



CLIMATE SMART GRAM PANCHAYAT ACTION PLAN

 **Kannauj**

Bahadurpur Majhgawan Gram Panchayat

**Department of Environment,
Forest and Climate Change**

Government of Uttar Pradesh







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राम कृपाल चौधरी
मुख्य विकास अधिकारी
जनपद-कन्नौज।



संदेश

ग्राम पंचायतों को जलवायु सजग ग्राम पंचायत बनाने हेतु समर्पित ग्राम पंचायत-बहादुरपुर मझगावां, विकास खण्ड-सौरिख, जनपद-कन्नौज की क्लाइमेट स्मार्ट कार्ययोजना बनाने हेतु संदेश लिखते हुए मुझे अत्यन्त हर्ष का अनुभव हो रहा है। जैसा कि हमारे देश की समृद्ध सांस्कृतिक विरासत जल, जंगल और जमीन पर आधारित है। वर्तमान परिस्थितिकी और भविष्य का जीवन सजोने के लिए वातावरण संतुलन अपरिहार्य हो गया है। आज जमीन से लेकर अंतरिक्ष तक पर्यावरण संतुलन डगमगा रहा है और हमें 'क्लाइमेट स्मार्ट ग्राम पंचायत' की कार्ययोजना पर सोचना पडा है। यह क्लाइमेट मानव जीवन की आधारभूत आवश्यकताएं 'क्षित जल पावक गगन समीरा' की शुद्धता के साथ-साथ दैनिक उपभोग की सामग्री, अच्छी स्वास्थ्य सुविधाएं और स्वच्छता के बिना जीवन संभव नहीं होगा, आज का वर्तमान सामाजिक परिवेश भी व्यक्तिवादिता की तरफ बढ़ चुका है और सामंजस्य का भाव दूर होता जा रहा है। मानवता बहुतेरों को छोड दूर जा चुकी है।

ऐसे परिवेश में यह कार्ययोजना ग्राम पंचायत में संवाद, सहयोग को बढ़ावा देगी तथा सभी लोग साथ मिलकर सामाजिक समरसता और जलवायु नीतियों को बढ़ावा देगी।

**शक्ति के विद्युत कण विकल विखरे है निरूपाय।
समन्वय उनका करो समस्त विजयिनी मानवता हो जाए।।**

एक बार फिर क्लाइमेट स्मार्ट कार्ययोजना तैयार करने के अमूल्य योगदान के लिये आप सभी को धन्यवाद। हम योजना के सफल कार्यान्वयन और समुदाय एवं पर्यावरण पर इसके सकारात्मक प्रभाव की आशा करते हैं।

धन्यवाद !

1
06-07-2024
(राम कृपाल चौधरी)

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वि0ख0 सौरिख जनपद कन्नौज।

आभार


सर्वप्रथम आप सभी को प्रधान ग्राम पंचायत बहादुरपुर मझिगवाँ जनपद कन्नौज की ओर से सादर नमस्कार और अभिनन्दन मुझे आशा ही नहीं पूर्ण विश्वास है कि आप सभी स्वस्थ होंगे। मैं अपनी ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनाने की ओर बढ़ाये गये प्रथम कदम प्रयास को आपसे साझा करते हुए रोमांचित हों।

जलवायु परिवर्तन से उत्पन्न चुनौतियाँ हर दिन अधिक स्पष्ट होती जा रही हैं। और हमारे समुदाय और भावी पीढ़ियों की भलाई के लिए 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 आवश्यक था ग्राम पंचायत में जलवायु परिवर्तन सम्बन्धी समस्याओं और मुद्दों की पहचान करना। जिसके लिए सामुदायिक सहभागिता के साथ-साथ ग्राम सभा की बैठक एवं समूह केन्द्रित चर्चा के आयोजन के अतिरिक्त व्यक्तिगत चर्चा की गई। और आंकड़ों को एकत्र किया गया। आंकड़े एकत्र करने की प्रक्रिया को पंचायत में कियान्वित करने के लिए मैं स्थानीय सहयोगी संस्था गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी0ई0ए0जी0) गोरखपुर का तथा आंकड़े एकत्र करने में हमारे ग्रामवासियों के समर्थन और सक्रिय भागीदारी के लिए हृदय से धन्यवाद। हम सभी साथ मिलकर हमारी ग्राम पंचायत में एक पर्यावरण अनुकूल वातावरण बनायेंगे। जो न केवल हमारे प्राकृतिक संसाधनों की रक्षा करेगा अपितु प्रत्येक ग्रामीण के जीवन की समस्त गुणवत्ता को भी बढ़ायेगा।

