to avail insurance, benefits of different schemes as well as for technical aspects of implementing Climate Smart Agriculture practices including adoption of organic fertilisers, eventual transition to organic farming, drought proofing agriculture and sustainable livestock management.
- Further, capacity building of farmers, FPOs, SHGs and other community members engaged in sustainable agriculture in Chopan can be carried out in collaboration with technical experts and institutes in the region, local NGOs, CSOs and corporates.

Key Departments

- Department of Agriculture
- Horticulture Department
- Soil conservation department
- Centre for Integrated Pest Management (CIPM)
- Department of Land Resources
- Jal Shakti Department
- Animal Husbandry Department
- Uttar Pradesh New & Renewable Energy Development Agency
- Regional Centres for Organic Farming
- Krishi Vigyan Kendra, Chitrakoot

4. Sustainable Waste Management

Context and Issues

1. The total waste generated from all households, public/govt. buildings (schools and college, Panchayat Bhavan, anganwadis, etc.) and markets/shops in the GP is approximately 135 kg per day.[38] Out of this, 53 kg is biodegradable/organic waste and 82 kg is non-biodegradable waste.
2. There is a lack of waste collection, segregation, and effective waste treatment system in Ainchhwara leading to waste dumping in water bodies, vacant plots and on streets within and outside the GP[39]. This results in polluted water bodies, waterlogging due to clogged drains during monsoons that further leads to increased risk of health hazards.
3. The large quantities of agricultural and animal waste also adds to the waste management issues in the GP. The total livestock population in the GP is 1,448 (including cows, buffaloes and goats) and the estimated dung output is roughly 2 tonnes per day[40] which can be managed sustainably through interventions such as composting, vermicomposting, natural fertilizer production and biogas generation in Ainchhwara .

Against this backdrop, the following solutions are proposed to ensure 100% solid waste management as well as boosting the economy and creating livelihood opportunities.

Establishing a Waste Management System

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Setting up a system for at-source (household, commercial, etc.) waste segregation into wet and dry waste	1. Additional Electric Garbage Vans for waste collection as per population and household growth 2. Maintenance of solid waste management yard	1. Maintenance of: a. Electric Garbage Vans b. Solid waste management yard c. GP-level recycling and plastic shredder facility d. waste bins installed

38 As per field survey and inputs received from Gram Pradhan

39 As reported during the field surveys

40 Assuming cows produce 10 kg dung/day, buffaloes produced 15kg dung/day and goats produce 150 g dung/day

Suggested Climate Smart Activities

2. Provision of electric garbage vans for: a. Door-to-door collection of segregated waste (biodegradable and non-biodegradable waste from households, public/semi-public facilities and commercial set ups) b. Transportation of plastic waste to nearest plastic recycling facility 3. Converting existing dump yard into solid waste management yard having: a. Segregation & storage space (for further segregation) b. Compost & vermi-compost pits *(detail in next section)* 4. Installation of waste collection bins at strategic locations (markets, schools, shops, tea stalls etc.) 5. Setting up partnerships	3. Construction of an open park with tree plantation inside the solid waste management yard (using compost/manure from waste) 4. Setting up GP-level recycling and plastic shredder facility 5. Maintenance of existing waste bins and electric garbage vans 6. Additional installation of bins at new strategic locations 7. Scaling up partnership beyond GP to other villages/districts	2. Scaling up partnership beyond GP to other villages/districts

Target	1. Coverage of 900 households (100%) under GP's door-to-door waste collection system 2. Provision for 1 electric garbage vans/e-rickshaw garbage loaders (capacity 310 kg) to collect 135.15 kg of waste generated per day[41] (53.15 kg of biodegradable waste and 82 kg of sukha/dry and plastic waste per day) 3. Installation of 14 waste bins 4. Partnership building with 5-10 ragpickers for collection/transportation of waste 5. Building partnership for collection/transportation of waste and operation of waste management park between Panchayat and local businesses, and MSMEs, SHGs, informal ragpickers and local scrap dealers	1. 1 GP-level recycling and plastic shredder unit 2. Installation of additional 10 waste bins 3. Maintenance of existing facilities/infrastructure 4. Scaling up partnership	1. Maintenance of existing facilities/infrastructure 2. Scaling up partnership
Estimated Cost	1. Solid waste management yard = Rs. 35,00,000[42] 2. Electric Garbage Van = Rs. 95,000 to 1,00,000[43] 3. 14 waste bins/ containers = Rs. 2,00,000 *Total Cost: Rs. 38 Lakhs*	1. Plastic shredder unit = Rs. 50,000[44] 2. 10 waste bins/ containers = Rs. 1,45,000 *Total Cost: Rs. 1.95 Lakhs*	

41 Current waste generation scenario: (Per household per day waste generation = 75 g Sukha kachra, 13 g plastic waste, 44 g wet waste) (Per day waste generation from following:a. Primary, junior, and junior high schools = 250 g Sukha/dry and plastic waste; 2.5 kg wet/organic waste; b. Institute/College (Tyagi Inter college) = 350 g Sukha/dry and plastic waste; 3.5 kg wet/organic waste; c. Panchayat bhavan = 25 g Sukha/dry and plastic waste; 50 g wet/organic waste; d. Anganwadis = 20 g Sukha/dry and plastic waste; 500 g wet/organic waste; e. Shops/ Market = 1.5 kg Sukha/dry and plastic waste; 5 kg wet/organic waste; f. Other public/semi-public spaces = 500 g Sukha/dry and plastic waste; 2 kg wet/organic waste; g. Houses = 79.2 kg Sukha/dry and plastic waste; 39.6 kg wet/organic waste)

42 HRVCA Report - Ainchhwara

43 https://www.indiamart.com/proddetail/electric-garbage-van-25434344497.html

44 https://www.indiamart.com/proddetail/plastic-shredder-15602791097.html

Management of Organic Waste

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Setting up compost & vermi-compost pits through community involvement 2. Promoting above community initiative by providing incentives like concessions on utility services such as water tariffs, waste collection fees, etc., or subsidies on the purchase of biogas 3. Partnership building between Panchayat and relevant stakeholders for setting up compost value chain in GP	1. Regular maintenance of existing compost pits 2. Increasing capacity/ setting up new compost pits for treatment of biodegradable/organic waste (based on increasing population & household growth) 3. Scaling up partnership beyond GP to other villages/districts	1. Regular maintenance of existing compost pits 2. Increasing capacity/ setting up new compost pits for treatment of biodegradable/organic waste (based on increasing population & household growth) 3. Scaling up partnership beyond GP to other villages/districts
Target	1. Setting up of composting and vermicomposting pits: a. compost/manure generated from composting of around 53 kg per day of biodegradable waste (organic) is: approx. 27 kg per day; 810 kg per month[45] b. periodic composting of 5,900 tonnes per year of agricultural waste (to enhance compost quantity)	1. Increasing capacity/ setting up new compost pits for treatment of all (100%) biodegradable/ organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance of compost pits 3. Scaling up partnership	1. Increasing capacity/ setting up new compost pits for treatment of all (100%) biodegradable/ organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance of compost pits 3. Scaling up partnership

45 https://www.biocycle.net/connection-co2-math-for-compost-benefits/#:~:text=In%20the%20process%20of%20making%20compost%20the%20microbes,food%20waste%20turns%20into%2050%20kg%20of%20compost

2. Partnership model between panchayat, community members and farmer groups for: a. production & sale of compost b. sale of agricultural waste (explained in detail in "Enhancing livelihoods & Green Entrepreneurship section")		
Estimated Cost	Solid waste management yard = Rs. 35,00,000	As per requirement	As per requirement

Ban on Single Use Plastics

Phase	**I** **2024-25 to 2026-27**	**II** **2027-28 to 2029-30**	**III** **2030-31 to 2034-35**
Suggested Climate Smart Activities	1. Enforcement of the existing ban on the use of Single Use Plastics (SUPs) 2. Awareness, training, and capacity-building programs for: a. Village Water and Sanitation Committee (VWSC) b. Students & youth groups c. Community members 3. Orientation sessions for commercial establishments on plastic waste management and promote the use of alternatives	1. Awareness, training, and capacity-building programs 2. Scaling up partnership beyond GP to other villages/districts	1. Awareness, training, and capacity-building programs 2. Scaling up partnership beyond GP to other villages/districts

	4. Leveraging RACE Campaign and LiFE Mission to organize awareness campaigns and training sessions 5. Partnership model between panchayat, women and SHGs for manufacturing products from plastic-alternative materials e.g.: bags, home décor, cutlery, stationery items, furniture, etc. (explained in detail in ""Enhancing livelihoods & Green Entrepreneurship section")		
Target	1. Complete ban on Single Use Plastics 2. Engagement of 100 women in manufacturing	1. Ban on Single Use Plastics 2. Increased engagement from this GP & nearby villages of: a. Additional 200 women b. Additional SHGs, MSMEs & individual entrepreneurs	1. Ban on Single Use Plastics 2. Increased engagement from this GP & nearby villages of: a. Additional 300 women b. Additional SHGs, MSMEs & individual entrepreneurs

Existing Schemes and Programmes

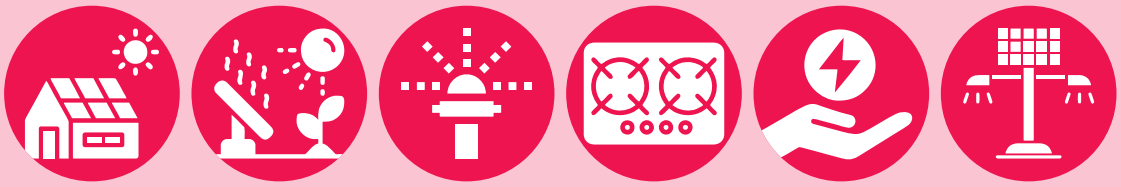
- Leveraging funds through the 15th Finance Commission and Swachh Bharat Mission - Gramin (SBM-G)
- Additionally, MGNREGA (for the construction of community-based composting facilities) can be tapped into for availing funds for the above-proposed activities.

Other Sources of Finance

- CSR funding and Panchayat-Private-Partnership models (PPP) can help to develop and operate infrastructure like segregation yard, plastic-alternative enterprises, marketing, waste transport e-vehicles, etc.
- Further, CSR support will be crucial in increasing awareness, training, and capacity building of all stakeholders involved in the production of plastic-alternative products, composting processes and to promote sustainable consumption behaviour at the individual level.
- GP's own resources, including tied and untied funds, can be utilized to develop the required infrastructure for waste management as per Swachh Bharat Mission – Gramin (SBM-G) guidelines.

Key Departments

- Panchayati Raj Department
- Public Health Department
- Rural Development Department
- Agriculture Department
- Uttar Pradesh Khadi and Village Industries Board



5. Access to Clean, Sustainable, Affordable and Reliable Energy

Context & Issues

1. Ainchhwara GP consumed approximately 4,14,000 units of electricity in 2022-23. While the 92 percent households in the GP has electricity connection, the power supply, as understood from the community members is not 24*7. On an average the GP experiences ~6-8 hours of power cuts every day.[46]
2. There are 120 diesel pumps[47] used for irrigation which consume 46.8 kL of fuel annually.
3. Incandescent lamps, CFL (compact fluorescent) lights and other electrical fixtures and appliances with low efficiency are in use in many homes and public utilities.
4. Additionally, the GP has expressed a need for installing solar street lights (150 streetlights).[48]
5. Cowdung and fuelwood is used for cooking in 260 households.[49] There is a need to transition to cleaner cooking solutions that will not only lead to reduction in emissions but also co-benefits like improved indoor air quality.
6. With increasing temperature , thermal comfort levels in homes are reducing and there is need for sustainable space cooling.

Based on the energy related concerns of the GP, in combination with the recently launched as well as ongoing programmes of the Central and State Government, such as the PM Surya Ghar Bijli Muft Yojana, PM KUSUM scheme, UP State Solar Policy 2022, among others, the following solutions are proposed for implementation in Ainchhwara. The intent of the suggested activities is to ensure access to clean, sustainable, affordable and reliable energy for communities in the GP. This would not only enhance their quality of life but also help to supplement incomes through productive use of energy.

46 As shared by the community in field survey
47 Based on inputs from community during field surveys
48 Based on inputs from Gram Pradhan
49 As reported during field surveys

Solar Rooftop Installations

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Installation of rooftop solar panels on PRI/ government buildings in Ainchhwara: a. Panchayat Bhavan b. Primary School, Junior private school and Junior High School c. Anganwadis d. CSC Centre	1. Installation of rooftop solar panels on pucca houses 2. Installation of rooftop solar panels on all new buildings (constructed during Phase II) 3. Regular maintenance of solar rooftops	1. Scaling up installation of rooftop solar panels on pucca houses 2. Installation of rooftop solar panels on all new buildings (constructed during Phase III) 3. Regular maintenance of solar rooftops
Target	1. Installation of Solar rooftop capacity on 100% of PRI/government buildings: a. Panchayat Bhavan = 75 sq. m. rooftop area; 5.3 KWp b. Primary School, Junior private school and Junior High School = 180 sq. m. rooftop area; 12.6 KWp c. Anganwadis = 60 sq. m. rooftop area; 4.2 KWp d. CSC (common services centre) = 20 sq. m. rooftop area; 1.4 KWp	1. Installation of solar panels on rooftops of 160 (40%) pucca houses Solar rooftop capacity per pucca house = 165 sq. m. rooftop area.; 3 KWp[50] Solar rooftop capacity for 160 (40%) pucca houses = 26,400 sq. m.; 480 KWp Electricity generation potential = approx. 6,42,816 kWh per year (1761 units per day)[51] GHG emissions avoided: approx. 527 tCO_2e per year 2. Maintenance of solar rooftops	1. Installation of additional solar panels on rooftops of 240 (60%) pucca houses Solar rooftop capacity for 240 (60%) pucca houses = 39,600 sq. m. rooftop area.; 720 KWp Electricity generation potential = approx. 9,64,224 kWh per year[52] GHG emissions avoided: approx. 791 tCO_2e per year[53]

50 Average area of households considered to be 165 sq.m; 3 kWp rooftop installation estimated per household

51 Clean energy generation is likely to be ~35% more than the current electricity consumption in the GP.

52 Clean energy generation is likely to be twice the current electricity consumption in the GP.

53 The emissions avoided will help move the GP towards carbon neutrality.

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Target	Electricity generation potential = approx. 31,471 kWh per year (86 units per day) GHG emissions avoided: approx. 25.8 tCO_2e per year *In light of much needed and ambitious targets of the recently launched PM Surya Ghar Yojana, households can also be part of this phase for solar PV installation on rooftops.*		2. Maintenance of solar rooftops
Estimated cost	*Total cost: Rs. 11, 75,000*	*Total cost: Rs. 2,40,00,000* *Indicative Subsidy: ~40%*[54] *(State + CFA)* *Estimated Cost: Rs. 1,44,00,000*	*Total cost: Rs. 3,60,00,000* *Indicative Subsidy: ~40% (State + CFA)* *Estimated Cost: Rs. 2,16,00,000*

Agro-photovoltaic Installations

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Awareness Generation amongst farmers, farmer groups, etc.	Installation of Agro-photovoltaic on area under horticulture (vegetables & fruits) and legume crops (pea, chickpea, arhar, bajra, sesame, moong, urad)	Scaling up installation of Agro-photovoltaic on area under horticulture (vegetables & fruits) and legume crops (pea, chickpea, arhar, bajra, sesame, moong, urad)

54 Subsidies are dynamic and are subject to change as per various parameters fixed by the State and Central government from time to time. Hence, the subsidy amount assumed is based on past trends and averages and may not be exact at prevailing time

Target	Organizing awareness campaigns and orientation sessions to encourage uptake of agro-photovoltaic initiatives amongst farmers	Installation of Agro-photovoltaic on 4 ha of horticulture & legume cropland Capacity installed: 1,000 KWp (250 KWp per Ha) Electricity generated: 13,40,000 kWh per year[55] GHG emissions avoided: 1,098 tCO_2e per year (Total land area under legumes = 105 ha Total area under vegetables and fruits = 100 ha)	Installation of additional Agro-photovoltaic on 6 ha horticulture & legume cropland Capacity installed: 1,500 KWp (250 KWp per Ha) Electricity generated: 20,10,000 kWh per year (47,698 units per day) GHG emissions avoided: 1,647 tCO_2e per year
Estimated cost[56]		*Total cost: Rs. 10,00,00,000 (Rs. 1 lakh/kWp)*	*Total cost: Rs. 15,00,00,000 (Rs. 1 lakh/kWp)*

Solar Pumps

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Replacing existing diesel pump sets in the GP with solar pumps* **If solar pumps are not feasible then, energy efficient pumps (Kisan Urja Daksk Pumps by EESL) can be considered*	1. Replacing more diesel pump sets in the GP with solar pumps 2. Encouraging purchase/ use of all new pump sets to be solar-powered	1. Replacing more diesel pump sets in the GP with solar pumps 2. Encouraging purchase/ use of all new pump sets to be solar-powered

55 This generation is around 70% more than the current electricity consumption in the GP

56 The cost of agro PV has been reducing as technology advances. However, a conservative estimate of the cost on the higher side has been taken. Further, it has been assumed that farmers tend to practice crop rotation even for land areas earmarked for horticulture and other similar crops. Hence, only a percentage of the land available under horticulture has been taken into consideration for installation of agro-photovoltaic.

Target	Replacing 24 (20%) existing diesel pump sets with solar pumps Capacity installed: 5.5*24 = 132 kW Electricity generation potential = 1,76,774 kWh per year Diesel consumption avoided: 9,360 litres/year GHG Emissions avoided: 25.2 tCO_2e per year	Replacing 36 more diesel pumps with solar pumps (i.e. 50% of the existing diesel pumps replaced in Phase I and II) Capacity installed: 198 kW Electricity generation potential = 2,65,162 kWh per year Diesel consumption avoided: 14,040 litres/year GHG Emissions avoided: 37.8 tCO_2e per year	Replacing remaining 60 diesel pumps with solar pumps (i.e. 100% of the existing diesel pumps replaced in Phase I, II and III) Capacity installed: 330 kW Electricity generation potential = 4,41,936 kWh per year Diesel consumption avoided: 23,400 litres/year GHG Emissions avoided: 63 tCO_2e per year
Estimated Cost	*Total cost: Rs. 72,00,000 to 1,20,00,000 (Rs. 3 to 5 lakhs per pump)* *Indicative Subsidy: 60% (State + CFA)* *Estimated cost: Rs. 28,80,000 to Rs. 48,00,000*	*Total cost: Rs. 1,08,00,000 to 1,80,00,000* *Total cost: Subsidy: 60% (State +CFA)* *Estimated cost: Rs. 43,20,000 to Rs. 72,00,000*	*Total cost: Rs. 1,80,00,000 to 3,00,00,000* *Total cost: Subsidy: 60% (State+CFA)* *Estimated cost: Rs. 72,00,000 to Rs. 1,20,00,000*

Clean Cooking

Phase	**I** **2024-25 to 2026-27**	**II** **2027-28 to 2029-30**	**III** **2030-31 to 2034-35**
Suggested Climate Smart Activities	Scenario 1: HH Biogas + LPG Scenario 2: Solar powered induction cook stoves + LPG Scenario 3: Solar powered induction cook stoves + Improved Chulhas + LPG	Scenario 1: HH Biogas + LPG Scenario 2: Solar powered induction cook stoves + LPG Scenario 3: Solar powered induction cook stoves + Improved Chulhas + LPG	Scenario 1: HH Biogas + LPG Scenario 2: Solar powered induction cook stoves + LPG Scenario 3: Solar powered induction cook stoves + Improved Chulhas + LPG

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Target	Scenario 1: 99 HH use Biogas plants (25% of HH having 2 to 4 cattle) + 801 HH use LPG Scenario 2: 78 HH use Solar powered induction cookstoves (25% of HH in the top income groups) + 822 HH use LPG Scenario 3: 78 HH use Solar powered induction cookstoves (25% of HH in the top income groups) + 130 HH use improved Chulha (50% of HH that currently use biomass) + 692 HH use LPG *Total Households in GP = 900* *44% HH (396 HH) engaged in dairy & poultry farming* *On average, each HH has 2-4 livestock* *Households in top income groups = 315* *a. 2 lakh to 5 lakh - 25% HH* *b. More than 5 lakh - 10% HH*	Scenario 1: 99 more HH use Biogas plants (Additional 25% HH having 2 to 4 cattle) i.e. total 198 HH use Biogas plants + 702 HH use LPG Scenario 2: 78 more HH use Solar powered induction cookstoves (Additional 25% HH in the top income groups) i.e. total 156 HH use Solar powered induction cookstoves + 744 HH use LPG Scenario 3: 78 more HH use Solar powered induction cookstoves (Additional 25% HH in the top income groups) i.e. total 156 HH use Solar powered induction cookstoves + 130 more HH use improved Chulha (remaining 50% of HH that currently use biomass) + 614 HH use LPG	Scenario 1: 198 more HH use Biogas plants (Additional 50% HH having 2 to 4 cattle) i.e. total 396 HH use Biogas plants + 504 HH use LPG Scenario 2: 156 more HH use Solar powered induction cookstoves (Additional 50% HH in the top income groups) i.e. total 315 HH use Solar powered induction cookstoves + 585 HH use LPG Scenario 3: 156 more HH use Solar powered induction cookstoves (Additional 50% HH in the top income groups) i.e. total 315 HH use Solar powered induction cookstoves + 260 HH already using improved chulhas (as in Phase II) + 325 HH use LPG
Estimated Cost	Scenario 1: Rs. 50 Lakhs for biogas plants (Rs. 50,000 for 2 to 3 m^3 biogas plant) Scenario 2: Rs. 35,10,000 for solar induction cookstove (Rs. 45,000 for 1 double burner solar cookstove without battery) Scenario 3: Rs. 39 Lakhs = Rs. 35,10,000 for solar induction cookstove + Rs. 3,90,000 (1 Improved Chulhas @ Rs. 3,000) *Average cost: Rs.41,36,000*	Scenario 1: Rs. 50 Lakhs for biogas plants Scenario 2: Rs. 35,10,000 for solar induction cookstove Scenario 3: Rs. 39 Lakhs = Rs. 35,10,000 for solar induction cookstove + Rs. 3,90,000 *Average cost: Rs.41,36,000*	Scenario 1: Rs. 1 crore for biogas plants Scenario 2: Rs. 70,20,000 for solar induction cookstove Scenario 3: Rs. 70,20,000 for solar induction cookstove *Average cost: Rs.80,00,000*

Energy Efficient Fixtures

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Replacing all light fixtures and fans with energy efficient fixtures in government/PRI buildings (Panchayat Bhavan, Primary & Secondary schools, Inter college, PHCs) 2. Replacing at least 1 fluorescent tube light with LED tube light in each house of GP 3. Installing only LED bulbs and tube lights in all new construction	1. Scaling up replacement of fluorescent tube lights in houses with LED tube lights 2. Replacing 1 conventional fan in houses with energy efficient fan 3. Installing only LED bulbs and tube lights and energy efficient fans in all new construction	1. Scaling up replacement of conventional fan in houses with energy efficient fans 2. Installing only LED bulbs and tube lights and energy efficient fans in all new construction
Target	1. 100% replacement of existing fixtures with LED tube lights and energy efficient fans in all PRI/government buildings 2. Replacing 900 existing tube lights with LED tube lights in all (100%) houses (1 in each house) *(Each house has an average of 3 tube lights and 2 fans in GP)*[57]	1. Replacing with additional 1800 LED tube lights in all (100%) houses (additional 2 in each house) 2. Installing 900 energy efficient fans in all (100%) houses(1 in each house)	Installing additional 900 energy efficient fans in all (100%) houses (1 fan in each house)
Estimated Cost	900 LED Tube lights in houses = approx.. Rs. 2 Lakhs	1800 LED Tube lights in houses = Rs. 4 Lakhs 900 energy efficient fans = Rs. 10 Lakhs *Total cost = Rs. 14 Lakhs*	900 energy efficient fans = Rs. 10 Lakhs

57 Based on inputs received from Gram Pradhan

Solar Streetlights

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Upgrading existing LED streetlights to solar LED streetlights 2. Installation of new solar LED and high-mast solar LED streetlights along roads, footpaths, government buildings, at public spaces, around water bodies and other key locations 3. Maintenance and repair of existing streetlights (wherever required) *Currently GP has: 150 LED streetlights and 25 solar streetlights*	1. Upgrading additional LED streetlights to solar LED streetlights 2. Installation of new solar LED and high-mast solar LED streetlights along roads, footpaths, government buildings, at public spaces, around water bodies and other key locations 3. Maintenance and repair of existing streetlights (wherever required)	1. Upgrading existing LED streetlights to solar LED streetlights 2. Installation of new solar LED and high-mast solar LED streetlights along roads, footpaths, government buildings, at public spaces, around water bodies and other key locations 3. Maintenance and repair of existing streetlights (wherever required)
Target	1. Upgrading 30 (20%) of existing LED streetlights into solar LED streetlights 2. Installing 5 high-mast solar LED streetlights around government buildings, at public spaces, around water bodies and other key locations[58] 3. Installing additional solar LED streetlights along roads, footpaths, internal streets (as per requirement)	1. Upgrading additional 60 (40%) of existing LED streetlights into solar LED streetlights 2. Installing additional 5 high-mast solar LED streetlights around government buildings, at public spaces, around water bodies and other key locations 3. Installing additional solar LED streetlights along roads, footpaths, internal streets (as per requirement)	1. Upgrading remaining 60 (40%) of existing LED streetlights into solar LED streetlights 2. Installing 5 high-mast solar LED streetlights around government buildings, at public spaces, around water bodies and other key locations 3. Installing additional solar LED streetlights along roads, footpaths, internal streets (as per requirement)

58 Based on inputs received from the GP during field surveys and further discussions with the Gram Pradhan.

Estimated Cost	1. Upgrading 30 LED streetlights into Solar LED streetlights = Rs. 3 Lakhs 2. 5 high-mast solar LED streetlights = Rs. 2,50,000 *Total = Rs. 5.5 Lakhs*	1. Upgrading 60 LED streetlights into Solar LED streetlights = Rs. 6 Lakhs 2. 5 high-mast solar LED streetlights = Rs. 2,50,000 *Total = Rs. 8.5 Lakhs*	1. Upgrading 60 LED streetlights into Solar LED streetlights = Rs. 6 Lakhs 2. 5 high-mast solar LED streetlights = Rs. 2,50,000 *Total = Rs. 8.5 Lakhs*

Existing Schemes and Programmes

- The Uttar Pradesh Solar Energy Policy, 2022[59] provides:
  a) Subsidy on solar installations in residential sector: from Rs. 15,000/kW to a maximum limit of Rs. 30,000/- per consumer over and above the Central Financial Assistance by MNRE
  b) Provision for solar installations in institutions in RESCO[60] mode by themselves or in consultation with UPNEDA with consultancy fee of 3 percent cost of the plant
- Central Financial Assistance by MNRE through Grid Connected Solar Rooftop Programme
  a) CFA up to 40 percent will be given for RTS systems up to 3 kW capacity. For RTS systems of capacity above 3 kW and up to 10 kW, the CFA of 40 percent would be applicable only for the first 3 kW capacity and for capacity above 3 kW (up to 10 kW) the CFA would be limited to 20 percent.
  b) For Group Housing Societies/Residential Welfare Associations (GHS/RWA) CFA will be limited to 20 percent for installation of RTS plant for supply of power to common facilities. The capacity eligible for CFA for GHS/ RWA will be limited to 10 kWp per house and total not more than 500 kWp
  c) Solar rooftop installations for poor households can be undertaken through the PM-Surya Ghar: Muft Bijli Yojana[61]. The scheme provides a CFA of 60% of system cost for 2 kW systems and 40% of additional system cost for systems between 2 to 3 kW capacity. The CFA will be capped at 3 kW. At current benchmark prices, this will mean Rs 30,000 subsidy for 1 kW system, Rs 60,000 for 2 kW systems and Rs 78,000 for 3 kW systems or higher.
- PM KUSUM Yojana provides:
  a) Component A of PM KUSUM Yojana, promotes setting up of 500 kW and larger solar power plants on agriculture land.
  b) Under Components B & C of the PM KUSUM scheme, the centre and state government will provide a subsidy of 30 percent each per pump basis. Farmers will only need to pay an upfront cost of 10 percent and rest can be paid to the bank in instalments.
- Contribution of U.P. government to PM KUSUM Yojana:
  a) Under Component C-1: Solarisation of installed on-grid pumps with 60 percent subsidy to farmers (70 percent subsidy to the Scheduled Tribe, Vantangia and Musahar caste farmers); this is in addition to subsidy available from Central Government through MNRE'S PM KUSUM Scheme
  b) Under Component C-2: Solarisation of Segregated Agriculture feeders by state government providing Viability Gap Funding (VGF) of Rs. 50 lakh per megawatt in addition to subsidy being provided by Central Government through MNRE'S PM KUSUM Scheme

59 https://invest.up.gov.in/wp-content/uploads/2023/02/Uttar_Pradesh_Solar_Energy_Policy_2022.pdf
60 Third party (RESCO mode) {Renewable Energy Supply Company}
61 https://pmsuryaghar.gov.in/

- LED Street lighting projects in Gram Panchayats[62]:
  a) EESL replaces conventional streetlights with LED streetlights at its own cost and provides free replacement and maintenance of LED bulbs for up to 7 years.
  b) Atal Jyoti Yojana and MNRE Solar Streetlight Programme provide subsidies for installation of solar street lights with 12 Watt LEDs and 3 days battery back-up.
- GRAM UJALA scheme[63]:
  a) LED bulbs available at an affordable price of Rs. 10 per bulb
  b) Rural customers will be given 7-watt and 12-watt LED bulbs, with a three-year warranty, in exchange for working incandescent bulbs
- Subsidies for cold storage set ups
  a) Government assistance in the form of credit linked back ended subsidy of 35 percent of the project cost is available through 2 schemes
- Department of Agriculture Cooperation and Farmers Welfare (DAC&FW) is implementing Mission for Integrated Development of Horticulture (MIDH)
- National Horticulture Board (NHB) is implementing a scheme namely "Capital Investment Subsidy for Construction/Expansion/Modernisation of Cold Storages and Storages for Horticulture Products
  » Under the Pradhan Mantri Kisan Sampada Yojana, the component on Integrated Cold Chain, Value Addition and Preservation Infrastructure provides financial assistance in the form of grant-in-aid at the rate of 35 percent can be obtained for creation of infrastructure facility along the entire supply chain[64] for facilitating distribution of non-horticulture, horticulture, dairy, meat and poultry. The scheme allows flexibility in project planning with special emphasis on creation of cold chain infrastructure at farm level.
- EESL plans to initiate market-based interventions for Solar based Induction cooking solutions by leveraging Carbon financing
- Leveraging funds through the 15th Finance Commission and schemes like GOBARDHAN (Galvanising Organic Bio-Agro Resources Dhan) scheme under Swachh Bharat Mission - Gramin (SBM-G).
  a) The GOBARDHAN scheme under SBM-G provides financial assistance up to Rs.50.00 lakh per district for the period of 2020-21 to 2024-25 for setting up of cluster/community level biogas plants[65].
- UP Bio-Energy Policy 2022[66] provides incentives for setting up CBG plants in addition to incentives available from Govt. of India under the GOBARDHAN scheme:
  » The incentive of Rs 75 lakh/tonne to the maximum of Rs 20 Crore on setting up Compressed Biogas (CBG) Production Plant
  » Exemption on development charges levied by development authorities
  » Exemption of 100 percent Stamp duty and Electricity duty
- MNRE implemented the Waste to Energy (WTE) Programme under the umbrella of the National Bio-energy Programme:
  » The programme supports the setting up of plants for the generation of Biogas from urban, industrial, and agricultural waste

62 Street Lighting National Programme by EESL. Link
63 Gram Ujala scheme distributes One Crore LED bulbs in rural areas (Feb 2023), PIB. Link
64 viz. pre-cooling, weighing, sorting, grading, waxing facilities at farm level, multi product/multi temperature cold storage, CA storage, packing facility, IQF, blast freezing in the distribution hub and reefer vans, mobile cooling units
65 https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1883926
66 https://invest.up.gov.in/bio-energy-enterprises-promotion-programme-2022/

» Financial assistance available for Biogas generation is Rs 0.25 Crore per 12000 m^3/day[67]

Other Sources of Finance

- Explore tie ups with local banks, microfinance institutions and cooperative banks for loans to procure solar rooftop, solar pumps etc
- Explore partnerships with solar developers for agro-photovoltaics
- CSR funds can be utilised:
  - » To cover the capital cost for installation of solar rooftops/Agro-Photovoltaics /solar pumps over and above the scheme/programme subsidy through a revolving fund model similar to those given by micro-finance institutions
  - » Provide "Operation and Maintenance" training to village community members/ SHGs members for the various clean technologies adopted in the GP
  - » Organise awareness campaigns on existing government schemes/ programmes that promote rooftop solar (UP Solar Policy, 2022) and solar irrigation (PM-KUSUM, UP Solar Irrigation Scheme)

Key Departments

- Uttar Pradesh New & Renewable Energy Development Agency (UPNEDA)
- Uttar Pradesh Power Corproation Ltd.
- Dakshinanchal Vidyut Vitran Nigam Ltd
- Panchayati Raj Department
- Rural Development Department
- Agriculture Department
- Education Department

67 https://pib.gov.in/PressReleasePage.aspx?PRID=1896067

6. Sustainable and Enhanced Mobility

Context and Issues

1. Ainchhwara has a total of 416 internal combustion engine (ICE) vehicles; 315-two-wheelers, 40 cars, 14 jeeps, 36 tractors, 3 trucks and 8 auto-rickshaws.[68]

   Additionally, there are around 30 e-rickshaws in the GP.
2. For the transportation of agricultural produce/goods, chota hathis (mini trucks) or tractors are used by farmers. Those farmers who do not own such vehicles rent them from neighbouring farmers.[69]
3. The total fuel consumption by the ICE vehicles is 131.5 kilo litre (kL) of diesel and ~63 kL of petrol per annum. Overall, the fuel consumed in the transport sector has led to over 424.5 tCO_2e emissions.[70]
4. The GP has around 5 km of kuchha roads. As per inputs from field survey, multiple stretches of roads in the GP are damaged, have potholes and lack footpaths.

Therefore, there is significant scope for improving transport infrastructure and initiating a transitioning to e-mobility solutions.

Enhancing Road & Pedestrian Infrastructure

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Construction of all internal roads in GP as Pucca roads 2. Repair works for existing roads that have potholes or any other damages 3. Construction of footpath/ pathways in selected locations	1. Repair and maintenance of all roads and footpaths in GP 2. Construction of additional footpath/ pathways in selected locations	Repair and maintenance of all roads and footpaths in GP

68 As per inputs received during field surveys

69 Based on inputs from community during field surveys and discussions with Gram Pradhan

70 Based inputs from community during field surveys

Target	1. Developing 5 kms. of existing kuccha roads to pucca roads 2. Repair of all (100%) damages/potholes, etc. in roads within or connecting to GP 3. Construction of 600 m long footpath (kharanja with interlocking) in following areas[14]: a. Manohar Baba b. Lodhta Ainchhwara c. Bawana Ainchhwara d. Chamandhan Ainchhwara e. Gazta Ainchhwara f. Ramdas Ka Ainchhwara	1. Repair and maintenance of all (100%) roads & footpaths 2. Construction of additional 1 km long footpaths in strategic demand-based locations	Repair and maintenance of all (100%) roads & footpaths
Estimated Cost	1. 5 kms. of pucca roads: Rs. 2.5 Crore 2. 600 m long footpaths[71]: a. Kharanja = Rs. 60 Lakhs b. interlocking = Rs. 50 Lakhs *Total cost = Rs. 3,60,00,000*	1 Km. long footpaths: a. Kharanja = Rs. 1 Crore b. interlocking = Rs. 84 Lakhs *Total cost = Rs. 1,84,00,000*	As per requirement

Promoting Intermediate Public Transport (E-autorickshaws) for Last Mile Connectivity

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Replacing existing auto-rickshaws in the GP with e-autorickshaws 2. Adding more e-autorickshaws to increase serviceability in all areas in the GP[72]	1. Provision of additional e-autorickshaws 2. Scaling up partnership within and beyond GP to increase the number of:	1. Provision of additional e-autorickshaws (as per demand) 2. Scaling up partnership within and beyond GP 3. Maintenance and repair work for existing e-autorickshaws

71 HRVCA Report - Ainchhwara GP

72 As per discussion with Gram Panchayat and Gram Pradhan

	3. Partnership building and setting up a business model/ system for commercial hiring (on rental basis) of e-autorickshaws between: a. Businesses/ owners giving e-autorickshaws on rent (Green Entrepreneurship) b. Working class/ youth hiring e-autorickshaws on rent (Green livelihood) 4. Maintenance and repair work for existing e-autorickshaws (if required) 5. Planning strategic locations as e-autorick-shaws transit stop/pick-up points for public 6. Increasing awareness amongst local people on benefits of opting for IPTs and e-mobility	a. Businesses/ owners giving e-autorickshaws on rent b. Local people (working class/ youth) hiring e-autorickshaws on rent 3. Maintenance and repair work for existing e-autorickshaws 4. Planning additional strategic locations as e-autorickshaws transit stop/pick-up points for public 5. Increasing awareness amongst local people on benefits of opting for IPTs and e-mobility	4. Planning additional strategic locations as e-autorickshaws transit stop/pick-up points for public (as per demand) 5. Increasing awareness amongst local people on benefits of opting for IPTs and e-mobility
Target	1. IPT fleet to replace 8 diesel autos 2. Additional 10 e-autorickshaws provision 3. Partnership building and setting up of a e-autorickshaws hiring system 4. Maintenance & repair of existing e-autorickshaws 5. Developing 4-5 e-autorickshaws transit stop/pick-up points 6. Awareness Building	1. Additional 20 e-autorickshaws provision 2. Scaling up Partnership 3. Maintenance & repair of existing e-autorickshaws 4. Developing new 4-5 E-autorickshaws transit stop/pick-up points 5. Awareness Building	1. Scaling up Partnership 2. Maintenance & repair of existing e-autorickshaws 3. Awareness Building

Estimated Cost	Cost for one e-autorickshaw[73]: around Rs. 3,00,000 » Available subsidy: up to Rs. 12,000 per vehicle *Total cost of 18 e-autorickshaws (with subsidy): Rs. 51,84,000* GHG emissions avoided (for replacing 8 diesel autos): 85.88 tCO_2e[74]	*Total cost (with subsidy) = Rs. 57,60,000*	

E-goods Carriers and E-tractors

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Provision of e-goods carriers & e-tractors 2. Partnership building and setting up a business model/system for commercial hiring (on rental basis) of e-goods carriers & e-tractors between: a. Businesses/owners giving e-goods carriers & e-tractors on rent (Green Entrepreneurship) b. Farmers/working class/youth hiring e-goods carriers & e-tractors on rent (Green livelihood)	1. Provision of additional e-goods carriers & e-tractors 2. Scaling up partnership within and beyond GP to increase the number of: a. Businesses/owners giving e-goods carriers & e-tractors on rent b. Farmers/working class/youth hiring e-goods carriers & e-tractors on rent	1. Provision of e-goods carriers & e-tractors (as per demand) 2. Scaling up partnership within and beyond GP 3. Maintenance and repair work for existing e-goods carriers & e-tractors 4. Sensitizing user groups (farmers/logistic owners) towards use of e-tractors & e-goods carriers

73 The cost of e-autorickshaws ranges from a band of Rs. 1,50,000 - Rs. 4,00,000 and more, depending on the configurations, battery type, amongst others. Price of e-autorickshaws is assumed to be at the middle of the price band primarily factoring in possible subsidies/ grants seed capital/viability gap funding from philanthropies and other funding agencies.

74 GHG emissions avoided per auto estimated to be 10.73 tCO_2e per auto based on inputs from the community. Replacing diesel autorickshaws with e-autorickshaws will reduce this emission and contribute towards the GP becoming carbon neutral or even carbon positive.

Suggested Climate Smart Activities	3. Incentive system (subsidy on rent charges, etc.) to encourage farmers/ transporters choose e-tractors/carriers over conventional diesel-based vehicles 4. Sensitizing user groups (farmers/logistic owners) towards use of e-tractors & e-goods carriers	3. Maintenance and repair work for existing e-goods carriers & e-tractors 4. Sensitizing user groups (farmers/logistic owners) towards use of e-tractors & e-goods carriers	
Target	1. Provision of 2 to 3 e-tractors 2. Provision of 2 to 3 e-goods carriers (Mini goods transport trucks) 3. Partnership building and setting up of a e-goods carriers & e-tractors hiring system 4. Sensitization & Awareness Building	1. Provision of additional 2 to 3 e-tractors 2. Provision of additional 2 to 3 e-goods carriers (Mini goods transport trucks) 3. Scaling up Partnership 4. Maintenance & repair of existing e-goods carriers & e-tractors 5. Sensitization & Awareness Building	1. Scaling up Partnership 2. Maintenance & repair of existing e-goods carriers & e-tractors 3. Sensitization & Awareness Building
Estimated Cost	1. 2 to 3 e-tractors = Rs. 12 to 18 Lakhs (Rs. 6 lakhs per e-tractor) 2. 2 to 3 EV mini goods transport trucks = Rs. 18 to 30 Lakhs (Rs. 9 to 10 lakhs per vehicle) *Total cost = Rs. 40 Lakhs approximately*	1. 2 to 3 e-tractors = Rs. 12 to 18 Lakhs (Rs. 6 lakhs per e-tractor) 2. 2 to 3 EV mini goods transport trucks = Rs. 18 to 30 Lakhs (Rs. 9 to 10 lakhs per vehicle) *Total cost = Rs. 40 Lakhs approximately*	

Existing Schemes and Programmes

- Construction & Repair of Road infrastructure with support from Pradhan Mantri Gram Sadak Yojana and MGNREGS
- UP Electric Vehicle Manufacturing and Mobility Policy, 2022 provides:
  - » 100% registration fee and Road Tax exemption to buyers (during the Policy period)
  - » Purchase Subsidy as early bird incentives to buyers (one time) through dealers over a period of 1 year: e-goods Carriers: @10% of ex-factory cost up to Rs. 1,00,000 per vehicle 2-Wheeler EV: @15% of ex-factory cost up to Rs. 5000 per vehicle 3-Wheeler EV: @15% of ex-factory cost up to Rs. 12000 per vehicle[75]
- Subsidies for e-rickshaws can also be availed under the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME II) Scheme

Other Sources of Finance

- GP's resource envelope and OSR
- Loans from banks and micro-finance institutions in tandem with CSR support

Key Departments

- Infrastructure and Industrial Development Department
- Transport Department
- Panchayati Raj Department
- Rural Development Department

75 Subsidies provided by the government are subject to periodic changes both in terms of the quantum and number of beneficiaries. Hence, subsidies mentioned in any section of this plan are only indicative, and need to be confirmed at the time of procurement.

7. Enhancing Livelihoods and Green Enterpreneurship

Agriculture is the mainstay of the economy of the GP and 315 households (35 percent) rely on farming for income, engaged in various forms such as land-owners, renting agricultural land or as farm workers. The agriculture sector is fraught with livelihood insecurities, particularly due to the changing climate and the current unsustainable agricultural practices. Thus, the livelihoods of a large fraction of the population are uncertain. Other sources of income in the GP are animal husbandry activities and non-farm wage-labour. Some households are also involved in businesses, service sector, small scale/ cottage industries, arts/handicrafts. In the past 5 years 120 families have migrated out of the GP in search for better livelihood. This is a trend seen in most rural areas. Therefore, are limited opportunities for jobs within the GP, beyond the activities mentioned. The recommendations mentioned in this action plan provide multiple avenues for new businesses and job opportunities in the coming years. These are detailed in the following table:

Manufacture and Sale of Products from Plastic-Alternative Materials

Suggested Climate Smart Activities

1. Engaging women, SHGs and local small-scale entrepreneurs for manufacturing products from plastic-alternative materials (bags, home decor, cutlery, stationery items, furniture, etc.)
2. Developing Partnership model between panchayat, women, SHGs and local small-scale entrepreneurs
3. Capacity building sessions to:
   a. Diversify product range
   b. Enhance marketing/selling of the products within & outside the GP

Target

At initial stage:

1. Partnership building and business set-up
2. Engagement of 100 women in manufacturing
3. Capacity Building activities

Long-term engagement from this GP & nearby villages:

1. Scaling up partnership within and beyond GP
2. Increased engagement from this GP & nearby villages of:
   a. Additional 200-300 women
   b. Additional SHGs, MSMEs & individual entrepreneurs
3. Regular capacity building activities

Composting and Selling Organic Waste as Fertilizer/ Manure

Suggested Climate Smart Activities

1. Developing business and partnership models between panchayat, community members and farmer groups for:
   a. Composting and selling agricultural waste as manure/organic fertilizer by farmers
   b. Selling agricultural waste to Panchayat
   c. Encouraging household level composting of food waste in the form of incentives to sell to Panchayat
2. Capacity building of community members and farmer groups to:
   a. Understand composting & vermi-composting techniques
   b. Market/sell compost within & outside the GP

Target

At initial stage:

1. Partnership building and setting up business and incentive models
   a. Composting agricultural waste and sell to Panchayat or directly to market
   b. Engagement of households to compost food waste and utilise for household-level use or sell to Panchayat
2. Capacity Building activities

Long-term target:

Scaling up partnership, compost quantity and capacity building activities

Commercial hiring of E-autorickshaws to Promote Green Entrepreneurship and Jobs

Suggested Climate Smart Activities

1. Partnership building and setting up a business model/system for commercial hiring (on rental basis) of e-autorickshaws between:
   a. Businesses/owners giving e-autorickshaws on rent (Green Entrepreneurship)
   b. Working class/youth hiring e-autorickshaws on rent (Green livelihood)
2. Increasing awareness amongst local people on benefits of opting for IPTs and E-mobility

Target

At initial stage:

1. Partnership building and setting up of a e-autorickshaw commercial hiring system
2. Initiating the hiring business with 10 e-autorickshaws
3. Awareness Building activities

Long-term target:

1. Scaling up partnership
2. Enhancing the hiring business with additional 10 e-autorickshaws into the market

Hiring E-goods Carriers and E-tractors

Suggested Climate Smart Activities

1. Partnership building and setting up a business model/system for commercial hiring (on rental basis) of e-goods carriers & e-tractors between:
   a. Businesses/owners giving e-goods carriers & e-tractors on rent (Green Entrepreneurship)
   b. Farmers/working class/youth hiring e-goods carriers & e-tractors on rent (Green livelihood)
2. Establishing an incentive system (subsidy on rent charges, etc.) to encourage farmers/transporters choose e-tractors/carriers over conventional diesel-based vehicles
3. Sensitizing user groups (farmers/logistic owners) towards use of e-tractors & e-goods carriers

Target

At initial stage:

1. Partnership building and setting up of a e-goods carriers & e-tractors commercial hiring system
2. Establishing and piloting the incentive model
3. Initiating the hiring business with 2 to 3 e-tractors and 2 to 3 e-goods carriers (Mini goods transport trucks)
4. Awareness Building activities

Long-term target:

1. Scaling up partnership
2. Enhancing the hiring business with additional 2 to 3
3. e-tractors and 2 to 3 e-goods carriers (Mini goods transport trucks) into the market

Construction & Renting Out of Solar-powered Cold Storage

Suggested Climate Smart Activities

Partnership building and setting up a business model/system for renting out of solar-powered cold storages between:

a. Businesses/owners giving solar-powered cold storages on rent (Green Entrepreneurship)
b. small and medium farmers (within the GP & nearby villages) renting cold storages to minimise post-harvest losses
c. Cooperatives (like PARAS) and other institutional buyers

Target

Setting up of cold storage with 48 MT to 96 MT capacity (~100 ha under vegetables cultivation in the GP)

Production & Sale of Natural Medicines and Supplements

Suggested Climate Smart Activities

Partnership building and setting up a business model/system for renting out of solar-powered cold storages between:

a. Businesses/owners giving solar-powered cold storages on rent (Green Entrepreneurship)
b. small and medium farmers (within the GP & nearby villages) renting cold storages to minimise post-harvest losses
c. Cooperatives (like PARAS) and other institutional buyers

Target

1. Establishment and functioning of 2 ha of Arogya Van
2. Partnership and capacity Building activities

O&M of Various RE Installations (Solar and Bio-gas)

Suggested Climate Smart Activities

Training and capacity building of community members esp. graduates, youth groups and farmer groups for skill development in RE maintenance.