इसके साथ ही पर्यावरण वन एवं जलवायु परिवर्तन विभाग उ0प्र0 और तकनीकी सहयोगी पार्टनर बसुधा फाउन्डेशन नई दिल्ली का भी आभारी हूँ। जिन्होंने एकत्र किये गये आंकड़ों को कार्ययोजना का स्वरूप दिया तथा मार्गदर्शन एवं तकनीकी सहयोग प्रदान किया।

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

धन्यवाद


मुदमंगल सिंह प्रधान
ग्राम पंचायत बहादुरपुर मझिगवाँ
(ग्राम प्रधान) ख0-सौरिख (कन्नौज)

ग्राम पंचायत बहादुरपुर मझिगवाँ

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Executive Summary

The Bahadurpur Majhgawan Panchayat in the District of Kannauj comes under Central Plains agroclimatic zone of Uttar Pradesh. The Climate Smart Gram Panchayat Action Plan of Bahadurpur Majhgawan has been prepared with the aim to strengthen climate action at the Gram Panchayat (GP) level 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 Bahadurpur Majhgawan is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Bahadurpur Majhgawan.

The action plan¹ captures the key demographic and socio-economic aspects, key issues pertaining to the Central Plains agroclimatic 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 Bahadurpur Majhgawan 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 Bahadurpur Majhgawan.

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 analysis & 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 Bahadurpur Majhgawan.
- **Identification of key issues:** An exhaustive list of key climatic, developmental & environmental issues was identified through responses received in Survey Questionnaire & HRVCA.
- **Carbon footprint estimation:** Carbon footprint was estimated for key activities* in Bahadurpur Majhgawan
- **Proposed recommendations:** Recommendations were developed for Bahadurpur Majhgawan based on the environmental and climatic issues. These recommendations also take into account the prevailing agro-climatic characteristics of Central Plains zone. Additionally, sector-wise adaptation needs & mitigation potential of Bahadurpur Majhgawan 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- Electricity consumption, residential cooking, emissions arising from diesel pump usage, transport, crop residue burning, livestock emissions, fertiliser 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)

The GP has one revenue village and eleven hamlets. There are 1,706 households with a total population of 13,600² as reported during field surveys. The main economic activities include agriculture and non-farm animal husbandry. A baseline assessment shows that Bahadurpur Majhgawan GP has a carbon footprint of ~4616 tCO₂e³.

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

- Implementing measures such as improving green cover, revitalising current water sources and enhancing groundwater levels with participatory water management to build climate resilience.
- Harnessing decentralised renewable energy (DRE) and energy efficient solutions such as solar-powered pumps, energy efficient pumps, and solar rooftop installation.
- Enhancing the coverage of piped water supply in the Gram Panchayat.
- Diversifying livelihood options and creating opportunities for green jobs.

The activities under these recommendations have been divided into 3 phases- Phase I (2024-27), Phase II (2027-30) & Phase III (2030-35). The phase-wise targets can be further 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, supporting Central and State schemes.

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

CSGPAP will supplement and complement the Bahadurpur Majhgawan GPDP by:

- Broad-basing existing development initiatives and activities with a climate perspective.
- Dovetailing ongoing National and State Programmes on climate change with the proposed development activities in the GPDP.

The interventions and annual targets under this action plan can be implemented in convergence with the planned activities of the Bahadurpur Majhgawan 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 utilised to scale up renewable energy deployment.