Support from CSR, upskilling schemes of Central and State Government in establishing Solar and Bio-gas installation and O&M businesses within the GP

Financing & Skill Development

1. Sensitising banking & financial institutions to support green entrepreneurship & livelihoods (through various credit schemes, partnership/revenue models); Government loan schemes such as Mudra Loan, Stree Shakti Yojana, etc. can support women entrepreneurs
2. Necessary skill development provided through supporting government schemes and programmes like: Make in India, Entrepreneur Development Programme run by Department of Science and Technology (DST), National Skill Development Missions and Atal Innovation Mission

6 List of Additional Projects for Consideration

Given below is a list of possible projects for additional consideration for implementation at the GP level by respective Panchayats. These projects have been successfully implemented in various parts of India and in geographies that may have a lot of similarities with Uttar Pradesh. The reason for not including them in the main recommendation is that these projects do not fall or come under the ambit of any ongoing schemes or programmes of the Government of Uttar Pradesh or through Centrally Sponsored Schemes. Hence, the implementation of these projects would have to be done through alternate financing options such as self-financing, CSR, or other such sources.

If implemented, these projects could have the potential to further strengthen the adaptive capacities of communities and may also result in livelihood enhancements.

1. Solar-powered Cold Storage Unit (FPO/SHG/ Individual Farmers)

- A solar-powered cold storage unit to enhance post-harvest efficiency and reduction in loss.
- It helps farmers avoid distress sales and improves farmers' income.

This activity will strengthen initiatives discussed in the "Enhancing Livelihood and Entrepreneurship" section

Case Example/Best Practice[76, 77, 78]:

- Kattangur Farmers Producers Company Ltd in Hyderabad, Telangana
- Ghummar Farmer Producer Organisation (FPO) is based at village Nana of Bali tehsil of Pali district of Rajasthan

2. Solar Passive Design and Passive Cooling

For new construction and retrofitting (wherever possible): Promoting sustainable design and vernacular (local/traditional) materials in public and administrative buildings along with scaling up to residential houses to reduce energy demand and increase energy efficiency:

- Building orientation as per solar geometry
- Allow efficient movement of natural air
- Wind tower coupled with solar chimney
- Allow natural lighting through light vaults (minimizing conventional light load)
- Energy conservation activities0
- Water bodies and designed landscape (plantation/horticulture)

This activity will strengthen initiatives discussed in the "Access to Clean, Sustainable, Affordable and Reliable Energy" section

76 https://selcofoundation.org/wp-content/uploads/2023/08/Compendium_Updated_20230922.pdf
77 https://www.opportunityindia.com/article/empowering-women-fpo-through-solar-power-ghummar-fpo-34521
78 https://www.ecozensolutions.com/ecofrost/fpos-leverage-agri-infra-funds-for-ecofrost.html

Case Example/Best Practice:

The Rajkumari Ratnavati Girl's School[79], rural Thar desert, Rajasthan: for more than 400 girls that live below the poverty line.

- Building orientation to maximize thermal comfort
- Solar panel installations to run lighting and fans
- Solar panel canopy and Jallis/screens keep the heat out
- The elliptical shape of the canopy creates cooling (airflow)
- Building walls allow air penetration and keep the sun/sand out
- Use of local/vernacular material for construction

Solar Passive Complex, Punjab Energy Development Agency (PEDA), Chandigarh[80]

- 25 kWp building integrated solar power plant
- Orientation as per solar geometry
- Building envelope (design+material) to provide thermal comfort (e.g., Cavity walls, insulated roofing)
- Conditioned air and light by controlling solar access (e.g., Light vaults, Wind Tower coupled with Solar Chimneys)
- Small ponds and plantations (trees, shrubs, and grass) for cooling and air purification

3. Solar-powered RO Water Filtration System/Water ATM Kiosk (Community-based)

Solar-based RO water purification systems offer a sustainable and cost-effective solution by utilizing solar energy. It ensures a safe drinking water supply to the community while promoting the reuse of water. This initiative can be beneficial for Gram Panchayat facing issues with the quality of drinking water.

Case Example/Best Practice:

Hiwra lahe village, District - Washim, State- Maharashtra[81]

- Installing solar-powered RO water filtration system with CSR support
- Improvement in the socio-economic status of the community
- Enabling Village Water and Sanitation Committee for the operation and management of the system
- Similar initiatives have been implemented in the states of Gujarat, Telangana, Rajasthan, etc.

4. Solar-powered Cattle Sheds

Cattle sheds are an adaptive measure for livestock to protect them from heat and cold waves; this initiative can be supplemented to enable climate change mitigation by deploying solar power installations over the cattle shed roofs. This can power lighting, reduce energy demand (passive cooling and ventilation),

79 https://www.avontuura.com/rajkumari-ratnavati-girls-school-diana-kellogg-architects/
80 https://peda.gov.in/solar-passive-complex
81 https://yraindia.org/wp-content/uploads/2019/12/RO-plant-Success-story-in-Village-Hiwara-HDB-project.pdf

support fodder preparations, and any other operations in the sheds. Excess power can be fed into the grid thereby generating additional income for farmers.

Cattle sheds will also help in waste management through biogas generation and fertilizer preparation from animal waste (dung). Cattle sheds will also help in reducing the transmission of communicable diseases in livestock by providing proper segregated and secure spaces.

This activity can strengthen the Sustainable Livestock Management suggestions in the "Sustainable Agriculture" section of the recommendations.

Case Example/Best Practice

Districts: Ludhiana, Bathinda & Tarn Taran, Punjab[82,83]

- The project is being implemented in 3 districts targeting 3000 Households of small & marginal farmers having landholdings of 1-2 ha and 5-15 dairy animals.
- Climate proofing of cattle sheds and promoting sustainable livelihoods of small and marginal livestock farmers

Nirmal Gujarat Campaign[84]

- The animal hostels in Himmatnagar, Gujarat help to keep the villages clean.
- Such shelters collect dung to generate biogas and vermicompost for villagers. Further, vermicompost can be sold to raise funds for village welfare.

Additionally, there is a "Cattle Shed Subsidy Scheme under Scheduled Castes Sub Plan (SCSP)[85]" which is implemented by the Directorate of Animal Husbandry, Agriculture, Farmers Welfare and Co-operation Department, Government of Gujarat. Under this scheme, financial assistance (either 30,000/- or 50% of the cost of the cattle shed, whichever is less) is given to Scheduled Caste beneficiaries for the construction of a Cattle Shed for 2 animals.

5. Cool Roofs

Painting the roofs of households, and public and government buildings with solar-reflective paint

Case Example/Best Practice:

Slum households in Jodhpur, Bhopal, Surat, and Ahmedabad[86]

- Local community workers trained the households to paint their own cool roof
- Demonstration outreach: more than 460 roofs
- Indoor temperatures lower by 2 - 5°C compared to traditional roofs

This activity links to the section "Access to Clean, Sustainable, Affordable, and Reliable Energy."

82 https://pscst.punjab.gov.in/en/climate-resilient-livestock-production-system
83 https://moef.gov.in/wp-content/uploads/2017/08/Punjab.pdf
84 https://jayshaktiengg.com/gujarat-government-launches-solar-scheme-for-farmers/
85 https://www.myscheme.gov.in/schemes/csssscspscc
86 https://www.nrdc.org/bio/anjali-jaiswal/cool-roofs-community-led-initiatives-four-indian-cities

6. Reduction of Methane Emissions from Cattle through the Use of Feed Supplements

The Indian Council of Agricultural Research(ICAR) -National Institute of Animal Nutrition and Physiology has developed feed supplements (Harit Dhara and Tamarin Plus) to help reduce methane emissions from livestock.

This activity links to the section on "Sustainable Agriculture"

- The usage of these supplements can potentially lead to the reduction of enteric methane emissions upto 17-20%[87] when incorporated with feedstock.
- These feed supplements as reported by the ICAR cost ₹6 per kg

7. Solar-powered Vertical Fodder Grow Units (Household Level/Community Level)

A solar-powered, microclimate-controlled, vertical fodder grow unit enables users to harvest fresh fodder daily with less than a bucket of water. Such units will ensure the availability of fodder for livestock even in the event of droughts.

This activity links to the section on "Sustainable Agriculture"

Case Example/Best Practice:

In the states of Andhra Pradesh, Rajasthan, Karnataka, and Bihar[88]

- Adoption of fodder grow units results in increased availability of green fodder for livestock
- It leads to an increase in farmers' income

8. Panchayat Level Water Budgeting

Water management and 'Water budgeting' for climate-compatible agriculture-based livelihoods

- Calculation of annual/quarterly Water Budget
- Compute "Water Deficit" and "Water Surplus" at the village level
- Annual crop production planning based on water availability
- Water audit to account for any wastage

This activity links/adds to the initiatives Sustainable Agriculture and Water Resource Management sections of the Action Plan. This initiative supports multiple interventions like crop selection/planning, farm ponds, improved irrigation methods, water recharge, etc.

87 As reported by Indian Council for Agriculture (https://testicar.icar.gov.in/content/icar-nianp-commercializes-anti-methanogenic-feed-supplement-%E2%80%9Charit-dhara%E2%80%9D)

88 https://india.mongabay.com/2024/04/amid-fodder-crisis-hydroponics-offers-new-hope-for-indian-farmers/

Case Example/Best Practice:

7 Gram Panchayats (GP) and the neighboring hamlets, Rangareddy and Nagaurkurnool districts, Telangana[89]

- Current status of water consumption, measures to optimize consumption
- Planning for each agriculture season i.e., Kharif (monsoon), Rabi (winter), and Zaid (summer)

9. Enabling Rural Women Entrepreneurs in Climate Impact Sectors

Creating a women-led grassroots entrepreneurship support ecosystem in villages:

- Women sell clean/green technology-based products
- Women educate communities on the importance of clean-technologies e.g., clean cooking (solar cookstoves), portable Solar water purifiers, energy-efficient light fixtures, etc.
- Providing business expansion loans to women
- Facilitating rural marketing and distribution linkages

Vocational skills development, Training, and capacity building to enable rural women into the entrepreneurship ecosystem.

This initiative intends to strengthen women's role and engagement in clean energy technologies and climate impact sectors. It links to and adds to the Enhancing Livelihoods and Green Entrepreneurship section of the Action Plan.

Case Example/Best Practice

14 districts across 4 states (Maharashtra, Bihar, Gujarat and Tamil Nadu)[90]

Swayam Shishan Prayog (SSP) enabling women as clean energy entrepreneurs and climate change leaders in their rural communities:

- Enabled more than 60,000 rural women entrepreneurs in clean energy, sustainable agriculture, health and nutrition, and safe water and sanitation
- More than 1,000 women entrepreneurs trained in clean-energy technologies and started businesses

10. Community Seed Banks

- Community seed banks will promote crop diversification and sustainability in the region while mainstreaming local seed systems, and climate resilience.
- Such seed banks will encourage farmers to grow drought-tolerant and climate-resilient varieties of crops.
- Ensure safety nets for farmers, especially during unfavorable weather conditions and food shortages.

89 https://wotr.org/2018/03/31/water-budgeting-in-telangana-the-need-and-the-objective-of-the-campaign/
90 https://unfccc.int/climate-action/momentum-for-change/women-for-results/rural-community-leaders-combatting-climate-change

Case Example/Best Practice:

Community Seed Bank, Dangdhora, Jorhat, Assam (UNEP-GEF project)[91]

- Seed bank-associated farmers are trained to harvest, treat, store, and multiply seeds that are of better quality than those available in the local market.
- Seed bank initiatives in the region forward participatory crop improvement and knowledge-sharing strategies.
- Farmers and smallholders are provided with cheaper and easier access to quality seeds; bridging farmers and markets together.
- These seed systems and value chains safeguard both sustainability and food security.

11. Setting up Bio-Resource Centre (BRC)

Bio-inputs Resources Centres (BRCs) prepare and supply bio-inputs to facilitate the adoption of natural farming without individual farmers having to prepare them on their own, as preparation of bio-inputs is a time-consuming and labor-intensive activity.

- The locally prepared products/formulations utilizing biological entities or biologically derived inputs useful for improving soil health, crop growth, pest, or disease management are made available for purchase by farmers.
- BRC serves as a single-stop shop for all bio input needs of farmers in the area.

Case Example/Best Practice:

In the state of Andhra Pradesh[92]

- Contributes to sustainable climate-friendly agriculture
- Helps farmers adapt to climate change because high soil organic matter content makes soils more resilient to floods, droughts, and land degradation processes
- Minimizes risk as a result of stable agro-ecosystems and yields, and lowers production costs

91 https://alliancebioversityciat.org/stories/community-seed-banks-empower-farmers-address-climate-risk-india

92 https://www.apmas.org/pdf/csv/casestudy-1.pdf

7 Linkages to Adaptation, Co-Benefits & Sustainable Development Goals

Enhancing Green Spaces and Biodiversity

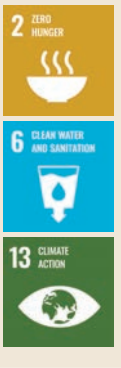
Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed[93]
a) Improving green cover	▪ Natural buffer from climate events/ disasters ▪ Regulating the micro-climate will aid in adaptation from heatwaves and heat stress ▪ Health benefits from access to medicinal plants ▪ Nature-based Solutions (NbS) for improved soil stability, water conservation and corresponding agricultural benefits ▪ Improved livestock productivity ▪ Revenue generation from agroforestry, production of natural medicines, etc. ▪ Improved environment and habitat for biodiversity, enhancing ecosystem health	**SDG 11: Sustainable Cities and Communities** ▪ Target 11.7 ▪ Target 11.4 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 ▪ Target 13.3 **SDG 15: Life on Land** ▪ Target 15.1 ▪ Target 15.2 ▪ Target 15.3 ▪ Target 15.5 ▪ Target 15.9
b) People's Biodiversity Register		

93 Detail list of relevant SDG and respective targets in Annexure V

Management and Rejuvenation of Water Bodies

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a) Rainwater harvesting (RWH) structures  b) Rejuvenation of water bodies and creation of retention ponds  c) Restoration of wells & enhancing ground water recharge  d) Enhancing drainage infrastructure 	▪ Nature-based Solutions (NbS) enhances coping ability from water scarcity and water stress ▪ Improved groundwater recharge ▪ Enhanced water quality ▪ Increased resilience to disasters like droughts, heatwaves, etc. ▪ Improved agricultural and livestock productivity ▪ Boost to local biodiversity	**SDG 6: Clean Water and Sanitation** ▪ Target 6.1 ▪ Target 6.4 ▪ Target 6.5 **SDG 11: Sustainable Cities and Communities** ▪ Target 11.4 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 **SDG 15: Life on Land** ▪ Target 15.1 ▪ Target 15.5 

Sustainable Agriculture

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Drought management for agriculture  b. Shift to natural farming  c. Sustainable livestock management 	▪ Food security through Eco-DRR[94] approach to increase resilience of crops from droughts, heat impacts, pests etc ▪ Increased agricultural productivity and profit ▪ Improved soil health ▪ Improved water quality due to reduced use of chemical inputs ▪ Reduced losses and increased productivity of livestock during cold waves and heat waves ▪ Improved air quality and reduced emissions	**SDG 2: Zero Hunger** ▪ Target 2.3 ▪ Target 2.4 ▪ Target 2.a; Article 10.3.e **SDG 6: Clean Water and Sanitation** ▪ Target 6.4 ▪ Target 13.1 **SDG 13: Climate Action** ▪ Target 13.2 ▪ Target 13.3 

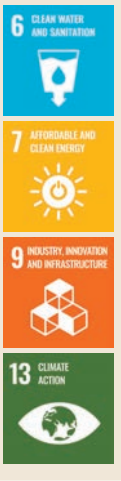
94 Eco-Disaster Risk Reduction

Sustainable Waste Management

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Establishing a waste management system 	▪ Reduced waterlogging ▪ Reduction in water and land pollution/ improved sanitation ▪ Good health and a relatively disease-free environment due to 100% waste management and reduction in occurrence of public health risks and epidemics ▪ Livelihood and income generation ▪ Revenue and profit generation ▪ Enhanced inputs for sustainable agriculture	**SDG 3: Good Health and Well being** ▪ Target 3.3 ▪ Target 3.9 **SDG 6: Clean Water and Sanitation** ▪ Target 6.3 ▪ Target 6.8 **SDG 8: Decent Work and Economic Growth** ▪ Target 8.3 **SDG 9: Industries, Innovation and Infrastructure** ▪ Target 9.1 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.4 ▪ Target 12.5 ▪ Target 12.8 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 ▪ Target 13.3 **SDG 15: Life on Land** ▪ Target 15.1
b. Management of organic waste 		
c. Ban on single use plastics 		

Access to Clean, Sustainable, Affordable and Reliable Energy

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Solar rooftop installation 	▪ Energy security ▪ Thermal comfort ▪ Enhanced livelihood options ▪ Additional revenue generation ▪ Provides relief from high temperatures/ sun exposure, thus resulting in yield stability and boost in productivity ▪ Decline in toxic emissions/local air pollution ▪ Economic benefits after pay-back period ▪ Reduction in indoor air pollution ▪ Improvement of health, especially of women ▪ Eliminates drudgery/ physical labour of fuelwood collection ▪ Enhanced ability to cope with grid failures during disasters	**SDG 6: Clean Water and Sanitation** ▪ Target 6.4 **SDG 7: Affordable & Clean Energy** ▪ Target 7.1 ▪ Target 7.2 ▪ Target 7.3 ▪ Target 7.a ▪ Target 7.b **SDG 9: Industries, Innovation and Infrastructure** ▪ Target 9.1 **SDG 13: Climate Action** ▪ Target 13.2 ▪ Target 13.3
b. Agro-photovoltaic installation 		
c. Solar pumps 		
d. Clean cooking 		
e. Energy efficiency fixtures 		
f. Solar street lights 		



Sustainable and Enhanced Mobility

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Enhancing road & pedestrian infrastructure 	▪ Decline in local air pollution leading improved human and ecosystem health ▪ Improved accessibility for at-risk and vulnerable people ▪ Additional revenue generation ▪ Enhanced last-mile connectivity of goods and services ▪ Improved resilience through strengthening road infrastructure with co-benefits like reduced waterlogging	**SDG 7: Affordable & Clean Energy** ▪ Target 7.2 **SDG 11: Sustainable Cities and Communities** ▪ Target 11.2 **SDG 9: Industries, Innovation and Infrastructure** ▪ Target 9.1 **SDG 13: Climate Action** ▪ Target 13.2 ▪ Target 13.3 
b. Promoting Intermediate Public Transport (e-autorickshaws) for Last mile connectivity 		
c. E-goods carriers and E-tractors 		

Enhancing Livelihoods & Green Entrepreneurship

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Manufacture and sale of products from plastic-alternative materials 	▪ Reduction in water and land pollution ▪ Enhanced inputs for sustainable agriculture ▪ Good health and a relatively disease-free environment due to 100% waste management and reduction in occurrence of public health risks and epidemics ▪ Additional revenue generation ▪ Enhanced livelihood options ▪ Health benefits from access to medicinal plants ▪ Revenue generation from agroforestry, production of natural medicines, etc. ▪ Improved environment and habitat for biodiversity, enhancing ecosystem health ▪ Decline in local air pollution leading improved human and ecosystem health ▪ Enhanced last-mile connectivity of goods and services	**SDG 5: Achieve Gender Equality and Empower All Women and Girls** ▪ Target 5.5 **SDG 8: Decent Work and Economic Growth** ▪ Target 8.3 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 ▪ Target 12.4 ▪ Target 12.5 ▪ Target 12.8 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 ▪ Target 13.3
b. Composting & selling of organic waste as fertiliser 		
c. Commercial hiring of E-autorickshaws to promote green entrepreneurship and jobs 		
d. Hiring E-goods carriers and E-tractors 		
e. Construction & renting out of solar-powered cold storage 		
f. Production & sale of natural medicines and supplements 		
g. O&M of various RE installations (solar and bio-gas) 		

8 Way Forward

The proposed recommendations on implementation will help to not only reduce Greenhouse Gas (GHG) emissions of Ainchhwara but also to achieve energy, food and water security, thereby, making the Gram Panchayat climate smart, resilient and sustainable. This will foster a holistic and sustainable development of the GP to meet the aspirations of its residents. Additionally, these recommendations would improve quality of life while promoting a harmonious co-existence with nature. This Climate Smart Action Plan for Ainchhwara will make it *'Aatma Nirbhar'* through various aspects like, reduction of expenditure on energy, farming inputs, water, etc. and will open new avenues for economic development.

Further, with the implementation of proposed interventions, Ainchhwara would also contribute to the State's vision and targets on climate action as envisaged in the UP State Action Plan On Climate Change II, 2022, which in turn, would add to the country's endeavours to address climate change meeting the contributions listed in the NDC, 2015 and its updated version, 2022 and also meet the Sustainable Development Goals by 2030.

Addressing climate issues requires tailor-made solutions at the local level, which can only be successful with the availability of adequate climate finance and other means of implementation. This can be achieved by integrating ongoing activities supported under state and central schemes and mobilizing additional financial resources. This would entail enhanced collaboration and cooperation between all relevant stakeholders: community, government administration, elected representatives and private sector. Post implementation of the Action Plan, continued action in the form of efficient management of the new infrastructure/technology will be the key in ensuring Ainchhwara becoming a model climate smart gram panchayat. The success of the present plan will possibly influence other Gram Panchayats to follow the process to make themselves smart, resilient and sustainable. To achieve this vision, it will be crucial to promote a sense of community ownership and behavioural change for adoption of a sustainable lifestyle, along the lines of LiFE Mission as envisioned by the Hon'ble Prime Minister, Shri Narendra Modi.

9 Annexures

Annexure I: Background and Methodology

Background

The State of Uttar Pradesh (UP) is making rapid strides towards climate action. Under the visionary and inspirational leadership of the Hon'ble Chief Minister, Shri Yogi Adityanath, the state has initiated a wide-range of climate actions across different levels of governance. One such initiative is to develop action plans for 'Climate Smart Gram Panchayats.' This concept was envisaged by the Chief Minister of Uttar Pradesh in June, 2022. To take this work ahead, a rapid multi-criteria assessment was conducted to identify climate friendly Gram Panchayats in 39 vulnerable districts[95] of UP. The selected Gram Panchayats were announced and several of these were felicitated during the 'Conference of Panchayats' (COP) held on 5th June, 2022.

The Climate Smart Gram Panchayat Action Plan[96] for Ainchhwara has been developed by the Department of Environment, Forest and Climate Change, Government of UP in collaboration with Vasudha Foundation, and Gorakhpur Environmental Action Group. The action plan aims to provide a customized blueprint for mainstreaming climate action at the Gram Panchayat level. This in turn would strengthen localized climate initiatives to not only build climate resilience but also reduce emissions with the aim of becoming zero carbon/carbon neutral by 2030.

The participatory approach adopted in developing this action plan reinforces the concept of bottom-up planning. The key recommendations provided in this action plan can be converted into individual pilot projects that can be funded through a range of financing options, such as CSR funds, existing State and Central Government Programmes, innovative Public-Private Partnerships, carbon finance, and private investments.

To make this feasible, the action plan also has a outline for forging Panchayat-Private-Partnership (PPP) and enhanced collaboration and cooperation between state actors and non-state actors to ensure effective implementation of this action plan.

Methodology

This report comprises of the main Climate Smart Gram Panchayat Action Plan as well as the inputs received from field in the form of filled questionnaire, the HRVCA report, social and resource map of the Gram Panchayat enclosed as annexures.

To develop the Climate Smart Gram Panchayat Action Plan, the following steps were undertaken:

- *Preparation of survey questionnaire:* to understand the ground situation and develop a baseline scenario of the Gram Panchayat a questionnaire was developed with inputs from key stakeholders

95 39 highly vulnerable districts of UP were identified from the State Action Plan on Climate Change 2.0 of UP and the Scoping Assessment for Climate Change Adaptation Planning in Uttar Pradesh by DoEFCC, GoUP

96 This document comprises of the main Climate Smart Gram Panchayat Action Plan and includes the following as annexures: detailed methodology; filled questionnaire; the Hazard, Risk, Vulnerability and Capacity Assessment (HRVCA) report, and the social and resources map of the Gram Panchayat.

and sectoral experts. The questionnaire covered various aspects such as demography, socio-economic indicators, climate variability, climate perception (past 5 years), energy, agriculture & livestock, land resources, sanitation, and health. The survey also aimed to understand the penetration of Central and State Government schemes in the Gram Panchayat.

- *Stakeholder consultation & Capacity building:* Consultations and capacity building workshops were conducted for local NGO partners, Gram Pradhans, Panchayat Secretaries. The stakeholders were briefed about the objective and components of the Climate Smart Gram Panchayat Action Plan, the process of development of these action plans and their individual roles in the same.
- Additionally, NGO partners were also given a training on key climate change concepts, the surveying techniques to be adopted and the questionnaire developed for focus group discussions.
- *Field survey:* To ensure maximum participation from the community, a few rounds of Gram Sabha and focus group discussions were organized to collect primary data.
  - » Field survey included a transect walk of the GP to develop the social and resource maps of the GP.
  - » A Hazard, Risk, Vulnerability and Capacity Assessment (HRVCA) was also carried out to understand the various issues faced by the GP.
  - » Focus Group Discussions were held to identify key climate change-related issues faced by Ainchhwara GP as well as identify the development priorities of the GP.
- Based on the inputs received, the plan was developed and baseline assessments were conducted for the Gram Panchayat. This included identification of climate-smart activities that not only address the environmental and climatic issues that have been identified but also take into account the prevailing agro-climatic characteristics of the GP.
- Information gaps were identified and addressed through multiple rounds of one-on-one discussions with the Gram Pradhan, community and Panchayat Secretary.
- The draft plan was presented to the Gram Panchayat for review.
- Post accommodating required updates based on inputs from the Gram Panchayat, the action plan was finalized and presented to the GP for endorsement.

Annexure II: Questionnaire

उत्तर प्रदेष क्लाइमेट स्मार्ट ग्राम पंचायत की सर्वे प्रषनावली

ग्राम पंचायत : ऐंचवारा विकासखण्ड : मानिकपुर जनपद : चित्रकूट धाम कर्वी

I. गाँव की रुपरेखा

		विवरण	संख्या (सूचना का स्रोत– समुदाय के सदस्य)
1		राजस्व गाँव की संख्या	01
2		टोलों की संख्या	10
3	a	कुल जनसंख्या	6000
	b	कुल पुरुषों की जनसंख्या	3143
	c	कुल महिलाओं की जनसंख्या	2857
	d	विकलांगजन की जनसंख्या	45
	e	कुल बच्चों की जनसंख्या	2880
	f	वरिष्ठ नागरिक (60 वर्ष से अधिक आयु वर्ग)	221
4		कुल परिवार की संख्या	643
	a	गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार की संख्या	450
5		कुल भोगौलिक क्षेत्रफल	5 वर्ग कि0मी0
6	a	साक्षरता दर	85 प्रतिषत
7	a	पक्का घरों की संख्या	370
	b	कच्चा घरों की संख्या (मुख्य रूप से उपयोग की गई सामग्री का उल्लेख करें)	273 कच्ची मिट्टी)

II. सामाजिक आर्थिक

8	ग्राम पंचायत में केवल कृषि (प्रकार) पर आश्रित परिवार	कुल परिवारों की संख्या
	निजी भूमि/स्वयं की भूमि	340
	किराए की भूमि (हुण्डा)	65
	अनुबंध खेती	34
	दिहाड़ी मजदूर	210
	अन्य व्यवस्था (रेहन, अधिया आदि)	85
	अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में षामिल परिवार, उल्लेख करें)	196
9	**ग्राम पंचायत में आय के स्रोत**	**कुल परिवारों की संख्या**
	सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	32
	कुटीर उद्योग	24
	कृषि	340
	कला/हस्तकला	06
	पषुपालन	280
	व्यवसाय (स्थानीय दुकान)	54
	व्यवसाय/उद्यम	22
	दैनिक/दिहाड़ी मजदूर (अकृषिगत)	160
	अन्य	40

10		पलायन		हां	नहीं
	a	क्या पिछले पांच वर्षों में आप के ग्राम पंचायत से ग्रामीणों ने पलायन किया है?		~~✓ हां~~	☐
	b	पलायन करने वाले सीान	पिछले पांच वर्षों में पलायन करने वाले परिवार/ व्यक्तिगत की संख्या		पलायन के मुख्य कारण
		अन्य गांव	18		
		निकट के षहर	35	✓	आजीविका के लिए
		राज्य के प्रमुख ष्षहर	22	✓	आजीविका के लिए
		देष के प्रमुख महानगर	45	✓	आजीविका के लिए
	c	क्या पिछले पांच वर्षों में आप के ग्राम पंचायत में परिवार/व्यक्ति ने प्रवास किए है?		हां ☐	नहीं ☐नही

	d	पिछले पांच वर्षों में आपके ग्राम पंचायत में कितने परिवार प्रवास किए हैं? मुख्य कारण स्पष्ट करें।	नहीं

11		महिलाओं की स्थिति	
	a	महिला प्रमुख परिवारों की संख्या (आय का मुख्य स्रोत– महिला)	
	b	खेती में कार्यरत महिला	कुल संख्या
		निजी भूमि/स्वयं की भूमि	42
		किराए की भूमि/हुण्डा	0
		अनुबंध खेती	15
		दिहाड़ी मजदूर	85
		अन्य व्यवस्था	56
		अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में संलग्न महिलाएं, उल्लेख करें)	अधिकांश महिलाएं अपनी खेती से संबंधित कार्य करती है।
	c	नौकरी/अन्य क्षेत्र में कार्यरत महिलाएं	कुल संख्या
		सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	15
		कुटीर उद्योग	12
		कृषि	35
		कला/हस्तकला	Nill
		पषुपालन	20
		व्यवसाय (स्थानीय दुकान)	03
		दैनिक/दिहाड़ी मजदूर (अकृषिगत)	42
		अन्य	8 महिलाएं सिलाई आदि का काम करती है।

12	स्वयं सहायता समूहों				
	स्वयं सहायता समूह का नाम	सदस्यों की संख्या	अपनायी गई गतिविधियाँ	वार्षिक बचत (रु0)	बैंकों से जुड़ाव/अजुड़ाव
1.	आरती	13	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	6240	हां
2.	भारती	11	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	5280	हां
3.	वासुदेव	11	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	5280	हां
4.	शक्ति	11	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	5280	हां
5.	प्रभू	13	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	6240	हां
6.	सुन्दर	13	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	6240	हां
7	जय सन्तोषी	11	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	5280	हां
8.	सत्ती दाई	13	बकरीपालन/छोटी दुकान/मुर्गी पालन /गाय के गोबर के दिये मूर्ति/खोया दूध	6240	हां
9.	बगलामुखी	11	ब्करीपालन	5280	हां

13	कृषक उत्पादक संगठन (एफ0पी0ओ0)					
	एफ0पी0ओ0 का नाम	क्या इस संगठन की प्रमुख महिला हैं?	प्रत्येक एफ0पी0ओ0 में सदस्यों की संख्या	एफ0पी0ओ0 से प्राप्त वार्षिक राजस्व/ बचत	कृषि उत्पाद	पोस्ट हार्वेस्ट की गतिविधियां/ गतिविधियों का क्षेत्र

	Nil	☐ नही	न्ही	नही	नही	नही
	Nil	☐				
	Nil	☐				
	Nil	☐				
	Nil	☐				

14	अन्य समुदाय आधारित संगठन/					
	सामाजिक संगठन/ समितियों के नाम	क्या महिला प्रमुख संगठन/समिति हैं?	सदस्यों की संख्या	प्राप्त वार्षिक राजस्व/बचत	उत्पाद/सेवा	विपणन/लक्षित उपभोगकर्ता
	रोशनी ग्राम संगठन	हां	10	160000	xk; ds xkscj ls ewfrZ o fn;s cukuk rFkk feV~Vh ds crZu cukuk	''kgjh o xzkeh.k
	Nil	☐				
	Nil	☐				
	Nil	☐				
	Nil	☐				
	Nil	☐				
	Nil	☐				
	Nil	☐				

15		योजनाएं					
	a	योजना के नाम	पंजीकृत लाभार्थी की संख्या	लाभ प्राप्त लाभार्थियों की संख्या	विगत वर्ष ग्राम पंचायत में प्राप्त कुल भगतान (रू0)	अन्य कोई बकाया (रू0)	की गई गतिविधियाँ/कार्य
		मनरेगा	1175	900	85 लाख रूप्ये		मेड़बन्धी, सेक्टर मार्ग निर्माण,इण्टरलाकिंग,मिटटी का कार्य, बाल्मीकि नदी की सफाई

y		प्रधानमंत्री गरीब कल्याण अन्न योजना / एन.एफ.एस.ए.	650	650	गैस चूल्हा, सिलेन्ड़र	0	0
		प्रधानमंत्री उज्जवला योजना	110	500			
		प्रधानमंत्री कृषि सिंचाई योजना	0				
		प्रधान मंत्री कुसुम योजना	0				
	b	**अन्य योजनाएं**					
		ग्राम उज्जवला योजना	110	500			गैस चूल्हा एवं सिलेण्डर
		ऊर्जा दक्षता योजना	0				
		प्रधानमंत्री रोजगार सृजन कार्यक्रम	0				
		प्रधानमंत्री आवास योजना	240	240			
		सार्वजनिक वितरण प्रणाली (पी0डी0एस0)	340	340			प्रत्येक माह **5–35** किलों खाद्यान्न मिलता है।
		कम्प्यूटर प्रषिक्षण कार्यक्रम	0	0			
		उत्तर प्रदेष कौशल विकास मिषन	0				
		राष्ट्रीय कौषल विकास योजना (RKVY)	0				
		मौसम आधारित फसल बीमा	0				
		प्रधानमंत्री फसल बीमा योजना (PMFBY)	0	10			
		मृदा स्वास्थ्य कार्ड	0				
		किसान क्रेडिट कार्ड	250				
		स्वच्छ भारत मिषन	110	110	1320000		लाभार्थी के घर ष्षौचालय बना है।
		सौर सिंचाई पम्प योजना	1	1			लाभार्थी के घर सोलर पैनल लगा है।

		नई/नवीन भारतीय बायोगैस व कार्बनिक खाद कार्यक्रम	0				
		विकेन्द्रित अनाज क्रय केन्द्र योजना	0				
		गोवर्धन योजना	0				
		जल पुनर्भरण योजना	0				
		रेनवाटर हार्वेस्टिंग	0				
		समन्वित वाटरशेड विकास कार्यक्रम	0				
		अन्य वाटरषेड विकास योजनाएं	0				
		अन्य (एक जिला–एक उत्पाद, मेक इन इण्डिया, अन्य)	0				
		उद्यमितता सहायतित योजनाएं आदि	0				

16	सक्रिय बैंक खाता धारकों की संख्या	5250
17	ई–बैंकिंग/डिजीटल भुगतान एप/यू.पी.आई आदि से भुगतान करने वाले खाताधारकों की संख्या	1360

18	निकट कृषि बाजार/क्रय केन्द्र/सरकारी केंद्र	क्या ग्राम पंचायत द्वारा बाजार/कय केन्द्र का उपयोग होता है		यदि नही, तो बाजार/ केन्द्र का उपयोग क्यों नही किया जाता	उत्पादित फसल (कु0)	बिक्री हुई फसल (कु0)	ग्राम पंचायत से दूरी (यदि ग्राम पंचायत से दूर है) (कि0मी0)
		हां	नहीं				
	मानिकपुर (गेंहू)	□हां	□		8500	2600	12 किमी0
	कर्वी (धान)	□	□		2800	760	12 किमी0
		□	□				
		□	□				

19		शिक्षा (केवल ग्राम पंचायत में)				
		प्रकार/स्तर	उपलब्ध छत का क्षेत्रफल (वर्ग मी0)	कुल नामांकित विद्यार्थियों की संख्या	विगत वर्ष में कुल ड्राप आऊट विद्यार्थियों की संख्या	ड्राप आऊट के मुख्य कारण (स्वास्थ्य (1), पहुँच/उपलब्धता–(2), आर्थिक समस्या–(3), अन्य–(4) उल्लेख करें)
	a	प्राथमिक विद्यालय 02	340.80	430	0	40 izfr"kr cPpsa ekulwu] tkM+s ds ekSle ,oa d`f'k dk;ksZa ds dkj.k fo|ky; esa vuqifLFkr jgrs gSaA
	b	जू0 हाई स्कूल 01	225	290	0	
	c	हाई स्कूल		Nill		
	D	जूनियर प्राइवेट विद्यालय	152	145		
	E	त्यागी इण्टर कालेज	3500	1500	135	20%

20	कौशल विकास/व्यवसायिक प्रशिक्षण/पुनः कौशल संस्थान (केवल ग्राम पंचायत में)	उपलब्ध छत का क्षेत्रफल (वर्ग मी0)	संस्थान के प्रकार (सरकारी 1, निजी 2)	नामांकित व्यक्तियों की संख्या	नामांकित व्यक्तियों की आयु
	Nil				
	Nil				
	Nil				
	Nil				

21	राज्य/राष्ट्रीय राजमार्ग की उपलब्धता			
	राजमार्ग का नाम	राज्य मार्ग 1, राष्ट्रीय राजमार्ग 2	ग्राम पंचायत से दूरी	सम्पर्क मार्ग की स्थिति अच्छा (1),

				खराब (2), घटिया (3), सबसे घटिया (4)
	कर्वी प्रयागराज मार्ग	1	1	12 KM.

III. भूमि संसाधनों संबंधित सूचनाएं/जानकारी

22		वन भूमि का विवरण	
	a	वन का क्षेत्र	5.22 squre KM.
	b	वन विभाग द्वारा अधिसूचित क्षेत्र	5.22 squre KM.
	c	सार्वजनिक उपयोग हेतु उपलब्ध वन क्षेत्र	5.22 squre KM.
	d	कितने क्षेत्र पर अतिक्रमण है?	Nil
	e	विगत पांच वर्षों में कोई वन उन्मूलन/वन कटाई की गतिविधियां	Nil
	f	अनुमानित वन उन्मूलन/वन कटाई का क्षेत्रफल (एकड़)	Nil

23		अन्य भूमि का वर्गीकरण			
	a	ग्राम पंचायत के पास ग्राम सभा की कितनी भूमि उपलब्ध है?	**5.4 acre**		
	b	कितनी भूमि पर अतिक्रमण है? (एकड़)	**2.25 acre**		
	c	ग्राम पंचायत में खनन गतिविधियां	हां ✓ □	नहीं □	आच्छादित क्षेत्रफल
		खनन के प्रकार बालू खनन 1, खनिज खनन–(उल्लेख करें) 2, अन्य (उल्लेख करें) 3	बालू खनन		
		अतिरिक्त सूचनाएं	Nil		

24		जल निकाय क्षेत्र		
		विवरण	**हां**	**नहीं**

	a	क्या आप के ग्राम पंचायत में जल निकाय क्षेत्र है?	✓ ☐	☐
	b	ग्राम पंचायत में कुल जल निकाय क्षेत्रों की संख्या	3	
	c	क्या जल निकाय क्षेत्र में अतिक्रमण है?	☐	✓ ☐
	d	जल निकाय क्षेत्र में अतिक्रमण कब से है?	Nil	
	e	क्या जल निकाय क्षेत्र के आस–पास के भूमि पर अतिक्रमण किया गया है?	Nil	

25		जल आपूर्ति	
	a	**ग्राम पंचायत में घरों हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल–(2) भूमिगत जल–(3) तालाब/झील–(4) अन्य– (5)	**3** वर्षा जल–(2) भूमिगत जल–(3) नदी, पाइपलाइन
	b	**क्या उपरोक्त जल आपूर्ति के स्रोत मौसमी या बारहमासी है?**	बारहमासी
	c	**घरों में जल आपूर्ति कैसे होती है?** पाइप जलापूर्ति (1) ग्राम पंचायत में सामान्य संग्रह केन्द्र (2) पानी टंकी (3) महिलाओं/बच्चों द्वारा दूर से लाया गया (4) हैण्डपम्प (5) ऊँचा सतही जलाशय (6) कूंआ (7) अन्य (8), उल्लेखित करें। अगर 4 है, तो कितनी दूर से लाया जा रहा है?	**1** **3** **5** **7**
	d	कितने घरों में जलापूर्ति पाइप से है?	**456**
	e	क्या पानी का बहाव/प्रवाह दर कम, अधिक या संतोषजनक है?	संतोषजनक

	f	पइप जलापूर्ति की नियमितता 24× 7 घण्टे (1) काफी नियमित (2) अनियमित (3)	**2 Time**
	g	**ग्राम पंचायत में कृषि सिंचाई हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल (2) भूमिगत जल – (नलकूप (3 A), कूआ (3 B) तालाब/झील (4) पानी टैंक (5) नदी (6) अन्य (7)	2 , 3B, 3A,6, 7
	h	**क्या उपरोक्त जल आपूर्ति स्रोत मौसमी या बारहमासी है?**	नलकूप एवं व्यक्तिगत बोरिंग का प्रयोग फसल की आवश्यकतानुसार, एवं वर्षाजल मौसमी है।
	i	क्या जलापूर्ति का बहाव/प्रवाह दर कम/अधिक या संतोषजनक है?	प्रवाह दर कम
		अतिरिक्त जानकारी (उदाहरण : क्या घरेलू, कृषि व संबंधित गतिविधियों, उद्योगों आदि के लिए जल आपूर्ति पर्याप्त है)	घरेलू, प्रयोग हेतु पर्याप्त है एवं कृषि आदि हेतु जल आपूर्ति अपर्याप्त है।
	j	क्या विगत वर्षों में भूजल, नदी या नहर से जल की उपलब्धता बढ़ी/घटी या सूख गया?	**Nil**
		क्या सूखे या गर्मी के मौसम में पानी की टंकियों का उपयोग बढ़ जाता है?	हां

IV. जलवायु की धारणा

तापमान व वर्षा में प्रमुख परिवर्तन/बदलाव					
26					
	a	गर्मी के माह में देखा गया			
	b	गर्मी के तापमान में देखे गए बदलाव (पिछले पांच वर्षों में)	गर्म दिनों में वृद्धि	गर्म दिनों में कमी	गर्म दिनों में कोई परिवर्तन नहीं
			✓ ☐	☐	☐
	c	दिनों की संख्या	20		
	d	अन्य सूचनाएं (गर्मी माह में कोई परिवर्तन)			
27					
	a	सर्दी के माह में महसूस किया गया			
	b	सर्दियों के तापमान में कोई परिवर्तन पाया गया (विगत पांच वर्षों में)	ठण्ड दिनों में वृद्धि	ठण्ड दिनों में कमी	ठण्ड दिनों में कोई परिवर्तन नहीं
			☐	✓ ☐	☐
	c	दिनों की संख्या		Lumsum 30 days	
	d	अन्य सूचनाएं (सर्दी माह में कोई परिवर्तन)			
28					
	a	मानसून माह में महसूस किया गया			
	b	मानसून ऋतु की वर्षा में कोई परिवर्तन देखा गया (विगत पांच वर्षों में)	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	✓ ☐	☐
	c	दिनों की संख्या		20-25	
	d	अन्य सूचनाएं (मानसून माह में कोई परिवर्तन)	कम दिनो में अधिक वर्षा हो जाती है।		
29					
	a	क्या गैर मानसून ऋतु की वर्षा में परिवर्तन हुआ है? (विगत पांच वर्षों में)	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	✓ ☐	☐
	b	ग्रीष्म ऋतु की वर्षा में देखे गये परिवर्तन	वर्षा दिनों में वृद्धि	वर्षा दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	✓ ☐	☐
	c	दिनों की संख्या		20-25	
	d	ष्षरद ऋतु की वर्षा में देखे गये परिवर्तन	दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			कम दिनो मे अधिक वर्षा	✓ ☐	☐

	e	दिनों की संख्या	30 days	4-5	
	f	अन्य सूचनाए / जानकारी			

चरम मौसम की घटनाएं

30		**सूखा**					
	a	सूखे की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			✔ ☐	✔ ☐	✔ ☐	✔ ☐	☐
	b	किस माह में सूखा देखा गया	जून–जुलाई	जून–जुलाई	जून–जुलाई	जून–जुलाई	जून–जुलाई
	c	सूखे का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता, कुएं खोदा आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	d	सूखे की आवृत्ति : सूखे की घटना (पिछले पांच वर्षों में)	वृद्धि	क्मी	कोई परिवर्तन नहीं		
			✔ ☐	☐	☐		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2	1979 सूखा पड़ा 2000 लोग प्रभावित हुए। खेती भी प्रभावित हुई।				
31		**बाढ़**					
		बाढ़ की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
		नहीं होती है	☐	☐	☐	☐	☐
	b	किस माह में बाढ़ देखा गया	निल	सामान्य बाढ़			
	c	बाढ़ का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	d	बाढ़ की आवृत्ति : बाढ़ की घटना (पिछले पांच वर्षों में)	वृद्धि	क्मी	कोई परिवर्तन नहीं		
			☐	☐	☐		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2					
32		**भूस्खलन**					
	a	भूस्खलन की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	☐	☐	☐	☐
	b	किस माह में भूस्खलन देखी गई	Nil				
	c	भूस्खलन का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	d	भूस्खलन की आवृत्ति : भूस्खलन की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	☐		

	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2	Nil				
33		**ओलावृष्टि**					
	a	ओलावृष्टि की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	✓ ☐	✓ ☐	☐	☐
	b	किस माह में ओलावृष्टि हुई		जनवरी	ज्नवरी मार्च		
	c	ओलावृष्टि का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन निजी			कृषि स्तर पर प्रबन्धन निजी	
	d	ओलावृष्टि की आवृत्ति : ओलावृष्टि की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	✓ ☐		
34		**फसलों के कीट/बीमारी**					
	a	कीट/बीमारी की घटनाक्रम	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			✓ ☐	✓ ☐	✓ ☐	✓ ☐	✓ ☐
	b	किस माह में कीट/बीमारी को देखा गया?	जनवरी फरवरी	दिसम्बर	जनवरी फरवरी	जनवरी फरवरी	जनवरी
	c	किस प्रकार के टिड्डी कीट/बीमारी को देखा गया?	माहू, थ्रिप्स, गंधी कीट, गेरूई (रस्ट), झुलसा, हर्दिया, सब्जी में फलछेदक एवं विषाणुजनित रोग	माहू, थ्रिप्स, गंधी कीट, गेरूई (रस्ट), झुलसा, हर्दिया, सब्जी में फलछेदक एवं विषाणुजनित रोग	माहो, थ्रिप्स, गंधी कीट, गेरूई (रस्ट), झुलसा, हर्दिया, सब्जी में फलछेदक एवं विषाणुजनित रोग	माहो, थ्रिप्स, गंधी कीट, गेरूई (रस्ट), झुलसा, हर्दिया, सब्जी में फलछेदक एवं विषाणुजनित रोग	माहो, थ्रिप्स, गंधी कीट, गेरूई (रस्ट), झुलसा, हर्दिया, सब्जी में फलछेदक एवं विषाणुजनित रोग
	D	कीट/बीमारी का प्रबन्धन कैसे किया गया? (सरकारी सहायता, निजी सहायता आदि)	किसान स्वयं खरीदकर कीटनाषकों का छिड़काव करते है।				
	e	कीट/बीमारी की आवृत्ति : कीट बीमारी का घटनाक्रम (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			✓ ☐	☐	☐		
		अतिरिक्त जानकारी/सूचनाएं	Nil				

35	**ग्राम पंचायत में आपदा की तैयारी**				
		ग्राम पंचायत स्तर पर क्या आपदा प्रबन्धन/तैयारी के उपाय उपलब्ध है?		**क्या ग्रामीणों तक इसकी पहुँच/उपलब्धता है?**	
	आपदा तैयारी के उपाय	**नहीं**	**नहीं**	**नहीं**	**नहीं**

	ग्राम आपदा प्रबन्धन योजना	☐	☐	☐	✓ ☐
	ग्राम आपदा प्रबन्धन समिति	✓ ☐	☐	✓ ☐	☐
	पूर्व चेतावनी प्रणाली/मौसमी चेतावनी प्रणाली/कृषि चेतावनी प्रणाली	☐	✓ ☐	☐	✓ ☐
	आपातकाल अनाज बैंक	☐	✓ ☐	☐	✓ ☐
	अन्य	☐	✓ ☐	☐	✓ ☐