The total emissions avoided/mitigated through implementation of this plan is estimated to be over 5,637 tonnes carbon dioxide equivalent (tCO₂e) per annum and sequestration potential goes up to 2,57,000 tCO₂ over the next 20-25 years. The total cost estimated for the implementation of this plan across the three phases is approximately ₹53 crores (for 11 years), comprising community investment, public finance, private finance and potential CSR funding. From this, 30-35 percent (approximately ₹ 17 crores) of the required funding can be availed from Central and State Schemes/Missions/Programmes. The Government of Uttar Pradesh has adopted an innovative approach of 'Panchayat-Private-Partnerships,' to potentially engage CSR and mobilise private finance.

2 Census 2011 data notes: Total Population- 8,527

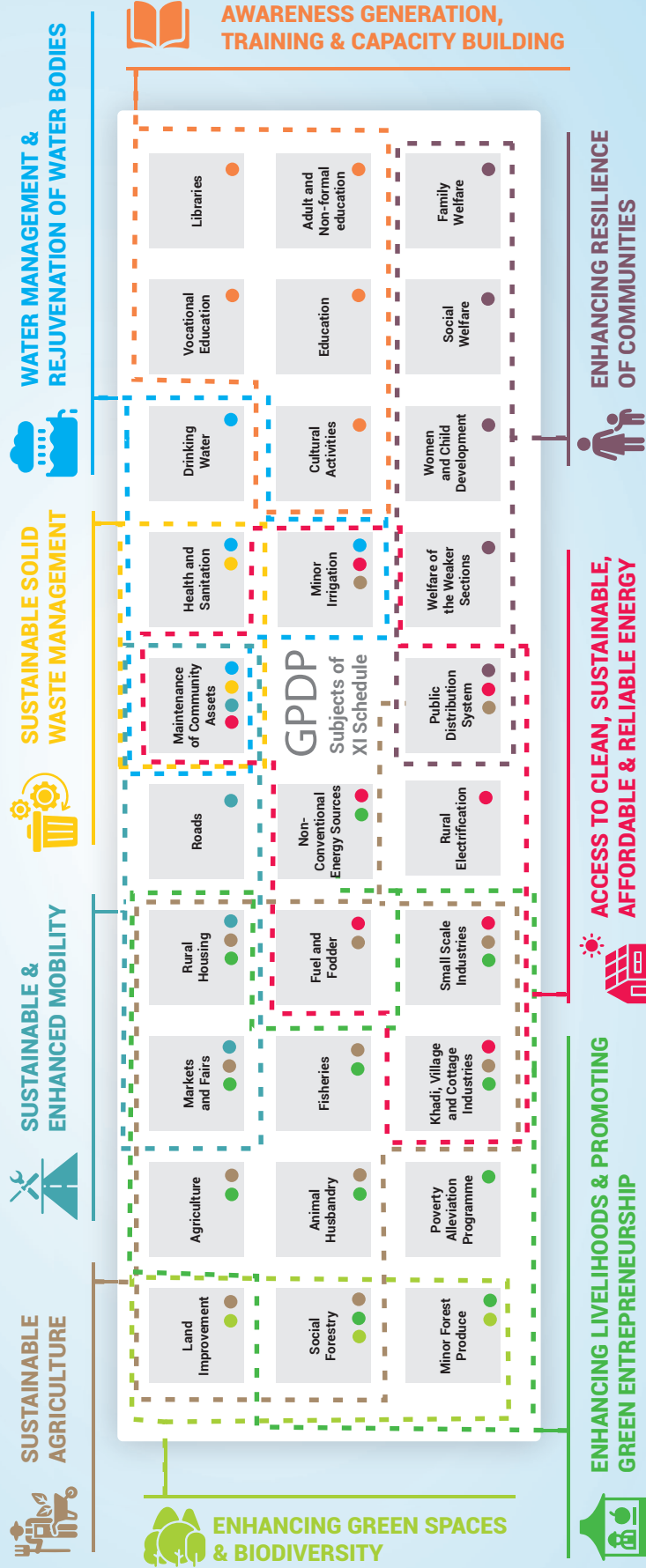
3 Includes scope 2 emissions due to electricity consumption within the GP (data obtained from UPPCL and grid emission factor from CEA)