36		**अनाज भण्डारण**	
	a	**ग्राम पंचायत के आपातकालिन खाद्य/अनाज बैंक में किस प्रकार का भोजन भण्डारित किया जाता है?**	
		अनाज (विवरण दें)	Nil
		ल्ले	Nil
		चीनी	Nil
		अन्य खाद्य पदार्थ – उल्लेख करें	Nil
	b	क्या ग्राम पंचायत में षीतगृह है, अगर है तो उसकी क्षमता क्या है?	Nil

37	**ग्राम पंचायत में मौसम की चेतावनी, पूर्व चेतावनी प्रणाली, कृषि आधारित चेतावनी के लिए उपलब्ध जानकारी के स्रोत**	
	स्थानीय कृषि अधिकारी	Nil
	समाचार पत्र/समाचार/रेडियो	✓
	मोबाईल फोन/एप	✓
	मौखिक	✓
	कृषि विज्ञान केन्द्र/कृषि ज्ञान केन्द्र	Nil
	पषुपालन विभाग	Nil
	उद्यान विभाग	Nil
	अन्य	Nil

		कृषि एवं संबंधित गतिविधियों पर प्रभाव (विगत पांच वर्षों में)					
38		फसल हानि					
	a	घटना का वर्ष	हानि की ऋतु/मौसम खरीफ (1) रबी (2) जायद/अन्य ऋतु (3)	फसल का नाम	हानि के कारण रोग, चरम, घटनाक्रम– गर्मी, ठण्ड, वर्षा, ओलावृष्टि, मिट्टी आदि	अनुमानित हानि की मात्रा (कुन्तल)	परिणाम स्वरुप आय में हानि (औसत रु0)
		प्रथम वर्ष (2022)	1	ज्वार मूंग,उर्द,बाजरा, तिल	रोग, वर्षा, अन्ना जानवर	150	750000
		द्वितीय वर्ष (2021)	1	ज्वार मूंग,उर्द,बाजरा, तिल	रोग, वर्षा, अन्ना जानवर	160	800000
		तृतीय वर्ष (2020)	1	ज्वार मूंग,उर्द,बाजरा, तिल	रोग, वर्षा, अन्ना जानवर	110	1400000
		चतुर्थ वर्ष (2019)	1	ज्वार मूंग,उर्द,बाजरा, तिल	रोग, वर्षा, अन्ना जानवर	140	550000
		पंचवां वर्ष (2018)	1	ज्वार मूंग,उर्द,बाजरा, तिल	रोग, वर्षा, अन्ना जानवर	125	625000
	b	क्या आप फसल बीमा के बारे में जानते हैं?	हां	नहीं			
			✓ ☐	☐			
		अतिरिक्त जानकारी (फसल बीमा के लाभार्थी– बड़े किसान, लघु एवं सीमान्त किसान आदि) फसल बीमा लाभार्थी का संतुष्टि स्तर क्या है?	फसल बीमा का लाभ नहीं मिल पाता है।				

39		फसल पद्धति में बदलाव				
	a	सामान्य फसल	खरीफ	रबी	जायद / अन्य ऋतु	
	b	फसल का नाम	पारम्परिक बोआई का समय	विगत 5 वर्षों में बोआई के समय में परिवर्तन हुआ है / देखा है	अभी बोआई का समय	परिवर्तन के कारण
		ज्वार मूंग बाजरा	जून का द्वितीय, तृतीय सप्ताह	जून– जुलाई	जुलाई के अंतिम सप्ताह	वर्षा न होने के कारण
		गेंहू	अक्टूबर	अक्टूबर नवम्बर	नवम्बर दिसम्बर	ठंड का देर से होना, इस वर्ष अक्टूबर में पानी बरसने के कारण जल्दी बुवाई से निचले स्थानों में दिसम्बर के अंतिम सप्ताह में हुई है।
		सरसों	अक्टूबर	अक्टूबर	सितम्बर का अंतिम सप्ताह एवं अक्टूबर का प्रथम सप्ताह	अगैती सरसों की बुवाई, अगैती सरसों की बुवाई होने से माहो का प्रकोप कम होता है।
	c	अन्य सूचना / जानकारी (विलुप्त फसल / प्रजाति आदि उल्लेख करें)	मोटे अनाज की फसलें			

40		सिंचाई प्रणाली / पद्धति में परिवर्तन				
	a	फसल का नाम	वर्तमान में सिंचाई पद्धति का उपयोग फव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा	वर्तमान में उपयोग किए गए पानी की मात्रा (रुपया / एकड़)	पूर्व में सिंचाई पद्धति का उपयोग फव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा	पूर्व में उपयोग किए गए पानी की मात्रा (रुपया / एकड़)

			आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)		आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)		
		ज्वार बाजरा मूंग तिल,उर्द	वर्षा आधारित (4),	0	वर्षा आधारित (4),	1300	
		गेंहू	वर्षा आधारित (4), (6) ट्यूब वेल/पम्पिंग सेट ,	3500	वर्षा आधारित (4), ;6 ट्यूब वेल/पम्पिंग सेट ,	3000	
		चना, सरसों, मटर	वर्षा आधारित (4), (6) ट्यूब वेल/पम्पिंग सेट ,	2500	वर्षा आधारित (4), (6) ट्यूब वेल/पम्पिंग सेट ,	2000	
	b	ग्राम पंचायत में सिंचाई हेतु पम्पों की संख्या	डीजल आधारित	विद्युत आधारित	सौर पम्प	पारम्परिक सिंचाई विधियां	
			120	Nil	Nil	वर्षा आधारित	नदी
	c	अन्य सूचनाएं/जानकारी अगर कोई है	Nil				
41		**पशु पालन/पशुधन**					
	a	ग्राम पंचायत में प्रचलित पशुधन और पशुपालन सम्बन्धित गतिविधियां श्रेणी : डेयरी (1) मुर्गी पालन (2) मत्स्य पालन (3) सूअर पालन (4) मधुमक्खी पालन (5) अन्य– स्पष्ट करें (6)		280 भैंस, 140 गाय 860 बकरी मुर्गी पालन			
	b	डेयरी पर प्रभाव	पशु हानि गाय (1) भैंस (2) अन्य (3)	पशु हानि की संख्या (प्रत्येक पशु को उल्लेख करें)	हानि के कारण (रोग, आयु, दुर्घटना आदि)	हानि का मौसम	उत्पादकता में कोई परिवर्तन देखा गया? वृद्वि (1) कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	अन्य (3) बकरी	बकरी 70	ष्शीतलहर व रोग	सर्दी बरसात	(2)

		द्वितीय वर्ष (2021)	अन्य 1,2(3) बकरी	बकरी 150	षीतलहर व रोग	सर्दी बरसात	(2)
		तृतीय वर्ष (2020)	अन्य (3) बकरी	बकरी 50	षीतलहर व रोग	सर्दी बरसात	(2)
		चतुर्थ वर्ष (2019)	अन्य (3) बकरी	बकरी 55	षीतलहर व रोग	सर्दी बरसात	(2)
		पंचम वर्ष (2018))	अन्य (3) बकरी	बकरी 35	षीतलहर व रोग	सर्दी बरसात	(2)
		अन्य जानकारी / सूचनाएं	Nil				
	c	मुर्गी पालन पर प्रभाव	पक्षी हानि मुर्गी (1) बत्तख (2) अन्य (3)	पक्षी हानि की संख्या (प्रत्येक पक्षी का उल्लेख करें)	हानि के कारण	हानि के मौसम / ऋतु	उत्पादकता में कोई परिवर्तन पाया गया है? वृद्धि (1) कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	मुर्गी (1)	150 मुर्गी के चूजे(1)	षीतलहर	सर्दी	(2)
		द्वितीय वर्ष (2021)	मुर्गी (1)	160 मुर्गी के चूजे(1)	षीतलहर	सर्दी	(2)
		तृतीय वर्ष (2020)	मुर्गी (1)	225 मुर्गी के चूजे(1)	षीतलहर	सर्दी	(2)
		चतुर्थ वर्ष (2019)	मुर्गी (1)	300 मुर्गी के चूजे(1)	षीतलहर	सर्दी	(2)
		पंचम वर्ष (2018))	मुर्गी (1)	230 मुर्गी के चूजे(1)	षीतलहर	सर्दी	(2)
		अन्य जानकारी / सूचनाएं	Nil				
	d	अन्य पशुओं पर प्रभाव	पशु हानि (कृपया निर्दिष्ट करें कि कौन से है)	पशु हानि की संख्या (प्रत्येक पशु का उल्लेख करें)	हानि के कारण	हानि की ऋतु	उत्पादकता में कोई परिवर्तन पाया गया है? वृद्धि (1) कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	Nil				
		द्वितीय वर्ष (2021)	Nil				
		तृतीय वर्ष (2020)	Nil				
		चतुर्थ वर्ष (2019)	Nil				

		पंचम वर्ष (2018)	Nil				
		अन्य जानकारी / सूचनाए	Nil				

V. कृषि व पशुपालन

42	a	प्रमुख उगाई जाने वाले फसलें व सम्बन्धित सूचनाएं/जानकारी											
					उर्वरक उपयोग			कीटनाशक उपयोग			खरपतवारनाशी		
		फसल (अनाज, तिलहन, दलहन, उद्यान एवं फूल आदि)	ऋतु/ मौसम	उपज (कु0)	उर्वरक के प्रकार	औसत प्रयुक्त मात्रा (किग्रा0/ एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये उर्वरकों की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नही है (3)	कीटनाशकों के प्रकार	औसत प्रयुक्त मात्रा (किग्रा/ एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये कीटनाशकों की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नहीं है (3)	खरपतवार नाशीं के प्रकार	औसत प्रयुक्त मात्रा (किग्रा/एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये खरपतवार की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नहीं है (3)
		ज्वार बाजरा मूंग	गर्मी	1360							2–4द		1
		गेंहू	सर्दी	8500	यूरिया, डीएपी	100 किलो यूरिया, 50 किलो डीएपी	1	कराटे, (कीटनाशक) फ्यूराडान,	200 ml /एकड 200 gram /एकड	1		250 प्रति एकड	
		सरसों	सर्दी	850	यूरिया, डीएपी		60 किलो यूरिया,40 किलो डी0ए0पी0, 3 किलो सल्फर	1		0	0	0	0
	b	क्या ग्राम पंचायत में फसल	हां ☐	नहीं ✓ ☐	जलाये गये खेतो का कुल	क्या यह फसल अवशेष	अगर नही तो, कब से जलाना आरम्भ किया	क्या फसल अवशेष प्रबन्धन की योजनाओं को जानते/जागरूक है?					

		अवशेष जलायें जाते हैं			क्षेत्रफल (एकड़)	पूर्व में जलाये जाते थे		

43	जैविक खेती सम्बन्धित गतिविधियां				
	फसल	क्षेत्रफल	प्रति फसल आय (रू0 / कुन्तल)	बिक्री हेतु बाजार	तृतीय पक्ष द्वारा प्रमाणित / सत्यापित
	ज्वार	12 acre	2000	Manikpur	
	बाजरा	40 acre	2200	Manikpur	
	मूंग	15 acre	5000	Manikpur	
	उर्द	20 acre	6000	Manikpur	
	तिल	30 acre	6000	Manikpur	
	धान	56 acre	6000	Manikpur	

44	अन्य स्थाई खेती सम्बन्धी गतिविधियां (जैसे शून्य / जीरो बजट प्राकृतिक खेती)			
	फसल	स्थाई गतिविधियां (शून्य जुताई, मल्चिंग, फसल चक्र, अर्न्तःफसलें, वर्मी कम्पोस्ट, कम्पोस्ट, मिश्रित फसले, प्राकृतिक कीट प्रबन्धन, जैव पदार्थ में वृद्धि आदि)	क्षेत्रफल (एकड़)	प्रति फसल प्राप्त आय (रूपया)
	ज्वार	प्राकृतिक कीट प्रबन्धन, कम्पोस्ट, फसल चक्र	12 acre	80000
	बाजरा	प्राकृतिक कीट प्रबन्धन, कम्पोस्ट, फसल चक्र	40 acre	264000
	उर्द	प्राकृतिक कीट प्रबन्धन, कम्पोस्ट, फसल चक्र	15 acre	100000
	तिल	प्राकृतिक कीट प्रबन्धन, कम्पोस्ट, फसल चक्र	20 acre	120000
	धान	प्राकृतिक कीट प्रबन्धन, कम्पोस्ट, फसल चक्र	30 acre	130000

45	कृषि वानिकी, सामाजिक वानिकी, परती भूमि विकास और अन्य वृक्षारोपण गतिविधियां										
	पौध रोपण गतिविधियों के प्रकार	आच्छादित क्षेत्रफल	स्थान	योजना अन्तर्गत राष्ट्रीय कृषि वानिकी मिशन (1), समन्वित वाटरशेड प्रबन्धन कार्यक्रम (2), वर्षा आधारित क्षेत्र कार्यक्रम (3), मनरेगा (4), वृक्षारोपण जन आन्दोलन (5), अन्य (6)– उल्लेख करें	मोनोक्लचर (1), मिश्रित प्रजाति (2)	रोपित प्रजातियां	आरम्भ दिनांक	सफलता (प्रतिशत)	कृषि वानिकी गतिविधियों के लाभ तक लोगों की पहुंच/ अवसर	पिछले 10 वर्षों में पहुंच/अवसर में परिवर्तन, वृद्धि (1), कमी (2), कोई परिवर्तन नहीं (3)	परिवर्तन के कारण– लाभ में वृद्धि (1), लाभ में कमी (2), प्रजाति सम्बन्धित (3), वन उन्मूलन (4) अन्य (5)– उल्लेख करें
	कृषि वानिकी, सामाजिक वानिकी	5 एकड़	निजी खेत एवं तालाब के भीटों में	2 3	1 2	सागौन, शीशम,आम,अमरूद,महुआ, आंवला	5–10 वर्ष पूर्व	40	व्यक्तिगत लाभ फल एवं जलौनी	1	1
	सामाजिक वानिकी सामान्य	15 हेक्टयर	ऐंचवार I वन क्षेत्र	1, 2 , 3, 4,	2	शीशम सागौन आंवला जामुन	2021–22	50	व्यक्तिगत लाभ फल एवं जलौनी	1	1
	सुरक्षा खांई	0									1

46	अपनाये गये स्थायी पशुधन प्रबन्धन तकनीक			
	पशुधन के प्रकार	**ग्राम पंचायत में कुल संख्या (लगभग)**	**अपनाई गई गतिविधियां (चारा में परिवर्तन, पोषण पूरक अर्थात् पशुआहार, खुले में चराई आदि)**	**प्राप्त/उत्पादित आय प्रति पशुधन प्रतिमाह/बेचने पर**
	गाय (देशी नस्ल)	140	पशुआहार, खुले में चराई	3000/–
	गाय (संकर नस्ल)	28		
	भैंस (देशी नस्ल)	280	पशुआहार, खुले में चराई	10000–
	भैंस (संकर नस्ल)	20	.....	.....
	बकरी	860	पशुआहार, खुले में चराई	3000/– **बेचने पर**
	सुअर	120	पशुआहार, खुले में चराई	2000/- **बेचने पर**
	मुर्गी	3600	पोषण पूरक, आहार	200/– **बेचने पर**
	मत्स्य			
	अन्य			

VI. स्वच्छता एवं स्वास्थ्य

47		जल की गुणवत्ता (पेयजल या नल जल से आपूर्ति परिवार)						
	a	आपूर्ति किये जाने वाले पानी की गुणवत्ता कैसी है?	उपयुक्त	अनुपयुक्त				
			✓ □	□				
	b	जल का स्वाद कैसा लगता है?	मीठा	नमकीन	सामान्य			
			□	□	✓ □			
	c	आपूर्ति होने वाले जल में सामान्यतः दूषित पदार्थ क्या है?	मटमैला	गन्दा	मटमैला	बालू/कीचड़	गन्ध	
			□	□	✓ □	□	□	
	d	जल को शुद्व करने के लिए आप किस विधि का प्रयोग करते हैं?	उबालकर	जल शोधक			क्ले वेसल फिल्ट्रेशन	अन्य, (कृपया उल्लेख करें)
			□	✓ □	□	□	□	□

48		ठोस अपशिष्ट उत्पादन/अपशिष्ट प्रबन्धन						
	a	अपने घर में प्रतिदिन उत्पन्न होने वाला अपशिष्ट पदार्थ/कचरा	सब्जी का छिलका, सूखा कचरा	2 किलो				
	b	आपके ग्राम पंचायत में अपशिष्ट पदार्थ/कचरा कैसे इकट्ठा किया जाता है?	इकट्ठा नहीं होता हैं। वर्तमान समय में लोग कचरा अपने बाडों में डालते है।					
	c	कचरा संग्रह कितनी बार होता है?	□प्रतिदिन	✓ साप्ताहिक	□ वैकल्पिक दिन			
			हां	नहीं				
	d	क्या आपके क्षेत्र में कोई स्थान है, जहां कचरा इकट्ठा डाला जा सकता है? यदि हां तो कृपया आपकी ग्राम पंचायत से कितनी दूरी पर है या किस स्थान पर है?	✓ □	□	ग्राम पंचायत से दूरी/ग्राम पंचायत में अवस्थिति		200 मी0	
	e	क्या आपके ग्राम पंचायत क्षेत्र में सामान्य कूड़ेदान रखे गये हैं?	yes	✓ □				
	f	क्या आप कचरे को सूखे और गीले कचरे की श्रेणी में बांटते हैं?	No	✓ □				
	g	आप गृह स्तर पर कचरे का उपचार कैसे करते हैं?	पुनःचक्रमण	कम्पोटिंग	वर्मी कम्पोस्ट	अपशिष्ट	जलाना	अन्य (उल्लेखित करें)
			□	□	□		□	फेंक देते हैं

49		खुले में शौच मुक्त स्थिति			
	a	क्या आपका गांव खुले में शौच मुक्त घोषित है?	✓ □ हां	□ नहीं	
	b	स्वयं के शौचालय वाले परिवारों की संख्या	560	□	
	c	सामुदायिक शौचालय/इज्जत घर की संख्या	1	□	प्रमुख स्थान पंचायत भवन के पास
	d	क्या शौचालय का उपयोग किया जा रहा है?	हां		
	e	अगर शौचालय का उपयोग नहीं किया जा रहा है तो क्यों? (साफ–सफाई का अभाव, रख–रखाव का अभाव, बहुत दूर आदि)			

50		अपशिष्ट जल	घरेलू	व्यवसायिक	औद्योगिक	कृषि गतिविधियां	गंदा नाला
	a	अपशिष्ट जल का क्या स्रोत है?	हां	□	□	□	□
	b	उत्पन्न अपशिष्ट जल की मात्रा (अनुमानित लीटर प्रतिदिन)	80 प्रतिघर			15–.20 ली विपणन हेतु सब्ज़ी की सफाई	
	c	गांव में किया गया अपशिष्ट जल उपचार, यदि कोई है तो–	नहीं				
	d	अपशिष्ट जल पुनःचक्रण या पुनः उपयोग की गतिविधि, यदि कोई हैं तो–	नहीं				

51		स्वास्थ्य देखभाल की सुविधा			
		स्वास्थ्य केन्द्र की उपलब्धता	हां	नहीं	उपलब्ध छत का क्षेत्रफल (वर्गमीटर)
	a	प्राथमिक स्वास्थ्य केन्द्र	1	✓ □	
	b	सामुदायिक स्वास्थ्य केन्द्र	1	✓ □	
	c	उपस्वास्थ्य केन्द्र	□	□	
	d	आंगनवाड़ी	4	□	
	e	आशा	4	□	
	f	स्वाथ्य कैम्प/मेला	5	□	
	g	डिजीटल स्वास्थ्य देखभाल	□	✓ □	

52		रोग/बीमारी							
		विगत वर्ष निम्नवत् बीमारी/रोग से कितने लोग प्रभावित हुंए हैं?	प्रभावित कुल व्यक्तियों की संख्या	प्रभावित आयु समूह			सामान्य उपचार का विकल्प		
				प्रभावित बच्चों की संख्या	प्रभावित व्यवस्कों की संख्या	प्रभावित वरिष्ठ नागरिकों की संख्या	स्थानीय स्वास्थ्य देखभाल सुविधाएं (उल्लेख करें)	घरेलू देखभाल	घर–घर जाने वाला	अन्य (उल्लेख ा करें)
	a	वेक्टर–जनित रोग (मलेरिया, डेंगू, चिकेनगुनिया आदि)	240	86	36	28	yes	□	□	

	b	जल–जनित रोग (हैजा / डायरिया / टाईफाई ड / हैपेटाइटिस आदि)	130	48	18	16	yes	□	□	
	c	श्वास सम्बन्धी रोग जो वायु प्रदूषण से होते हैं (इनडोर एण्ड आउटडोर)	8	0		8	yes	□	□	
	d	कुपोषण	0	5	0	0	हां	□	□	

VII. उर्जा

53			
	a	आपके ग्राम पंचायत में कुल कितने घर विद्युतकृत हैं	590
	b	ग्राम पंचायत में निम्नलिखित अनुमानित विद्युत उपकरणों की संख्या	
		ए0सी0	8
		एयर कुलर	210
		रेफ्रिजेटर / फ्रीज	240

54		विद्युत कटौती की आवृत्ति	
	a	दिन में कुछ बार	✓ □
		दिन में एक बार	□
		विद्युत कटौती नही	□
	b	प्रतिदिन कितने घण्टे गुल रहती है?	6–8 घण्टे
		यदि प्रतिदिन नही तो सप्ताह में कितने घण्टे बिजली गुल होती है?	Nil

55	वोल्टेज अस्थिरता / उतार–चढ़ाव की आवृत्ति क्या है?	
	दिन में कुछ बार	✓ □
	दिन में एक बार	□
	अस्थिरता / उतार–चढ़ाव नहीं	□

56	पावर बैकअप का मतलब विद्युत कटौती के दौरान उपयोग	संख्या

	डीजल चलित जेनरेटर	0
	सौर उर्जा	0
	इमरजेंसी लाईट	120
	इन्टवटर्स	35
	अन्य साधन (उल्लेख करें)	0

57		नवीकरणीय/अक्षय ऊर्जा के स्रोत		
	a	क्या गांव में निम्नलिखित में से कोई स्थापना है?	इंस्टालेशन (स्थापना) की संख्या	कुल स्थापित क्षमता (किलोवाट)
		घर की छतों पर सौर उर्जा स्थापना	Nil	Nil
		विद्यालय की छत पर सौर उर्जा स्थापना	Nil	Nil
		चिकित्सालय की छत पर सौर उर्जा स्थापना	Nil	Nil
		ग्राम पंचायत भवन पर सौर उर्जा स्थापना	Nil	Nil
		अन्य सौर उर्जा स्थापना	Nil	Nil
		सौर स्ट्रीट लाईट	25	
		बायोगैस	Nil	Nil
		विकेन्द्रित नवीनीकरण उर्जा/मिनी ग्रीड	Nil	Nil
	b	क्या आप सौर उर्जा स्थापना के लिए उपलब्ध अनुदान के बारे में जानते हैं (कुछ योजनाओं/कार्यक्रमों का उल्लेख करें)	Nil	Nil

58	भोजन बनाने हेतु प्रयुक्त ईंधन	परिवारों की संख्या	प्रति परिवार प्रयुक्त औसत मात्रा (किग्रा/महीना)
	पारम्परिक जलौनी (उपले/जलौनी लकड़ी)	260	औसतन 140 कि0ग्रा0
	बायोगैस	0	.....
	एलपीजी गैस	520	10.12
	विद्युत	8	40 unit
	सौर उर्जा	Nil	Nil

	अन्य (कोयला, मिट्टी का तेल, चारकोल आदि)	Nil	Nil

59	वाहन की संख्या			
	वाहन के प्रकार	ग्राम पंचायत में वाहन संख्या (अनुमानित)	प्रयुक्त ईधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
a	जीप	14	डीजल	60–70 किमी/प्रतिदिन
b	कार	40	डीजल एवं पेट्रोल	40 किमी/प्रतिदिन
c	दो पहिया वाहन	315	पेट्रोल	20 किमी/प्रतिदिन
d	विद्युत चालित वाहन	Nil	Nil	Nil
e	आटो	8	डीजल	60 किमी/प्रतिदिन
f	ई–रिक्शा	30	इले0	60 किमी/प्रतिदिन
g	अन्य ट्रक	3	डीजल	150 किमी/प्रतिदिन