Climate Smart and Sustainable Gram Panchayats by 2035

Mainstreaming Climate Action with Development
















CLIMATE SMART INTERVENTIONS



Bahadurpur Majhgawan

Bahadurpur Majhgawan Gram Panchayat at a Glance[†]

	Location Saurikh Block, Kannauj District		
	Total Area⁴	1,034.88 ha	
	Composition		
	1 Revenue Village		
	11 Hamlets		
	Total Population⁵	13,600	
	No. of Males	7,072	
	No. of Females	6,528	
	Total Households⁶	1,706 ⁷	
	Panchayat Infrastructure		
	15- Panchayat Bhawan, Primary School (6), Upper Primary School (2), Anganwadi (3), Government Ration Shop, Community Toilet, Resource Recovery Centre		
	Primary Economic Activity Agriculture		
	Water Resources 25 ponds, 5 wells		
	Land-Use		
	Agriculture land	~697.5 ha	
	Social forestry	~1 ha	
	Common land	~0.41 ha	
	Remaining land (settlements and water bodies)	~336 ha	
	Agro-climatic Zone⁸		
	<ul style="list-style-type: none"> Central Plains Climatic Conditions: Hot summers and cold winters with moderate rainfall Minimum Temperature: 5.5 °C Maximum Temperature: 45 °C Annual Rainfall - 863 mm Soil Type - Alluvial pH - Normal to slightly alkaline, and organic matter in medium quantity which is suitable for cultivating wheat and vegetables 		
	Composite Vulnerability Index (CVI) of District⁹ Very High		
	Sectoral Vulnerability of District		
	<ul style="list-style-type: none"> Forest Vulnerability: Very High Energy Vulnerability: High Rural Development Vulnerability: High Disaster Management Vulnerability: Moderate Health Vulnerability: Moderate Agriculture Vulnerability: Low 		

[†] Data from Field Survey conducted for preparation of the Plan (February, 2023)

⁴ Data from BHUVAN indicates that the area of GP is 868 ha.

⁵ Census 2011 data notes: Total Population-8,527; Male- 4,619; Female- 3,908 As per survey by DoEFCC, GoUP: Total Population- 10600; Male- 5742; Female- 4858

⁶ As per telephonic conversation with the Gram Pradhan.