60	कृषि यंत्र	ग्राम पंचायत में कृषि यंत्रों/मशीनों की सख्या	प्रयुक्त ईधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
a	टैक्ट्रर	36	डीजल	10 किमी/प्रतिदिन नोट : केवल जुताई – बुवाई के प्रयोग हेतु
b	कम्बाईन हारवेस्टर	Nil	Nil	Nil
c	अन्य (कृपया उल्लेख करें)	Nil	Nil	Nil

61	ग्राम पंचायत में अवस्थित पेट्रोल पम्प (अगर कोई है)		
	प्रतिदिन की बिक्री	पम्प से आपूर्ति वाले	कितने प्रकार के वाहन एक दिन/महीना में पेट्रोल पम्प से ईधन लेते हैं? (समय/ अवधि का उल्लेख करें)

	डीजल चलित जेनरेटर	0
	सौर उर्जा	0
	इमरजेंसी लाईट	120
	इन्टवटर्स	35
	अन्य साधन (उल्लेख करें)	0

57		नवीकरणीय/अक्षय ऊर्जा के स्रोत		
	a	क्या गांव में निम्नलिखित में से कोई स्थापना है?	इंस्टालेशन (स्थापना) की संख्या	कुल स्थापित क्षमता (किलोवाट)
		घर की छतों पर सौर उर्जा स्थापना	Nil	Nil
		विद्यालय की छत पर सौर उर्जा स्थापना	Nil	Nil
		चिकित्सालय की छत पर सौर उर्जा स्थापना	Nil	Nil
		ग्राम पंचायत भवन पर सौर उर्जा स्थापना	Nil	Nil
		अन्य सौर उर्जा स्थापना	Nil	Nil
		सौर स्ट्रीट लाईट	25	
		बायोगैस	Nil	Nil
		विकेन्द्रित नवीनीकरण उर्जा/मिनी ग्रीड	Nil	Nil
	b	क्या आप सौर उर्जा स्थापना के लिए उपलब्ध अनुदान के बारे में जानते हैं (कुछ योजनाओं/कार्यक्रमों का उल्लेख करें)	Nil	Nil

58	भोजन बनाने हेतु प्रयुक्त ईधन	परिवारों की संख्या	प्रति परिवार प्रयुक्त औसत मात्रा (किग्रा/महीना)
	पारम्परिक जलौनी (उपले/जलौनी लकड़ी)	260	औसतन 140 कि0ग्रा0
	बायोगैस	0	.....
	एलपीजी गैस	520	10.12
	विद्युत	8	40 unit
	सौर उर्जा	Nil	Nil

Annexure III: HRVCA Report

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना

ड़ी0पी0आर0ओ0 के साथ क्लाइमेंट स्मार्ट प्लानिंग बैठक

ग्राम पंचायत – ऐंचवारा

विकासखण्ड – मानिकपुर

जनपद – चित्रकूट धाम कर्वी

खतरा, जोखिम, नाजुकता एवं क्षमता विश्लेषण जलवायु परिवर्तनशीलता –

प्रवृत्ति/परिवर्तन, मुख्य चुनौतियां/ झटके एवं तनाव –

ग्राम पंचायत ऐंचवारा जनपद चित्रकूट धाम कर्वी से लगभग 15 किमी की दूरी पर बाल्मीकि नदी के तट में जंगलो, पहाड़ो की प्राकृतिक नजारो से परिपूर्ण 10 मजरों में बसा हुआ है। इस ग्राम पंचायत में सभी मौसम, सर्दी, गर्मी, एवं बरसात का प्रभाव रहता है। 25 वर्ष पूर्व सर्दी नवम्बर माह से फरवरी–मार्च तक पड़ती थी किन्तु अब सर्दी देर से शुरू हो रही है, दिसम्बर माह के अन्त में सर्दी शुरू हो जाती है और जनवरी के बाद ही समाप्त हो जाती है। पहले बरसात मई माह से अगस्त माह तक होती थी और पूरे बरसात के दौरान एक दो दिन के अंतर पर वर्षा हो जाती थी, सितम्बर में भी वारिश हो जाती थी। किन्तु वर्ष 2022 में बरसात के मौसम में मई–जून में बारिश हुई ही नहीं और जुलाई माह में एक–दो दिन में ही अधिक वर्षा हो गई फिर कई दिनों तक बारिश नहीं हुई जिससे सूखा जैसी स्थिति बन गई। खेती–किसानी करने वाले लोगों से पता चला कि आज से 25 वर्ष पहले फसलों की खेती करने में केवल एक से दो सिंचाई करना पड़ती थी किन्तु फसलों में चार से पॉच बार सिंचाई करना पड़ी है। समुदाय के साथ चर्चा से यह जानकारी प्राप्त हुई कि पहले गर्मी मई–जून से लेकर अगस्त तक होती थी। किन्तु अब गर्मी मार्च से सितम्बर तक रहती है। विभिन्न प्रक्रिया के तहत पीआरए विधियों का उपयोग करते हुए विभिन्न टूल्स के माध्यम से सम्पादित की गई गतिविधियों से प्राप्त सूचना एवं प्राथमिक आंकड़ों के आधार पर जलवायुगत आपदा खतरा जोखिम प्रोफाइल में अपेक्षित सूचनाओं का संकलन किया गया। आपदा–खतरा जोखिम प्रोफाइल से संबंधित सूचनांए निम्नवार हैं

1. गांव को प्रभावित करने वाली अपदाओं की पहचान करना एवं इनका प्राथिमीकीकरण

समुदाय के साथ उन आपदाओं के बारे में विस्तृतरूप से चर्चा व विचार–विमर्श किया गया जिनसे उनकी दैनिक दिनचर्या, आजीविका, शिक्षा, स्वास्थ्य, पेयजल एवं साफसफाई आदि प्रभावित होते हैं। चर्चा के आधार पर आपदाओं की एक सूची प्राप्त हुई। इस सूची में सम्मिलित आपदाओं के प्रभाव एवं इनसे उत्पन्न समस्याओं की तुलनात्मक रैंकिंग के आधार पर उनका प्राथमिकीकरण किया गया। इस गांव की मुख्य आपदा छुट्टा जानवर एवं सूखा है। इससे खेती, आजीविका, स्वास्थ्य एवं पेयजल, साफसफाई आदि में जोखिम की संभावना बनी हैं।

आपदा की पहचान एवं प्राथिमीकीकरण के आधार पर निम्न आपदाएं ग्राम पंचायत ऐंचवारा को प्रभावित करते है। पिछले कई वर्षों से सूखे ने लगभग पूरे गांव को प्रभावित किया है।

मुख्य आपदा का नाम	जनवरी	फरवरी	मार्च	अप्रैल	मई	जून	जुलाई	अगस्त	सितम्बर	अक्टूबर	नवम्बर	दिसम्बर
सूखा												
लू												
शीत लहर												
आधी तुफान												
ओला – पत्थर												

आपदा का मौसमी कैलेण्डर बनाने एवं उस दौरान समुदाय से हुई चर्चा से यह स्पष्ट हुआ कि कम दिनों में अधिक वर्षा, वर्षा विहीन दिनों की संख्या में वृद्वि तथा चरम पर तापमान पहुंचने से बहुत सारी समस्याओं का सामना गांव को करना पड़ रहा है।

सूखा इस ग्राम पंचायत की मुख्य समस्या है। जो प्रत्येक वर्ष समुदाय के खेती एवं मजदूरी को पूरी तरह प्रभावित करती है। साथ ही मई–जून में अत्यधिक गर्मी का पड़ना, सामान्यतः मानसून के दिनों में जून–जुलाई में वर्षा का न होना/कम होना आदि सूखा पड़ने के संकेत विगत कई वर्षों से प्रतीत हो रहे हैं जिसका दूरगामी प्रभाव पशुपालन में चारे का संकट, सिंचाई, पेयजल, खाद्यान्न उत्पादन एवं बनकर पूरे वर्ष झेलना पड रहा है। पिछले 10 वर्षों से प्रत्येक वर्ष खरीफ की फसल सूखा से प्रभावित हो रही है। वहीं दूसरी तरफ रबी की फसल में आंधी–तूफान एवं ओला पत्थर, पाला, तेज गर्मी एवं लू के कारण कम पैदावार की संभावना भी बहुत अधिक बनी रहती है। गर्मी के कारण से फसल जल्दी सूख जाती हैं शीतलहर से पशुपालन मुख्यतः बकरीपालन व मुर्गी पालन प्रभावित हो रहा है, ।

2. जलवायु परिवर्तन जनित आपदा के जोखिम/खतरों का मानचित्रण एवं आंकलन

क्रम	आसन्न आपदा/खतरे	संभावित जोखिम का क्षेत्र	संभावित जोखिम प्रभावित क्षेत्र			
			जोखिम	आबादी	घर	संसाधन
1	सूखा	पेयजल	जलस्तर का नीचे जाना पेयजल की कमी / संकट	पूरा गांव	550	25 कुओं व 70 हैण्डपम्प 14 प्राइवेट नलकूप का जलस्तर गमिर्यो में 2 से 3 मी0

						तक कम हो जाता है।
		कृषि	उपज का प्रभावित होना	पूरा गांव	643	340 हे0 खेती, 105 हे0 वन
		उधान/ सब्जी उत्पादन	सिचाई लागत अधिक	–	–	50–60 एकड सब्जी पर प्रभाव
		पशुपालन	जानवरों को चारा का संकट, तापमान बढ़ने से विभिन्न प्रकार के बीमारियों का होना व उत्पादन कम होना	गाय, भैंस एवं बकरी पालक	340	चरागाह
2	लू	स्वास्थ्य	मानव एवं पशुओं को लू लगना, स्वास्थ्य खराब होना, टीकाकरण में बाधा	पूरा गांव	643 घर	स्वास्थ्य सेवाएं बाधित होना, पेयजल संकट चारा का सूख जाना
		शिक्षा	बच्चों का स्वास्थ्य प्रभावित		310 बच्चे	शिक्षा बाधित
3	शीतलहर	स्वास्थ्य	मानव एवं जानवरों को ठण्ड लगना।	पूरा गांव – बुजुर्गो सांस की बीमारी में वृद्वि	221 बुजुर्ग एवं बच्चे	–
		कृषि	शीतलहर से फसलों को नुकसान	रोग लगना	–	उत्पादन में कमी

		पशुपालन	पशु क्षति, खेत में फसल का नुकसान	पूरा गांव	160 पशु पालक घर	प्रत्येक वर्ष 80–90 बकरियों एवं पशुओं की मृत्यु
4	आधी तुफान	फसल एवं पशु	फसलों को नुकसान आधी तुफान से जानवर प्रभावित	पूरा गांव	140 मिट्टी घर	घरों का खपरैल व कच्ची दीवालों व फसलों जानवरों को नुकसान
5	ओला– पत्थर	कृषि एवं पशु	पशु क्षति, खेत में फसल का नुकसान, जानवरों के घायल होना	पूरा गांव	160 पशु पालक घर	प्रत्येक वर्ष छोटे पशुओं का घायल हो जाते है।
		स्वास्थ्य एवं आवास	छोटे बच्चें, वृद्वजन, गिरने , चोट लगने का खतरा जानवरों के घायल होना	पूरा गांव	140 मिट्टी घर	कच्चे घरो का क्षतिग्रस्त होना, फसलों का नष्ट होना

आजीविका के साधनों पर आपदा का प्रभाव

इस क्षेत्र के आजीविका का मुख्य साधन कृषि, कृषिगत मजदूरी एवं पशुपालन है। सूखा के दौरान आजीविका हेतु लोग पलायन करते हैं। आजीविका के साधन आपदा से सर्वाधिक प्रभावित होते हैं। इससे सम्बधित सूचनाएं संकलित कर संलग्न की गयी हैं।

3. नाजुकता विश्लेषण

आपदाओं का बार–बार सामना करने से उससे प्रभावित समुदाय साामाजिक, आर्थिक रूपसे कमजोर हो जाता है। समुदाय ग्राम पंचायत को आपदा की दृष्टि से सुरक्षित बनाने की दिषा में नाजुक समुदाय, नाजुक संसाधन, नाजुक स्थल आदि को जानना अति आवष्यक था। इसे जानने के लिए पुनः समुदाय, आशा, आंगनबाड़ी कार्यकत्री आदि की मदद से नाजुक वर्ग; जाति, लिंग, उम्र, आय के आधार पर गांव में नाजुक स्थल, एवं आपदा के कारण प्रभावित होने वाले ग्राम पंचायत में स्थित संसाधनों एवं उनकी संख्याओं के बारे में स्थनीय समुदाय, ग्राम पंचायत सदस्य,ग्राम प्रधान,सचिव, समूह की महिलाओं, ग्राम सभा सदस्य आदि से जानकारी प्राप्त की गयी।

1. **सूखा**

समुदाय के साथ चर्चा से यह तथ्य निकल कर आया कि सूखा गांव की मुख्य बड़ी आपदा है। आज से 15 वर्ष पहले बरसात मई माह से अगस्त माह तक होती रहती थी, सितम्बर में भी बारिश हो जाती थी। किन्तु अब बरसात अनियमित और असमय होती है। विगत 5–6 वर्षों से बरसात के मौसम में जून में बारिश हुई ही नहीं और जुलाई माह में एक–दो दिन में ही अधिक वर्षा हो गई फिर कई दिनों तक बारिश नहीं हुई। इससे सूखा जैसी स्थिति हो गयी है। जिससे लोग पलायन करने को मजबूर हो जाते हैं। सूखे की स्थिति में निम्नलिखित गतिविधियां और वृद्वि कर रही है।

- गांव बाल्मीकि नदी के बीहड़ में बसा होने के कारण बडी–बडी कगारे व कटान क्षेत्र होने के कारण वर्षा का पानी बह कर निकल जाता है।
- गांव के खेतों में मेडबन्धी जैसी जलसंरक्षण की गतिविधियों की कमी है
- छुट्टा प्रथा में पशु खुले में चरते रहते है इस कारण पौधरोपण व जंगलों को नुकसान पहुंचाते है।
- वृक्षारोपण पौधरोपण की कमी है। गांव में बाग कम हैं लेकिन लोगो ने निजी खेत की मेंड़ो, तालाब के भीटो आदि में आंवला, अमरूद,आम आदि के वृक्ष लगाये हैं तथा पहाड़ो में वन क्षेत्र है जहां पर सागौन,षीषम,बबूल, आम, नीम, महुवा आदि के वृक्ष लगे हुए हैं।

सूखा का समुदाय पर प्रभाव

- पेयजल प्रभावित हुआ है गर्मी के दिनों में 62 कुओं व 213 हैण्डपम्पों एवं निजी नलकूपों का का जल स्तर नीचे चला जाता है।
- सूखे के प्रभाव से खरीफ की फसल को लेना लोग कम कर रहे हैं।
- जानवरों का चारा संकट हो जाता है साथ ही तापमान बढने से प्शुओं को विभिन्न प्रकार की बीमारियां हो जाती हैं।
- छुट्टा पशुओं की संख्या में निरन्तर वृद्वि होती जा रही है।
- सूखे से उत्पादन प्रभावित होता है जिससे लोग पलायन करने को मजबूर हो जाते है।

2. लू

समुदाय के साथ चर्चा से यह निकल कर आया कि गर्मियों के दिनों में मई से जून तक तापमान अत्यधिक बढ़ जाता हैं और गर्म हवा चलने लगती हैं। सन 2022 में तापमान 50^0 बढ़ गया था। इससे समुदाय के स्वास्थ्य पर इसका नकारात्मक प्रभाव पड़ता हैं। मानव एवं पशुओं को लू लगने से उनका स्वास्थ्य खराब हो जाता है। विशेषकर बच्चों एवं बुजुर्गों पर इसका विशेष प्रभाव पड़ता है। बच्चों की शिक्षा एवं स्वास्थ्य सेवाएं प्रभावित होती है। पशुओं को चारा की एवं पेयजल हेतु पानी की समस्या होती है।

3. शीतलहर

सर्दियों के मौसम में 25 दिसम्बर से 20 जनवरी तक शीतलहर का प्रभाव रहता है। शीतलहर मानव एवं पशुओं के स्वास्थ्य के साथ कृषि को भी प्रभावित करता है। शीतलहर के प्रभाव से प्रत्येक वर्ष पशुपालन पर नकारात्मक प्रभाव पड रहा है। बच्चों की षिक्षा एवं स्वास्थ्य सेवाएं प्रभावित होती है।

बच्चों में निमोनिया, खांसी एवं दस्त की समस्या हो जाती है। फसलों पर मुख्यतः आलू, दलहन एवं तिलहन पर पाले का प्रभाव पड़ता है, परिणामस्वरूप पौधों की बढ़वार थम जाती है, फसल सूख जाती है। कीट–पतंगों का प्रकोप बढ़ जाता है।

4. ओला–वृष्टि

ओला से छोटे बच्चें, वृद्वजन, महिलाएं के गिरने, चोट लगने का खतरा जानवरों के घायल होना, घरो ं का क्षतिग्रस्त होना, फसलों का नष्ट होना आदि। 15 मार्च 2020 में गॉव ओला वृष्टि से चना,गेहूॅ सरसों की फसल बहुत ज्यादा छति हुआ था।

उपरोक्त के अतिरिक्त समुदाय की व्यवहारगत एवं ढ़ाचागत संरचना में कमियां हैं जो कि निम्नवार है–

- लोगों में जानकारी एवं जागरूकता का अभाव है, लोगों को कृषिगत कल्याणकारी योजनाओं की जानकारी का अभाव है। लोग पशुपालन तो करते हैं किन्तु नस्ल सुधार, पशुओं का बीमा, फसल बीमा आदि की जानकारी बहुत कम लोगों को है।
- गांव में समुदाय आधारित संस्थाओं की कमी है। कृषि केन्द्र, बीज केन्द्र, किसान संगठन, सामुदायिक अनाज बैंक, युवा मण्डल दल आदि सामाजिक संगठन की कमी ळें
- गांव में अधिकांषत मुख्य फसलें गेंहू, सरसों,चना, मटर, ज्वार बाजरा व अरहर ही उगाते हैं। खेती में विविधता मिश्रित खेती एवं मिश्रित फसलों एवं कम लागत, कम समय स्थायी कृषि आदि संबधित गतिविधियां नहीं है। जिससे किसानों को आपदा के समय जोखिम का सामना करना पडता है।
- वैकल्पिक एवं सौर उर्जा सम्बधित गतिविधियां नहीं है। यहां 40 प्रतिषत लोंगों के पास पक्की छतें हैं। जहां सौर उर्जा का प्रयोग किया जा सकता है। सडक किनारे प्रकाष हेतु एवं सिंचाई हेतु सौर उर्जा की प्रबल सम्भावना है।
- गांव में गाय, भैस आदि पशुपालन के साथ गोबर का प्रयोग जैविक खाद एवं कम्पोस्ट खाद बनाने हेतु करते हैं लेकिन सडकों के किनारे ढेर लगाकर घूर बना देते हैं तथा कुछ जगहों पर कण्डे बनाकर खाना बनाने में प्रयोग किया जाता है।
- कृषिगत गतिविधियों में रासायनिक कीटनाषकों, खरपतवार नाषक कीटनाषक का अत्यधिक प्रयोग किया जाता है।
- मानसून के दिनों में जलजनित मच्छर मक्खियों की बीमारी की अधिकता रहती है। यहां पर टायफायड बुखार ष्वास आदि की बीमारियां होती रहती है।
- यहां पर कृषि परामर्ष केन्द्र एवं मौसम पूर्वा अनुमान की व्यवस्था न होने के कारण लोगों की नाजुकता में वृद्धि होती है।

- गांव में लघु एवं सूक्ष्म उद्योग का अभाव है यहां के लोगों को कल्याणकारी कार्यक्रमों की जानकारी न होने से योजनाओं का लाभ लेने से वंचित रह जाते है।

4. क्षमता विश्लेषण

आपदाओं के सन्दर्भ में गांव को क्लाइमेट स्मार्ट बनाने की दृष्टि से गांव स्वयं में कितना सक्षम है, इसकी जानकारी हेतु समुदाय के साथ मिलकर समग्र ग्राम पंचायत का क्षमता आकलन किया गया। जलवायु परिवर्तन से उत्पन्न होने वाले आपदाओं एंव खतरों से गांव के साथ ही आसपास उपलब्ध संसाधन भी प्रभावित होते है। यह संसाधन भौतिक, पर्यावरणीय एवं मानव संसाधन के रूप में उपलब्ध होते है। इनकी पहचान होने से आपदा के खतरों से निपटने में आसानी होती हैं।

ग्राम पंचायत ऐंचवारा कर्वी जिले से लगभग 15 किलोंमीटर मानिकपुर रोड पर स्थित है समुदाय के साथ बात करने से पता चला हैं कि ऐंचवारा गॉव में 10 मजरे हैं। 4 ऑगनवाडी केंद्र, 2 पूर्व मा0 विद्यालय, 2 हायर सेकेन्डरी प्राइवेट 2 प्राथमिक विद्यालय, 01 25 कुआ, 70 हैंडपम्प हैं।

सुविधा संसाधन मानचित्र से लिए गये आंकड़े एवं तथ्य

विषेषकर संसाधनों के सन्दर्भ में किये गये क्षमता आकलन को तीन भागों में विभक्त किया गया, जिसमें गांव में उपलब्ध भौतिक एवं पर्यावरणीय संसाधनों को सामाजिक मानचित्रण एवं सुविधा मानचित्र परअंकित किया गया, जबकि मानव संसाधन के बारे में समुदाय के साथ चर्चा कर सूचनाएं प्राप्त की गयीं, जो निम्न प्रारूप पर दर्ज हैं–

भौतिक संसाधनों की उपलब्धता एवं गांव से दूरी

विवरण	संख्या	संपर्क व्यक्ति का नाम एवं संख्या	गांव से दूरीकिमी0
प्राथमिक विद्यालय	2		0
पूर्व माध्यमिक विद्यालय (प्राइवेट विद्यालय)	2		0
पंचायत भवन	1		0
सरकारी राषन कार्ड की दुकान	1		0
थाना	1		5
कचहरी कर्वी	1		15
जिला चिकित्सालय एम्बुलेंस व्यवस्था कर्वी	1		15
विकासखण्ड कार्यालय मानिकपुर	1		20
प्राथमिक स्वास्थ्य ऐंचवारा	1		0

आपदा विभाग, कर्वी	1		15
पोस्ट ऑफिस,	1		0
बिजली विभाग,	1		0
इण्टर कालेज	1		0
फायर स्टेषन	1		15
बस स्टेषन	1		15
रेलवे स्टेषन कर्वी	1		15
खाद बीज, दवा केन्द	1		0
बजार	1		0
बैंक	1		0

प्राकृतिक संसाधन उपलब्धता संख्या एवं दूरी

संसाधन	संख्या	विवरण/नाम /संपर्क संख्या	दूरी किमी0
तलाब	4		0 से 1
कुंआ	25		0 से 1
नला	1		1
न्दी	1		.5
कृषिगत क्षेत्र	616.2		0 से 5
खुला क्षेत्र/ सामुदायिक भूमि	154		0 से 5
मानव संसाधन			
ग्रम प्रधान	1	सुनील कुमार षुक्ला	9455826501
आंगनवाड़ी	4		
आषा बहू	2		
एएनएम	1		

झोलाछाप डाक्टर	0		
भूतपूर्व सैनिक	8		

आपदा के समय सुविधाओं व उपलब्ध संसाधनों का महत्वपूर्ण योगदान होता है। यह सुविधाएं आपदा के प्रभाव को कम करने में सहायक होती है। साथ ही, यह भी आवष्यक है कि इन सुविधाओं से समुदाय लाभान्वित हो रहे है कि नहीं और ये सुविविधाएं समुदाय की पहुॅच में है कि नहीं। संसाधनों से जुड़े तथ्यों की यह पूरी प्रकिया समुदाय की सहभागिता के आधार पर पारदर्षी तरीके से प्रदर्षित होती है जिसका पूरा विवरण संकलित किया गया है।

वित्तीय संसाधन –

उपरोक्त के अतिरिक्त गांव के पास वित्तीय संसाधन भी उपलब्ध है। ग्राम पंचायत के पास वित्तीय वर्ष 2023–24 में उपलब्ध होने वाले सम्भावित वित्तीय संसाधनों के विवरण निम्न प्रकार होंगे –

क्र0सं0	मद	वर्ष 2022–23
1	15वां वित्त आयोग	85 लाख रूप्ये
2	स्वयं के राजस्व का स्त्रोत	0

क्लाईमेट स्मार्ट ग्राम पंचायत ऐंचवारा की कार्ययोजना का निर्माण–

क्लाईमेट स्मार्ट ग्राम पंचायत विकास योजना बनाने हेतु सभी अभ्यासों को करने के उपरान्त सेक्टरवार जानकारी प्राप्त करने के लिए समूह चर्चा की गयी। इस चर्चा के दौरान ही सभी 4 सेक्टरों अन्तर्गत आने वाले विभिन्न बिन्दुओं की ग्राम पंचायत में वर्तमान स्थिति उससे सम्बन्धिम समस्यायें उन समस्याओं के निराकरण हेतु विशिष्ट कार्ययोजना के बारे में जानकारी प्राप्त की गयी। उपरोक्त सूचनाओं तथ्यों एवं ग्रामीणों से चर्चा व विचार विर्मश के बाद क्लाईमेट स्मार्ट ग्राम अवधारणा के तहत ग्राम आपदा प्रबन्धन योजना को तैयार किया गया है। जिसमें आपदा जोखिम, के कारण व समाधान आदि के बारे में संकलन तैयार किया गया है।

सेक्टरवार क्लाईमेट स्मार्ट ग्राम पंचायत ऐंचवारा की कार्ययोजना तालिका –

क्र0सं0	कार्य का क्षेत्र	कार्य का नाम	कार्य का विवरण	परिसमपत्ति का स्थान	अनुमानित धनराषि	अवधि	योजना का परिव्यय
1	सेक्टर–1 मानव विकास एवं	कचरे से पटे 4 कुएं की सफाई	ऐंचवारा खास के रास्ते से होते हुए लौघटा पुरवा से होते हुए	विभिन्न स्थानों पर	2 लाख	3 माह	15वां वित्त एवं

	सामाजिक सुरक्षा साफ–सफाई एवं स्वच्छता	सुरक्षा एवं मरम्मत कार्य					राज्य वित्त
2		कूड़ा पात्र	कूड़ा निस्तारण हेतु कूड़ा पात्र 14	विभिन्न स्थानों पर	2 लाख	1 माह	15वां वित्त व ग्राम निधि
3		शौचालय निर्माण (दिव्यांग)	महिला/पुरूष दिव्यांग हेतु शौचालय निर्माण	इण्टर कालेज के पास	6 लाख	6 माह	15वां वित्त व ग्राम निधि
4		जैविक–अजैविक कूड़ा प्रबन्धन केन्द्र	ग्राम पंचायत की जमीन पर संरचना का निर्माण	ग्राम समाज की जमीन पर	3.5 लाख	3 माह	15वां वित्त व ग्राम निधि
5		हैण्डपम्प रिबोर	पेयजल की उपलब्धता हेतु 10 हैण्डपम्पों को रिबोर कराना	विभिन्न स्थानों पर	6 लाख	6 माह	15वां वित्त व ग्राम निधि
6		नाला निर्माण	वॉटर रिचार्ज एवं कृषि सिंचाई के लिए	विभिन्न स्थानों पर	20 लाख	3 माह	15वां वित्त व ग्राम निधि
7		पुलिया निर्माण	आवागमन व जल निकास हेतु सुविधा	विभिन्न स्थानों पर	10 लाख	3 माह	15वां वित्त व ग्राम निधि
8	सेक्टर–2 बुनियादी/आधारभूत संरचना एवं पर्यावरण	स्कूल के भवनों का जीर्णोद्धार	प्रा0वि0 के छत की मरम्मत	प्रा0वि0	8 लाख	6 माह	15वां वित्त एवं राज्य वित्त
9		सोख्ता गड्डा	भूगर्भ जल प्रबन्धन हेतु 30 सोख्ता गड्डा	विभिन्न स्थानों पर	3 लाख	5 माह	15वां वित्त एवं

							राज्य वित्त
10		तालाब संरक्षण	तालाब में रिटेनिंगवॉल व सुन्दरीकरण	तालाब	6 लाख	5 माह	15वां वित्त, राज्य वित्त एवं मनरेगा
11		आर0सी0सी0 / इण्टरलॉकिंग / खण्डजा	खण्डजा निर्माण 600 मी0	–मनोहर बाबा, लौधटा पुरवा बवना पुरवा चमन्धन पुरवा गजटा पुरवा रामदास का पुरवा	60 लाख	1 माह	15वां वित्त, राज्य वित्त एवं मनरेगा
12			इण्टरलॉकिंग 600 मी0	मनोहर बाबा, लौधटा पुरवा बवना पुरवा चमन्धन पुरवा गजटा पुरवा रामदास का पुरवा	50 लाख	1 माह	15वां वित्त, राज्य वित्त एवं मनरेगा
16	आजीविका कृषि पशुपालन	स्थायी कैटल एवं गोट पालन	20 लाभार्थी	सभी मजरों पर	20 लाख	6 माह	15वां वित्त, राज्य वित्त एवं मनरेगा
17	सौर ऊर्जा / वैकल्पिक ऊर्जा	सौर ऊर्जा	50 लाभार्थी	घरों की छतों पर	50 लाख	6 माह	15वां वित्त, राज्य वित्त एवं मनरेगा

क्लाइमेट स्मार्ट ग्राम पंचायत ऐंचवारा विकास योजना के निरूपण की सहभागी प्रक्रिया–

वातावरण निर्माण

ग्राम ऐंचवारा बेंदा की आगामी वित्तीय वर्षो हेतु क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना के निरूपण हेतु ग्राम पंचायत के समग्र जन की सहभागिता करने की दृष्टि से ग्राम प्रधान जी द्वारा 17 फरवरी 2023 को पूरे ग्राम सभा में लाउडस्पीकर द्वारा सूचना की गयी कि दिनांक 20 फरवरी 2023 को पंचायत भवन ऐंचवारा में खुली बैठक आयोजित की गयी है।

खुली बैठक

ग्राम पंचायत ऐंचवारा के लिए क्लाइमेट स्मार्ट ग्राम पंचायत कार्ययोजना निरूपण हेतु हितभागियों की ग्राम सभा की खुली बैठक पूर्व निर्धारित सूचना के अनुसार दिनांक 20 फरवरी 2023 को पंचायत भवन में खुली बैठक का आयोजन किया गया। इस खुली बैठक में ग्राम प्रधान, उप प्रधान, पंचायत सदस्य, सचिव, स्वयं सहाययतता समूह के सदस्य, आंगनबाडी कार्यकत्री,आषा, ग्रामीण किसान महिलाएं एवं पुरूष के साथ अन्य बुजुर्ग ग्रामवासी एवं बच्चे उपस्थित हुए।

इसमें ग्राम पंचायत के सभी मजरो से कुल 98 लोगों ने प्रतिभाग किया इस बैठक की अध्यक्षता ग्राम प्रधान श्री सुनील कुमार षुक्ला ने किया। बैठक के प्रारम्भ में सभी का स्वागत परिचय ग्राम पंचायत सचिव श्री भूपेन्द्र द्विवेदी जी द्वारा किया गया। बैठक के उद्देश्य पर सचिव महोदय ने प्रकाष डाला एवं बताया कि जलवायु परिवर्तन का असर पूरा विश्व झेल रहा है। इसका पूरा प्रभाव हमारी ग्राम पंचायत ऐंचवारा एवं ग्राम वासियों पर पड रहा है। सरकार इस दिषा में सतत प्रयास कर रही है यह बैठक इसी उद्देष्य पर कार्य करने हेतु आयोजित की गयी है। उत्तर प्रदेश के 39 जनपद जो कि जलवायु परिवर्तन के अधिक प्रभाव को झेल रहे है। चित्रकूट धाम कर्वी जनपद भी इसी में सम्मिलित है कर्वी के मानिकपुर ब्लाक अन्तर्गत ग्राम पंचायत ऐंचवारा को इस कार्य के लिए चयनित किया गया है। पहले भी हमारी ग्राम पंचायत ऐंचवारा की विकास योजना बनी है परन्तु इस तीन चार दिनों में जलवायुगत/ मौसम से सम्बधित समस्याओं से सम्बधित समस्याओं के समाधान हेतु विकास के सभी मुद्दों के साथ जलवायु स्मार्ट ग्राम पंचायत योजना के निर्माण की प्रकिया पूर्ण करनी है। जिसमें हम सभी की सहभागिता होनी चाहिए यहां ग्राम पंचायत ऐंचवारा के पूर्व में बाल्मीकि नदी है जो कि परि"चम और पूरब दिषा तक फैली है बरसात के दिनों में नदी में बाढ आने की बजह से पूरी ग्राम पंचायत प्रभावित होती होती है। गांव का अधिकांष क्षेत्र डूब क्षेत्र में आता है इस नदी के प्रभाव से ही ग्राम मैदा के 10 मजरे बने है। जो कि उचें क्षेत्रों में जाकर बसाहट हुयी है। नदी के कारण ग्राम पंचायत का अधिकांष क्षेत्र कटाव युक्त व बजंर हो चुका है बरसात में अधिकांष लोगों के आबास बाढ से प्रभावित हो जाते हैं। यह हमारे लिए जहां जीवन दायिनी है वहीं खतरें भी पैदा करती है।

ग्राम पंचायत समितियों का विवरण –

प्रषासनिक समिति	निर्माण कार्य समिति	स्वास्थ्य एवं कल्याण समिति
अध्यक्ष – सुनील षुक्ला, वंदना, अषोक कुमार	अध्यक्ष – अषोक कुमार,सदस्य – अरविन्द कुमार कुमार,नत्थू, अजयकुमार,षान्ती देवी, वंदना	अध्यक्ष– अरविन्द कुमार सदस्य – अषोक कुमार,नत्थू,अजय कुमार, छोटेलाल,षुभम, वन्दना,षान्ति देवी
जल एवं स्वच्छता समिति अध्यक्ष – सुनील षुक्ला, वंदना, ष्षुभम,षेषन, अजय कुमार,नत्थू	**नियोजन एवं विकास समिति–** नत्थू,कुसुमा, वंदना, अरविन्द कुमार अध्यक्ष – ब्रजेष कुमार सिंह सदस्य – रानी,नरेन्द्र, राजकुमारी, रूद्रप्रताप, ब्रजबिलाष	**शिक्षा समिति** अध्यक्ष – सुनील षुक्ला, वन्दना,षान्ति, अजय, छोटेलाल, कुसुमा सदस्य– षान्ति देवी वदना,अजय,छोटेलाल,कुसुमा देवी

क्रमांक	पंचायत सदस्य का नाम	मोबाइल नम्बर
1	सुनील कुमार ग्राम प्रधान	
2	अषोक	9936040096
3	कुसुमा देवी	
4	श्राजू	9559836154
5	अरविन्द	9415387062
6	वेद प्रकाष	8810722215
7	सरोज सिंह	
8	व्दना	8953244067
9	छोटी	
10	देषराज	9598874892

ट्रांजेक्ट वाक (ग्राम भ्रमण)

समग्र ग्राम पंचायत के जलवायु गत अपदा एवं जोखिम को समझने की दृष्टि से खुली बैठक में उपस्थित ग्राम प्रधान, पंचायत सचिव, 9 स्वयं सहायता समूह की महिलांए एवं पुरूष समुदाय के सभी वर्गों के लोगों ने ग्राम पंचायत के 10 मजरों का ट्रान्जेक्ट वाक किया। पंचायत भवन ऐंचवारा से षुरू कर लौघटा पुरवा, रामस्वरूप का डेरा,सत्ती पाल का डेरा,सोधन भवटी, मनोहर बाबा का ड़ेरा, बवना पुरवा,गड़रियन पुरवा,ठकुरन ड़ेरा,गजटा,लालन टोला, गर्गन पुरवा तथा बरौड़ा बाबा अदि के साथ बाल्मीकि नदी का क्षेत्र तालाब,जंगल वा पहाड़ के भ्रमण के साथ पुनः पंचायत भवन पर समाप्त हुयी। ग्राम पंचायत का क्षेत्रफल लगभग 5 वर्ग किमी है यह फैलाव बाल्मीकि नदी वा पहाड़ की वजह से पूरा गांव मजरों में बस है।

ट्रांजेक्ट वाक के दौरान अवलोकन की गयी स्थितियां –

बसाहट	कर्वी से आगे 15 कि0मी0 जाने पर मानिकपुर रोड़ ग्राम पंचायत की षुरूआत हो जाती है। ग्राम पंचायत के 10 मजरे हैं जो दूर दूर उबड खाबड बाल्मीकि नदी के टीलों व स्वयं खेतों में बसा हुआ है। यहां पर कच्चे व पक्के मकानें में लोग गुजर बसर कर रहे है। यहां पर बाल्मीकि नदी का प्रभाव देखने को मिलता है क्योकि लोगों ने अपने घरों को उचें में बसाने का प्रयास किया है। अधिकांष मजरों में खपरैल वाले कच्ची मिट्टी के घर हैं । प्रत्येक मजरे तक जाने के लिए सम्पर्क मार्ग है। सभी मजरों में कुए और हैण्डपम्प लगे हुए हैं जिनसे लोग पीने व नहाने तथा घरेलु कार्य के लिए प्रयोग करते है। यहां पर छुट्टा पषुओं का झुण्ड भी देखने को मिला जो अलग अलग स्थानों में देखने को मिला। इसके अलावा लोगों ने बकरी गाय भैंस आदि पषु पाल रखे है।
ताल तलैया	ग्रामपंचायत के अन्तर्गत 4 छोटे छोटे तालाब हैं, जो बरसात के मौसम में भरते है और दिसम्बर जनवरी तक सूख जाते है।
नला	ग्राम पंचायत में सदाबहारी नाला नहीं है मात्र बरसाती नालें हैं जो वर्षा के मौसम में खेतों व घरों का पानी एकत्र होकर नाले के रूप में कटाव करता हुआ नदी में गायब हो जाते है।
न्दी	ग्राम पंचायत के पूर्व दिषा में नदी है जिसका प्रभाव गांव में दिखता है लोगों ने उचें टीलों में अपने आवासों को बनाये हुए है।

हरित क्षेत्र बाग –बगीचा	ग्राम पंचायत के भ्रमण के दौरान हरित क्षेत्र कम देखने को मिले।
भौतिक संसाधन	ग्राम पंचायत के अर्न्तगत हैण्डपम्प व कुओं से ही पानी की आवष्यकता की पूर्ति होती है। यहां पर 25 कुएं है जिनमें से मात्र 6 कुओं का प्रयोग हो रहा है। तथा 70 हैण्डपम्प हैं। यहां पर 4 आंगनबाडी केन्द्र है जो विभिन्न विद्यालयों में संचालित होते है। ग्राम पंचायत के अर्न्तगत 2 प्राथमिक ,2 पूर्व माध्यमिक व 1 इ0का0 है। सभी विद्यालयों में षौंचालय व हैण्डपम्प लगे हुए हैं।

सामाजिक मानचित्रण

सभी मजरों के भ्रमण के **पश्चात** ग्राम पंचायत बेंदा में स्थित बगूलामुखी देवी मन्दिरके परिसर में ग्राम वासियों के उपस्थिति में सामाजिक मानचित्रण तैयार किया गया, जिसके आधार पर प्राप्त सूचनाएं निम्न तालिका में प्रदर्शित हैं–

विवरण	संख्या	गुणात्मक विवरण
ग्राम पंचायत की चौहद्दी का क्षेत्रफल	5 वर्ग कि0मी0	तीनों बसाहट बाग बगीचा एवं खेती का स्थान मिलाकर
कुल मजरों की संख्या	10	ग्राम पंचायत के सभी मजरे
कुल घरों की संख्या	643	ग्राम पंचायत के अर्न्तगत सभी रिहायषी घर
कुल पक्के घरों की संख्या	215	प्रत्येक मजरे पर अधिकांषतः पक्की छत वाले मकान
कुल कच्चे घरों की संख्या	428	प्रत्येक मजरे पर अधिकांषतः खपरैल व मिट्टी से बने हुए घर
आर्थिक रूप से कमजोर परिवारों की संख्या	360	सभी मजरों पर
दिव्यांगजनों की संख्या	45	दिब्यांगजनों में 13 महिलाएं व 34 पुरूष
महिला मुखिया परिवारों की संख्या	15	सभी मजरों पर
इण्यिामार्का हैण्डपम्प	70	सभी मजरों पर
कुआं	25	सभी मजरों पर

जातिगत /श्रेणीगत विवरण

सामान्य जाति के घरों की संख्या	128
पिछडी जाति के घरों की संख्या	280
अनुसूचित जाति के घरों की संख्या	235
कुल घरों की संख्या	643

ग्राम पंचायत ऐंचवारा, जनपद से 15 कमी0 की दूरी पर मानिकपुर रोड़ पर बाल्मीकि नदी किनारे के पश्चिम में बसा हुआ है। इस ग्राम पंचायत के अन्तर्गत नदी बाढ़ से होने वाली कटाव के कारण यहां बड़ी–बड़ी कगारे बन गयी है। जिससे गांव 10 मजरों में बंट चुका है। यहां ठाकुर, पण्डित, लाला धोबी, कहार, यादव, केवट, कुम्हार, चमार, डोमार, कोरी आदि जातियां निवास करती है।

ग्राम में कुल 360 परिवार आर्थिक रूप से कमजोर वर्ग के है। ग्राम पंचायत ऐंचवारा में 15 परिवार भूमिहीन है। ऐंचवारा खास के उत्तर पूर्व में निचली भूमि है इसलिए लोगों ने अपने मकान छोड़कर अपने खेतों में आवास बनवायें है। यहां पर ऐंचवारा खास के पास बगुला मुखी देवी का मन्दिर है जिसमें बड़ी संख्या में लोग धार्मिक अनुष्ठान करने के लिए आते है। यहां 47 दिब्यांगजनों में 13 महिलाएं व 34 पुरूष है। सभी आंशिक रूप से विकलांग है। 60 प्रतिशत लोग साक्षर की श्रेणी में आते है जबकि 55 प्रतिशत महिलाएं साक्षर है। 70 घर ऐसे है जहां महिला मुखिया है।

आजीविका के साधन –

आजीविका के साधन	व्यक्तियों की संख्या
सरकारी नौकरी	32
छोटे उद्योग–धंधे	21
कृषि आधारित	2450
कला एवं शिल्पकार	6
पशुपालन	620
लोकल दुकान	65
गैर कृषि मजदूरी	350
अन्य	60

सामाजिक मानचित्रण
क्लाइमेट स्मार्ट ग्राम पंचायत – रूँचवारा
जनपद - चित्रकूट धाम कर्वी (ब्लॉक - मानिकपुर)
(ग्राम)
मानिकपुर
AIR TEL
BSNL
मठाधारी की टोला

आजीविका के साधनों पर आपदाओं का प्रभाव –

क्र0 सं0	वर्ष	आपदा / खतरा	घटनाओं का कारण	मृतको की संख्या	प्रभावित लोगों की संख्या	आर्थिक क्षति	न्यूनीकरण हेतु किया गया कार्य
1	1979	सूखा	वर्षा न होना व तापमान में वृद्वि से नीचे चले जाना इसकारण से बडे बडे वृक्ष सूख गये।	.	गांव की 80 प्रतिशत फसल नष्ट हो गयी।	400 परिवार प्रभावित	सरकारी सहायता प्राप्त हुई।
3	2005	बाढ़	अति वृष्टि से बाढ के कारण घर गिर गये		450 परिवार	फसलें नष्ट हो गयी और घर गिर गये।	सरकार द्वारा राहत शिविर बनाकर लोगों का सहयोग किया गया।
4	2005	सूखा	वर्षा न होना व तापमान में वृद्वि से नीचे चले जाना इसकारण से बडे बडे वृक्ष सूख गये।		गांव की 70 प्रतिशत फसल नष्ट हो गयी।	775 परिवार प्रभावित	सरकार द्वारा सूखा राहत पैकेज दिये गये।
5	2013	अतिवृष्टि	अधिक वर्षा से खडी फसलें नष्ट हो गयी		260	खरीफ की फसलें नष्ट जिसमें ज्वार मूग उडद बाजरा प्रमुख है।	कोई सहयोग नहीं मिला
	12 जून 2019	तपमान 48 डिग्री हुआ	जन जीवन अस्त व्यस्त				

6	2022	लू का प्रकोप	गर्म हवा व कडीधूप के प्रभाव से लोगों व जानवरों को नुकसान		गांव के सभी परिवार प्रभावित	डायरिया व बुखार के रोगियों में वृद्वि	सरकार द्वारा स्वास्थ्य कैम्प लगाकर लोगों का इलाज किया गया।
7	2020	कोरोना का प्रभाव	हवा में फैलने वाली बीमारी			रोजगार बन्द लोग घरों में कैद	लाक डाउन

आपदाओं का ऐतिहासिक समय रेखा एवं घटनाक्रम –

ग्राम पंचायत बेंदा का ऐतिहासिक समयरेखा आपदाओं एवं उसके प्रभाव को जानने के बाद सामुदाय के साथ यह भी जानने का प्रयास किया गया कि ये आपदायें इस ग्राम पंचायत को कब–कब प्रभावित कर रही है। इस क्रम में इन आपदाओं का ऐतिहासिक समय रेखा जानने का प्रयास किया गया। इसके अन्तर्गत सामुदाय ने माना कि सूखा एक ऐसी समस्या है कि जो पूरे क्षेत्र को लगातार प्रभावित कर रही है। इससे लोगों की आजीविका तो प्रभावित हो ही रही है लोग पलायन को भी मजबूर हो रहे है। यह लगातार प्रत्येक वर्ष बढ़ रही है। हाल के वर्षो में सूखा के अलावा आंधी–तूफान ओला, कोरोना एवं षीतलहर का प्रकोप भी ग्राम पंचायत को झेलना पड़ा है। प्राप्त सूचनाओं को निम्नवत दर्ज कियाा गया है –

आपदाओं का ऐतिहासिक समय रेखा एवं घटनाक्रम –

ग्राम पंचायत बेंदा का ऐतिहासिक समयरेखा आपदाओं एवं उसके प्रभाव को जानने के बाद सामुदाय के साथ यह भी जानने का प्रयास किया गया कि ये आपदायें इस ग्राम पंचायत को कब–कब प्रभावित कर रही है। इस क्रम में इन आपदाओं का ऐतिहासिक समय रेखा जानने का प्रयास किया गया। इसके अन्तर्गत सामुदाय ने माना कि सूखा एक ऐसी समस्या है कि जो पूरे क्षेत्र को लगातार प्रभावित कर रही है। इससे लोगों की आजीविका तो प्रभावित हो ही रही है लोग पलायन को भी मजबूर हो रहे है। यह लगातार प्रत्येक वर्ष बढ़ रही है। हाल के वर्षो में सूखा के अलावा आंधी–तूफान ओला, कोरोना एवं षीतलहर का प्रकोप भी ग्राम पंचायत को झेलना पड़ा है। प्राप्त सूचनाओं को निम्नवत दर्ज कियाा गया है –

क्र0 सं0	वर्ष	आपदा / खतरा	घटनाओं का कारण	मृतको की संख्या	प्रभावित लोगों की संख्या	आर्थिक क्षति	न्यूनीकरण हेतु किया गया कार्य

1	1979	सूखा	वर्षा न होना व तापमान में वृद्वि से नीचे चले जाना इसकारण से बडे बडे वृक्ष सूख गये।	.	गांव की 80 प्रति''ात फसल नष्ट हो गयी।	400 परिवार प्रभावित	सरकार द्वारा योजना चलाकर मिट्टी के कार्य व खाद्यान्न योजना चलायी गयी।
3	2005	बाढ़	अति वृष्टि से बाढ के कारण घर गिर गये		450 परिवार	फसलें नष्ट हो गयी और घर गिर गये।	स्रकार द्वारा राहत ि''ाविर बनाकर लोगों का सहयोग किया गया।
4	2005	सूखा	वर्षा न होना व तापमान में वृद्वि से नीचे चले जाना इसकारण से बडे बडे वृक्ष सूख गये।		गांव की 70 प्रति''ात फसल नष्ट हो गयी।	775 परिवार प्रभावित	सरकार द्वारा सूखा राहत पैकेज दिये गये।
5	2013	अतिवृष्टि	अधिक वर्षा से खडी फसलें नष्ट हो गयी		260	खरीफ की फसलें नष्ट जिसमें ज्वार मूग उडद बाजरा प्रमुख है।	कोई सहयोग नहीं मिला
	12 जून 2019	तपमान 48 डिग्री हुआ	जन जीवन अस्त व्यस्त				
6	2022	लू का प्रकोप	गर्म हवा व कडीधूप के प्रभाव से लोगों व जानवरों को नुकसान		गांव के सभी परिवार प्रभावित	डायरिया व बुखार के रोगियों में वृद्वि	सरकार द्वारा स्वास्थ्य कैम्प लगाकर लोगों का इलाज किया गया।