⁷ 1346 pucca houses and 306 kaccha houses

⁸ Source: Department of Agriculture, Uttar Pradesh

⁹ UP SAPCC 2.0

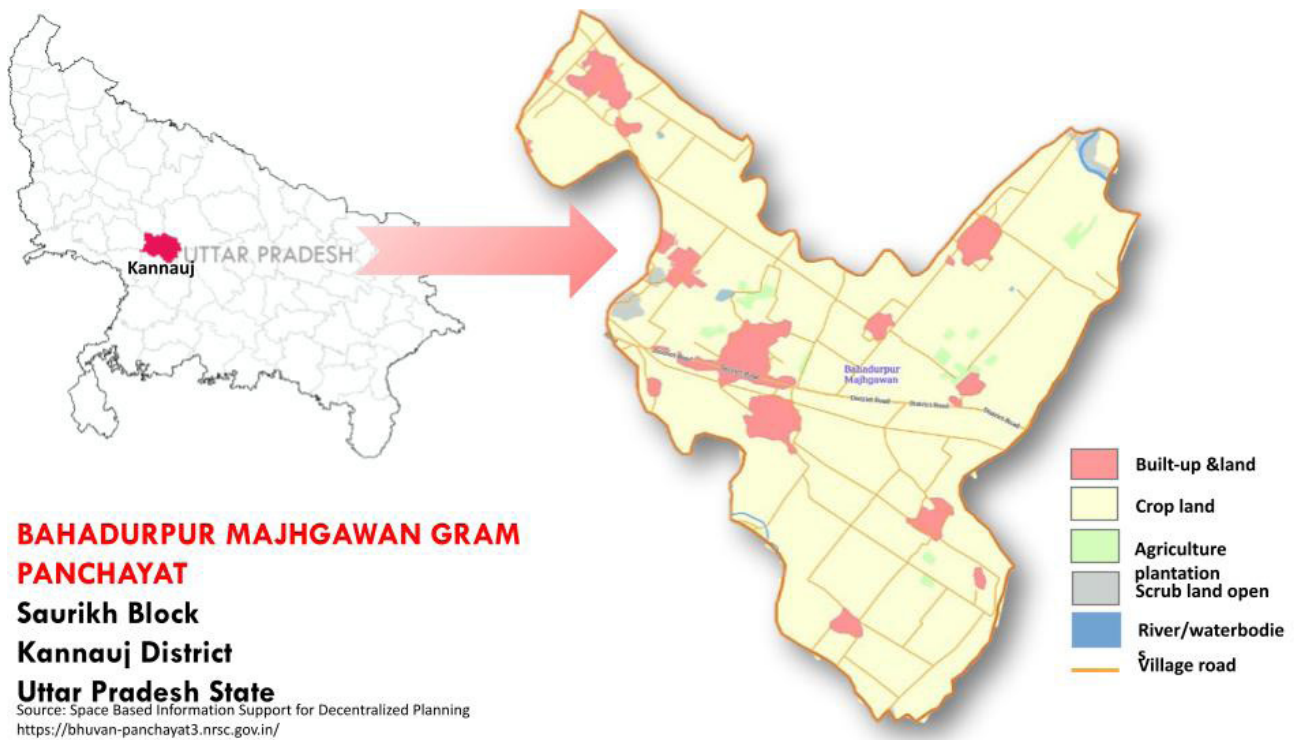


Figure 1: Land-use map of Bahadurpur Majhgawan GP, Kannauj District

Climate Variability Profile

The data received from India Meteorological Department (IMD)¹⁰ on climate variability – temperature and rainfall – indicates that the annual average maximum temperature in the region in 2018 was 1.7°C higher than that in 1994 and the annual average minimum temperature in 2018 also increased over 1994 levels (see Figure 2). During the same period, the annual rainfall shows a declining trend (see Figure 3).

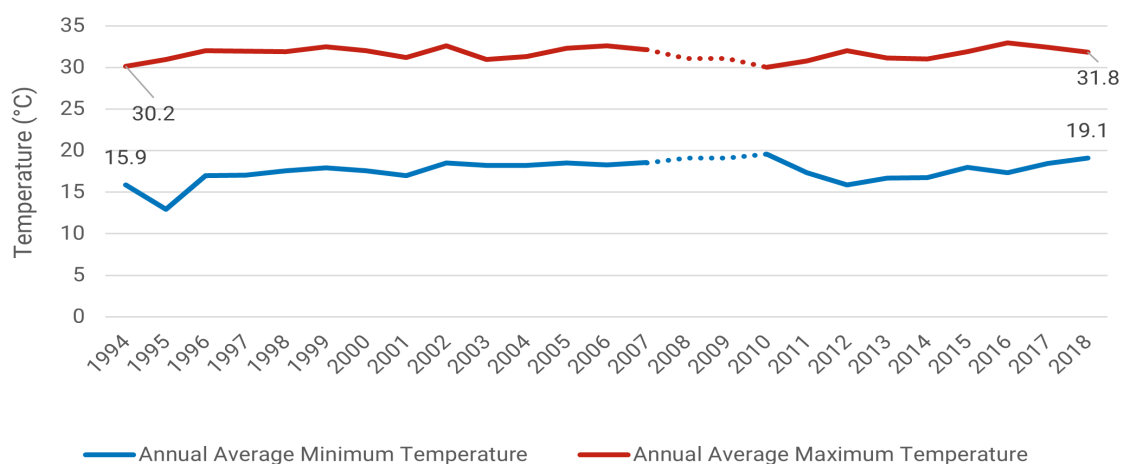


Figure 2: Annual average maximum and minimum temperature in Bahadurpur Majhgawan, 1994-2018

¹⁰ Temperature and rainfall data has been taken for Farrukhabad (Fatehgarh) weather monitoring station, which was the closest station to Bahadurpur Majhgawan for which data was available

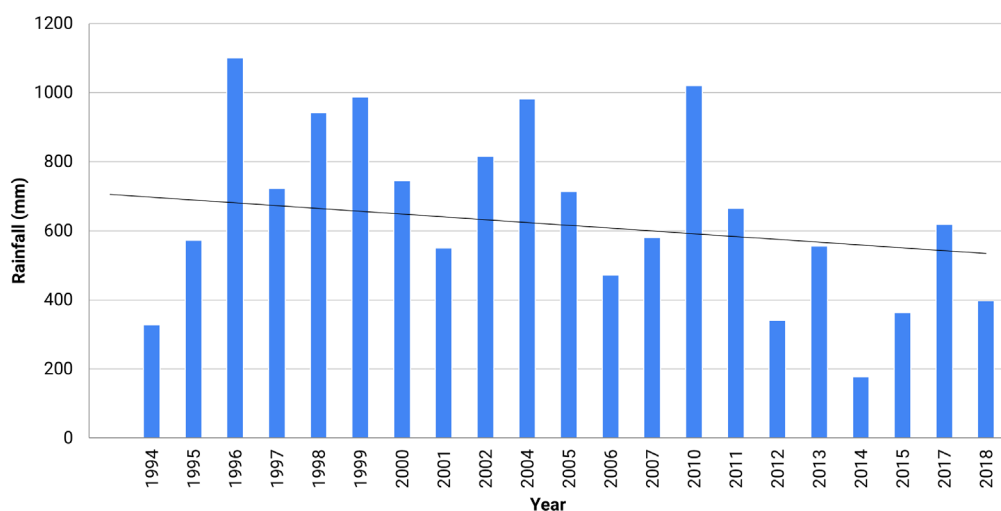


Figure 3: Annual rainfall in Bahadurpur Majhgawan GP, 1994-2018

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 2010-2020¹¹. Similar findings are also confirmed by IPCC¹², and MoES, Government of India¹³.

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 witnessed an increase in the number of summer days by 20 days and a decrease in the number of winter days by 25 days. The number of rainy days has also decreased by nearly a month. Between 2018 and 2022, the GP has experienced extreme weather events in the form of drought (5 occurrences), floods and hailstorms.

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.

Key Economic Activities

In Bahadurpur Majhgawan, approximately 47 percent of households are engaged in agriculture, followed by animal husbandry, service sector, and involvement in local businesses (see Figure 4). Household-level income estimates obtained from the focus-group discussions reveal that the majority of households (~71 percent) earn less than ₹50,000 per annum, while only around 3 percent of households earn above ₹5 lakhs per annum (see Figure 5). At the time of the survey, there were 115 Below Poverty Line (BPL) households, i.e. ~8 percent of the total households in the GP. As indicated in Figure 6, the ration card data reveals that nearly 90 percent of the households benefit from the public distribution scheme and hold ration cards, of these 115 households hold *Antyodaya*¹⁴ cards.

11 State of the Climate in Asia 2023 (wmo.int)

12 AR6 Synthesis Report: Climate Change 2023 (ipcc.ch)

13 Assessment of Climate Change over the Indian Region: A Report of the Ministry of Earth Sciences (MoES), Government of India | Springer