7	2020	कोरोना का प्रभाव	हवा में फैलने वाली बीमारी			रोजगार बन्द लोग घरों में कैद	लाक डाउन

आजीविका के साधनों पर आपदाओं का प्रभाव –

क्र0 सं0	आजीविका के प्रकार	परिवार की संख्या	आपदा	आपदा का प्रभाव			क्या प्रभाव पड़ता है
				अधिक	मध्यम	कम	
1	कृषि	460	सूखा		✓		• खेत की खड़ी फसल सूख जाती है। • सिंचाई खर्च अधिक लगता है। • जानवरों को पीने का पानी उपलब्ध नहीं होता। • दुग्ध उत्पादन घट जाता है। • फसलों की बढ़वार नहीं होती है। • बेरोजगारी बढ़ती है। • लोग पलायन को मजबूर होते है। • छुट्टा प्रथा को बढ़ावा मिलता है।
2			षीतलहर (पाला)				• शीत लहर से फसले झुलस जाती है। • सरसों में माहू का प्रकोप बढ़ जाता है। • अरहर की फसल सूख जाती है। • फसलों का फूल मरता है जिससे उत्पादन घट जाता है।
			ओलाबृष्टि				• कच्चे घरों का खपरैल टूट जाता है। • घर गिर जाते है। • फसलों को भारी नुकसान होता है। • ओला वृष्टि से जानवर घायल होते है।
2	मजदूरी	180 परिवार	सूखा				• कृषिगत मजदूरी का कार्य नहीं मिलता है। • खान–पान पर प्रभाव पड़ता है। • आर्थिक संकट उत्पन्न हो जाता है।

							• आजीविका प्रभावित होती है। • पलायन करना पड़ता है।
			शीतलहर				• मजदूरी नहीं मिल पाती है। • स्वास्थ्य खराब रहता है। • खाने की समस्या हो जाती है। • खर्चा बढ़ जाता है।
3	पशुपालन	(गाय, भैस, बकरी, मुर्गी, पालन आदि)	सूखा				• पशुओं में दूध उत्पादन कम हो जाता है। • गाय–भैसों को पीने के पानी की समस्या हो जाती है। • चारा कम हो जाता है। • छुट्टाप्रथा को बढ़ावा मिलता है। • तप्ती धूप के कारण जानवारों में बीमारी हो जाती है।
			षीतलहर				• षीतलहर से मुर्गीपालन में मुर्गियों की मृत्यु हो जाती है। • बकरियों में रोग होने से मृत्यु दर संख्या बढ़ जाती है। • पशुओं में दुग्ध उत्पादन कम हो जाता है। • चारे की समस्या बढ़ जाती है।
3	स्वयं का व्यवसाय (छोटी दुकान आदि)		सूखा				• लोग दुकानों से सामान कम खरीदते है। • उधारी लेने वालों की संख्या बढ़ जाती है। • व्यवसाय प्रभावित होता है। • सामान महंगा हो जाता है।
			षीतलहर				• व्यवसाय मध्यम हो जाता है। • लेन–देन पर प्रभाव पड़ता है।

खरीफ की फसल सुरक्षा के लिए उपाय :–

मूंग उडद एवं तिल की फसलें अधिकांषतः पानी की अतिवृस्टि से होती हैं इसके लिए खेतों से पानी निकासी की व्यवस्था सुनिशचित की जायेगी। साथ ही अरहर में उकठा रोग के लिए किसानों को ट्राइकोडर्मा से बीज एवं भूमि शेधित कराया जायेगा।

रबी की फसल सुरक्षा के लिए उपाय :–

चना मटर मसूर की फसल को उकठा रोग से बचाने के लिए किसानों को ट्राइकोडर्मा से बीज एवं भूमि सोधित कराया जायेगा। पाला से बचाव हेतु खेत के चारो ओर धुआ व खेत में पानी का भराव किया जायेगा।

गेंहू सरसों को रोग से बचाव हेतु आग्नेयास्त्र का प्रयोग किया जायेगा।

ग्राम उन्मेष संस्थान बांदा टीम –

1.अम्बरीष कुमार श्रीवास्तव (निदेशक)
2. राम कुमार सिंह
3. संजय कुमार श्रीवास्तव
4. अनिल कुमार सिंह
5. बुद्धविलास
6. श्रीमती वन्दना
7. हेमराज सिंह

Annexure IV: Estimating Targets and Costs

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Enhancing Green Spaces and Biodiversity				
1	Plantation activities	**Phase 1:** Similar to current level of plantation activities that the GP does (to be asked during consultation with the Pradhan) **Phase 2:** Increase plantation targets by 500-1000 based on availability of land **Phase 3:** Further increase target by 500-1000 based on availability of land	Tree plantation (preparation, sapling, labour, etc.)[97] = **Rs. 70 per tree** (saplings are also available at no cost from DoEFCC, GoUP) Tree Guards (metal)[98] = **Rs. 1,200 per unit** Maintenance of plantations: **1.5 lakh/ha**	
2	Arogya van	For a GP with area less than **300-400 ha**, one Arogya van can be suggested with **0.1 ha** area For a GP with area of around **1000 ha**, one Arogya van can be suggested with an area of **0.2- 0.5 ha** based on availability of land		Sequestration potential estimated based on teak species - 5.6 to 10 tCO_2e sequestered per tree Plantation density for agro forestry is considered 100 trees/ha
3	Agro-forestry	(Can be subjective and agro-forestry activities can be started from **Phase 1**) **Phase 2:** 40 % of total agricultural land; with +100 trees planted per hectare **Phase 3:** Remaining agricultural land; with + 100 trees planted per hectare	Cost of agroforestry[99] = **Rs 40,000/ hectare**[100]	

97 Cost as per plantation guidelines and inputs from GPs
98 Cost as per market rates
99 Cost as per Sub-mission on Agroforestry Guidelines, National Mission for Sustainable Agriculture
100 https://link.springer.com/article/10.1007/s42535-022-00348-9

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable Agriculture				
1	Micro irrigation- drip and sprinkler irrigation	**Phase 1:** 30% of total agricultural land to be covered **Phase 2:** 70% of total agricultural land to be covered **Phase 3:** 100% of total agricultural land to be covered	Rs 1 lakh per hectare	
2	Construction of bunds	**Phase 1:** 50% of total agricultural land to be covered **Phase 2:** 100% of total agricultural land to be covered **Phase 3**: Maintenance of bunds - Bunding is done on periphery of agricultural fields - Farmers in GP have land holdings of various sizes **Assumption**: all fields are square	**1m of bunding[101]= Rs 150**	
3	Construction of farm ponds	**Phase 1**: 5-10 ponds **Phase 2**: 15- 20 ponds Phase: More if required + Maintenance of ponds Capacity of 1 farm pond= 300 m^3 Depends on number of large farms in GP + requirement of ponds (based on conversation with Pradhan)	Construction of 1 farm pond[102]= **Rs 90,000**	

101 Cost as per inputs received from GPs in HRVCA
102 Cost as per inputs received from GPs in HRVCA

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
4	Transition to natural farming	**Phase 1**: 15% of total agricultural land to be covered **Phase 2**: 40% of total agricultural land to be covered **Phase 3**: 100% of total agricultural land to be covered	A. Training & demonstration (3 sessions): **Rs 60,000** B. Certification (based on expert consultation): **Rs 33,000** C. Introduction of cropping system- organic seed procurement; planting nitrogen harvesting plants--> Cost per acre = **Rs 2,500** D. Integrated manure management - Procuring liquid bio fertiliser & its application; Procuring liquid biopesticide & its application; Natural pest control mechanism set up; Phosphate rich organic manure ---> Cost per acre= **Rs 2,500** E. Calculation (cost of transition per acre)= A+B+C+ D= Rs 1,00,000 Total Cost[103]: Area (ha) * E -> 2.471 * 1,00,000 = **Rs 2,47,100**	

103 UP State Organic Certification Agency (UPSOCA_Tariff_20March.pdf (apeda.gov.in)) and National Mission for Sustainable Agriculture (NMSA) Guidelines

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Management & Rejuvenation of Water Bodies				
1	Rainwater harvesting (RwH) structures	**Phase 1**: Installation of rainwater harvesting structures (RwH) in all PRI buildings + recharge pits (as recommended in HRVCA) **Phase 2**: Installation of RwH structures in residential buildings above a plot size of 1500 sq. ft. + Additional recharge pits + Incorporating RwH system in all new buildings **Phase 3**: Installation of RwH structures in residential buildings 1000 sq. ft.+ Incorporating RwH system in all new buildings	Cost of 1 Rainwater harvesting structure with 10 m^3 capacity[104]= **Rs 35,000** Cost of 1 recharge pit= **Rs 35,000**	

104 Rooftop Rainwater Harvesting Guidelines, Indian Standards (IS 15797:2008)

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
2	Maintenance of water bodies (cost not to be double counted if these plantations are a part of the overall green space enhancement initiative as mentioned above)	**Phase 1**: Cleaning, desilting & fencing of water bodies + Tree plantations (1000) around periphery of water bodies (along with tree guards) **Phase 2**: Additional 100 tree plantations (along with tree guards) around water bodies + continued maintenance of water bodies **Phase 3**: Continued maintenance of water bodies	Approximate Cost[105]: 1. Restoration (cleaning, desilting, increase in catchment area, etc.) of 1 pond = **Rs. 7 Lakhs** 2. Construction of 1 Retention Pond (300 m^3 capacity) = **Rs. 7 Lakhs** 3. Tree plantation with tree guard = **Rs. 1,200 per unit** 4. Maintenance Cost: a. 1 Pond/water body = **Rs. 3, 75,000** b. 1 Retention Pond = **Rs. 50,000** c. Tree with tree guard = **Rs. 20 per unit**	
3	Enhancing drainage infrastructure	**Phase 1**: Cleaning & desilting of existing drains + enhancing drainage infrastructure (construction of new drains) **Phase 2** & 3: Continued activities carried out in Phase 1	Refer mostly to the costs provided in the HRVCA document	

105 Cost as per inputs received from GPs in HRVCA

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable and Enhanced Mobility				
1	Enhancing existing road infrastructure	**Phase 1**: Road elevation works + Road Rcc/ Interlocking works **Phase 2** & 3: Continued maintenance of roads	Cost per km of road upgradation/ repair[106]: **Rs 50,00,000 per km**	
2	Enhancing Intermediate Public Transport (IPT)	e-autorickshaws as per inputs on requirement of GP	Cost of 1 e-rickshaw: **~ Rs. 50,000** Available subsidy: up to **Rs. 10,000 per vehicle**	
3	Facility to hire e-tractors & e-goods vehicles	**Phase 1**: Promote electric alternatives of diesel tractors and goods transport vehicles + sensitising farmers about long-term benefits of e-vehicles **Phase 2 & 3**: Continued sensitisation	Cost of 1 e-tractor= **Rs 6,00,000** Cost of 1 commercial e-vehicle= Rs 5 to 10 lakhs	

106 Cost as per Pradhan Mantri Gram Sadak Yojana (PMGSY) rate/km and inputs received from GPs in HRVCA

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable Waste Management				
1	Establishing a waste management system	**Phase 1**: a. Coverage of 100% households under GP's door-to-door waste collection system b. Provision for Electric Garbage Vans to collect 100% of existing waste generated c. Installation of waste bins d. Building partnership with other stakeholders (SHGs, local scrap dealers, local businesses, and MSMEs)	Total waste generated = Primary data, if not available, take average per capita waste generated in the GP as approximately **80 g per day**; biodegradable/ organic waste- 58% non-biodegradable /inorganic waste - 42% No. of e-garbage Vans required[107] = Total waste generated/capacity of each van (310 kg) No. of waste bins = from HRVCA or can be estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)	

107 Cost as per market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
		Phase 2: a. GP-level recycling and plastic shredder unit b. Installation of additional waste bins c. Provision for additional Electric Garbage Vans d. Maintenance of existing facilities/ infrastructure e. Scaling up partnership	No. of plastic shredder unit = 1 per GP Additional waste bins = from HRVCA or estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)	
		Phase 3: a. Maintenance works b. Scaling up partnership	COST[108]: 1. 1 Electric Garbage Van = Rs. 95,000 to 1,00,000 2. 1 waste bins/ containers[109] = Rs. 15,000 3. Plastic shredder unit[110] = Rs. 50,000 per unit	
2	Management of organic waste	**Phase 1**: a. Setting up Compost & vermi-compost pits through community involvement b. Partnership model between panchayat, community members and farmer groups for: 1. production & sale of compost 2. sale of agricultural waste	Potential compost quantity (kg per day) which can be generated[111] = amount (kg/day) of organic waste/2	

108 Cost as per market rates

109 Cost as per SBM guidelines and inputs in HRVCA reports

110 Cost as per market rates

111 https://www.biocycle.net/connection-CO_2-math-for-compost-benefits/#:~:text=In%20the%20process%20of%20making%20compost%20the%20microbes,food%20waste%20turns%20into%2050%20kg%20of%20compost

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
		Phase 2 and 3: a. Maintenance and increasing compost pits capacity b. Scaling up partnership	Cost[112]: 1. Compost Pits cost reference: 30 vermicomposting and 15 Nadep compost pits = **Rs. 4,50,000** 2. Solid Waste Management Yard (for both organic and inorganic waste) cost[113] reference: **Rs. 35,00,000**	
3	Ban on single-use-plastics	**Phase 1**: a. Complete ban on Single Use Plastics b. Awareness, training, and capacity-building programs c. Leveraging RACE Campaign and LiFE Mission d. Partnership model between panchayat, women and SHGs	Engagement of 100 women in manufacturing	
		Phase 2: a. Continued Awareness, training, and capacity-building programs b. Increased engagement from this GP & nearby villages of women, SHGs, MSMEs & individual entrepreneurs	Additional 200 women	
		Phase 3: a. Continued Awareness, training, and capacity-building programs b. Increased engagement from this GP & nearby villages of women, SHGs, MSMEs & individual entrepreneurs	Additional 300 women	

112 Cost as per inputs received from GPs in HRVCA
113 Cost as per inputs received from GPs in HRVCA

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Access to Clean, Sustainable, Affordable and Reliable Energy				
1	Solar rooftops	**Phase 1:** PRI buildings (Panchayat Bhawan, schools, anganwadi, PHC, CHC, CSC etc) Assumption- 70% of rooftop area is available for solar rooftop installation	Use MNRE solar rooftop portal to calculate solar potential.[114] Annual clean electricity generated (in kWh) = installed capacity (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) (calculate this for each PRI building and add up for total) Installed capacity- from the above website Total installed capacity= Panchayat Bhawan+ School 1+ School 2.... + any other PRI buildings Cost per kWh= **Rs 50,000** No. of units of clean electricity generated per day= Electricity generated/ 365	Annual electricity generated (kWh)* 0.82/ 1000= ____ tonnes of CO_2e

114 https://Solarrooftop.gov.in/rooftop_calculator

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
		Phase 2 & 3: Households Assumption- 70% of rooftop area is available for solar rooftop installation Installed capacity taken to be 3 kWp **Phase 2**: 40% of total pucca houses to install **Phase 3**: 100% of total pucca houses to install	Average Installed capacity per HH= 3 kWp Total capacity installed at HH level= No. of HH * 3 kWp Annual clean electricity generated (in kWh)=Total capacity installed at HH level (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) Cost per kWh= Rs 50,000[115] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	

115 Cost as per MNRE and current market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
2	Agro-photovoltaic	**Phase 2**: 25 % of suitable agricultural area **Phase 3**: 50% of suitable agricultural area Suitable agri area- area under legumes & vegetables (keep the value under 10 ha)	250 kWp installed per hectare Total capacity installed = Area (ha) * 250 kWp Annual clean electricity generated (in kWh)=Total capacity installed (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) Cost per kWh= **Rs 1 lakh**[116] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	

116 Cost as per market rate of installation

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
3	Solar pumps	**Phase 1**: 20% of diesel pumps replaced **Phase 2**: 50% of diesel pumps replaced **Phase 3**: 100% of diesel pumps replaced	Installed capacity = 5.5 kWh per pump Total installed capacity= No.of pumps replaced * 5.5 kWh Annual clean electricity generated= Total installed capacity (kWh) *310 (days)*24 (hrs)*0.18 (CUF) No. of units of clean electricity generated per day= Annual Electricity generated/ 365 Cost per pump = Rs 3 to 5 lakhs[117]	Diesel consumption avoided= 390 litres/ per/ year Total diesel consumption avoided per year= No.of pumps replaced * 390 Emissions avoided= 1.05 tonnes CO_2e per pump per year
4	Clean cooking	**Phase 1**: 25% of households having cattle to install biogas + 25% of households in the top income groups to have solar induction cookstoves + 50% of households that currently use biomass to have improved chulhas **Phase 2**: 50% of households having cattle to install biogas + 50% of households in the top income groups to have solar induction cookstoves + 100% of households that currently use biomass to have improved chulhas **Phase 3**: 100% of households having cattle to install biogas + 100% of households in the top income groups to have solar induction cookstoves	Cost for 1 biogas plant= **Rs 50,000** for 2 to 3 m^3 biogas plant Cost for 1 for double burner solar cookstove without battery= **Rs 45,000** Cost for 1 improved Chulhas= **Rs 3,000**[118]	

117 Cost as per market rates and PMKSY guidelines
118 Costs as per market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
5	Energy efficiency (EE)	**Phase 1**: All PRI buildings to replace all fixtures and fans with energy efficient fixtures and fans + All HH to replace 1 incandescent/CFL bulb with LED bulb or 1 fluorescent tube lights with LED tube light **Phase 2**: All incandescent/CFL bulbs replaced with with LED bulb & all fluorescent tube lights replaced with LED tube light + 1 conventional fan replaced with EE fan in all HH **Phase 3**: All fans in all HH to be replaced with EE fans	Cost of 1 LED bulb= **Rs 70** Cost of 1 LED tubelight= **Rs 220** Cost of 1 EE fan= **Rs 1,110**[119]	
6	Solar streetlights	Based on inputs from Pradhan High-mast solar street light- 1 (or more as per requirement) for each PRI building, pond/lake, green space/parks/ playground/ gardens/ arogya van	Cost of 1 high-mast= **Rs 50,000** Cost of 1 solar LED street light= **Rs 10,000**[120]	
Enhancing Livelihoods and Green Entrepreneurship				
1	Construction & renting out of solar-powered cold storage	Setting up of cold storage	Capacity : **1 unit = 5 - 10 metric** tonnes based on production of vegetables and fruits/ and/or milk and milk products Cost: **Rs 8-15 lakh per unit**[121]	

119 Costs as per UJALA scheme guidelines by Ministry of Power (https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/jun/doc202261464801.pdf)

120 Costs as per market rates

121 Costs as per market norms

Annexure V: Relevant SDGs & Targets

SDG 2: Zero Hunger

Target 2.3: Double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

Target 2.a; Article 10.3.e: Development of sustainable irrigation programmes

SDG 3: Good Health and Well being

Target 3.3: End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases

Target 3.9: Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

SDG 6: Clean Water and Sanitation

Target 6.1: Achieve universal and equitable access to drinking water

Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Target 6.4: Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals

Target 6.5: Implement integrated water resources management at all levels

Target 6.8: Support and strengthen the participation of local communities

Target 6.a: Expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including wastewater treatment, recycling and reuse technologies

SDG 7: Affordable & Clean Energy

Target 7.1: Ensure universal access to affordable, reliable and modern energy services

Target 7.2: Increase share of renewable energy in energy mix

Target 7.3: Double the global rate of improvement in energy efficiency

Target 7.a: Enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

Target 7.b: Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries in accordance with their respective programmes of support.

SDG 8: Decent Work and Economic Growth

Target 8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services

SDG 9: Industries, Innovation and Infrastructure

Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure

SDG 11: Sustainable Cities and Communities

Target 11.2: Safe, affordable, accessible and sustainable transport systems for all

Target 11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

Target 11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

SDG 12: Ensure sustainable consumption and production patterns

Target 12.2: Achieve the sustainable management and efficient use of natural resources

Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

SDG 13: Climate Action

Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Target 13.2: Integrate climate change measures into national policies, strategies and planning

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

SDG 15: Life on Land

Target 15.1: Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Target 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

Target 15.5: Take urgent and significant action to reduce degradation of natural habitats, halt loss of biodiversity

Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies

Annexure VI: Suitable species for plantation activities

Name of plants	Family	Local names	Uses/ Medicinal properties
Timber Trees			
Acacia nilotica	Fabaceae	Babul	It is used for such products as bodies and wheels of carts, instruments and tools
Ficus religiosa	Moraceae	Peepal	Has medicinal properties and religious value
Azadirachta indica A. Juss.	Meliaceae	Neem	All parts of the neem tree- leaves, flowers, seeds, fruits, roots and bark have been used traditionally for treatment. The wood is ideal for furniture, both strong and termite resistant.
Tectona grandis	Lamiaceae	Sagaun	It is used in the manufacture of outdoor furniture and boat decks
Dalbergia sissoo	Fabaceae	Sheesham	It has several applications in aircraft and marine plywood, as charcoal for heating and cooking food, creating musical instruments etc
Madhuca longifolia	Sapotaceae	Mahua	It provides quality timber wood for various uses
Shorea robusta	Dipterocarpaceae	Sal	It is used for railway sleepers, ship-building, and bridges.
Cinnamomum tamala	Lauraceae	Indian bay leaf	It helps manage various health issues and used in cooking.
Fruits and Wild Food Plants			
Mangifera indica	Anacardiaceae	Aam, Mango	All parts are used in traditional treatments
Artocarpus heterophyllus	Moraceae	Kathahal, Jackfruit	The timber is used for furniture. Many parts of the plant, including the bark, roots, leaves, and fruits, are known for their medicinal properties in traditional and folk medicine.
Psidium guajava	Myrtaceae	Guava, Amrood	It is a common and popular traditional remedy for various gastric ailments
Agaricus campestris L	Agaricaceae	Dharti Ka Phool	A type of mushroom
Alangium salvifolium (L.f.) Wang	Alangiaceae	Dhera, Ako	Ripe fruits are eaten
Amorphophallus paeoniifolius Dennst	Araceae	Elephant foot, Zimi Kand	Eaten as vegetable.

Name of plants	Family	Local names	Uses/ Medicinal properties
Crotolaria juncea L.	Fabaceae	Sanai	Light boiled buds eaten as vegetable.
Manilkara hexandra (Roxb) Dub	Sapoataceae	Khirini	The fruits are made into pickles & sauces.
Eugenia jambolana	Myrtaceae	Jamun	The root, leaves, fruits and bark have numerous medicinal properties
Aegle marmelos	Rutaceae	Bael	The unripe fruit, root, leaf, and branch are used to make medicine.
Morus rubra	Moraceae	Mulberry	Mulberries can be eaten raw and are also used to make jams, pies etc. They also have medicinal properties
Trees with Medicinal properties			
Withania somnifera	Solanaceae	Ashwagandha	It is useful for different types of diseases
Bacopa monnieri	Plantaginaceae	Brahmi	It is used to manage different respiratory ailments
Andrographis paniculata	Acanthaceae	Kalmegh	It helps to boost immunity and is used to manage the symptoms of the common cold, sinusitis and allergies
Rauvolfia serpentina	Apocynaceae	Sarpagandha	It is used for the treatment of many different ailments.
Endangered trees with medicinal properties			
Acorus calamus L.	Araceae	Bach, Bal, Ghorbach	A useful ethnomedicinal plants for curing bronchitis, cough, and cold
Asparagus adscendens Roxb.	Liliaceae	Satavar	Helps in treating conditions related to hormone imbalance
Celastrus paniculatus Wild.	Celastraceae	Umjain, Mujhani, Malkangani, Kakundan	Useful in the treatments of a variety of ailments
Other Trees			
Populus ciliata	Salicaceae	Semal, kapok	Its leaves are used for animal fodder and herbal teas
Eucalyptus globulus	Myrtaceae	Tailapatra	Used in medicines to treat coughs and the common cold and also used to make essential oil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