14 National Food security Portal (https://nfsa.gov.in/portal/Ration_Card_State_Portals_AA)

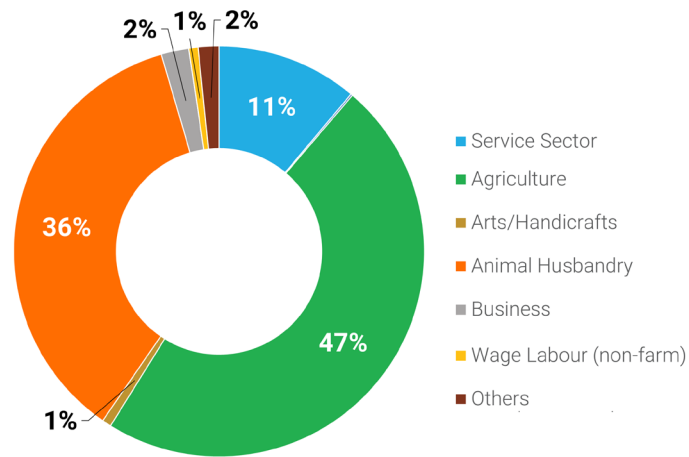


Figure 4: Household level primary sources of income in Bahadurpur Majhgawan

Women's Employment

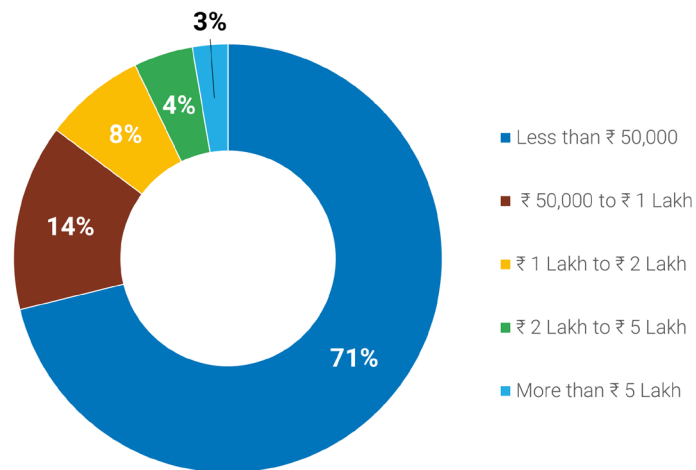


Figure 5: Household level income estimates in Bahadurpur Majhgawan

There are 1,771 working women in Bahadurpur Majhgawan. Majority of these women are primarily engaged in the animal husbandry sector. Some women are engaged in non-farm wage labour, arts/

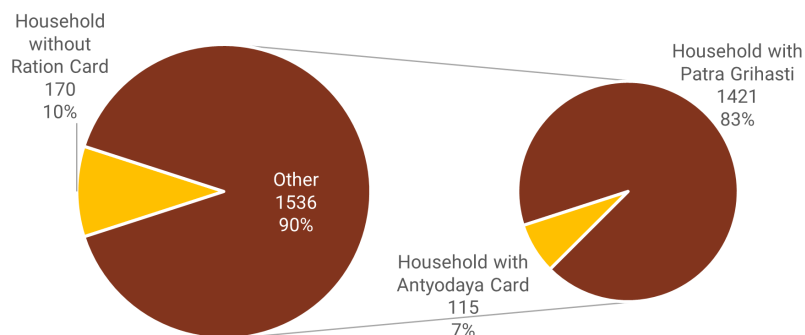


Figure 6: Households with ration cards in Bahadurpur Majhgawan

handicrafts, and agriculture. Within the gram panchayat, 103 households are headed by women¹⁵, which accounts for 7 percent of the total households of the GP. As per the field survey, there are 24 self-help groups (SHGs) involved in activities like agriculture and running local shops.

Agriculture

Nearly 47 percent of households depend on agriculture for income (see Figure 4), and are engaged under different arrangements¹⁶, including farming on their own land, as wage labourers, or as

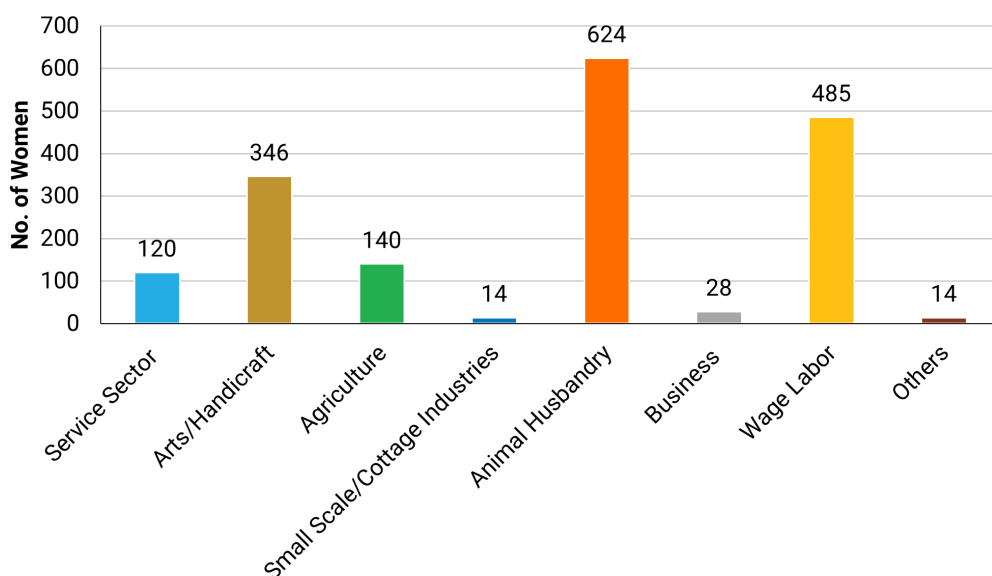


Figure 7: Number of women engaged in various economic activities in Bahadurpur Majhgawan

tenants(see Figure 8). The net sown area in Bahadurpur Majhgawan is approximately 698 ha, while the gross cropped area is ~757 ha¹⁷. The major *kharif* crops are rice (~1,392 quintal/annum) and maize (~7,425 quintal/annum). The major *rabi* crops grown in the GP are wheat (~12,900 quintal/annum), mustard (~4,475 quintal/annum), and potato (~10,850 quintal/annum). Figure 9 shows the crop-wise distribution of the gross cropped area (ha) in the GP. Rainfed irrigation and canals are the main sources of irrigation. There are 40 electric pumps, 69 diesel pumps and 1 solar pump in the GP.

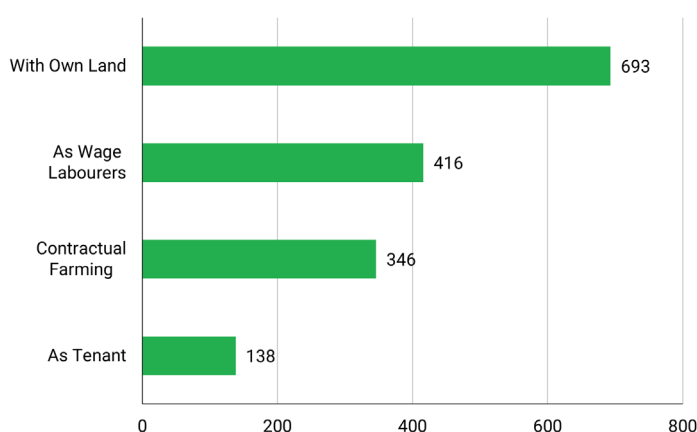


Figure 8: Agriculture only dependent households in Bahadurpur Majhgawan

¹⁵ Women-headed households are those households where women are sole/primary earners.

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 practising contract farming.

¹⁷ Gross cropped area in GP estimated based on information provided by Gram Pradhan during telephonic discussion

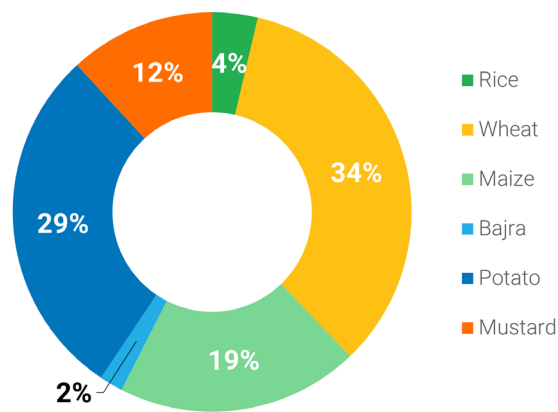


Figure 9: Crop-wise distribution of gross cropped area in Bahadurpur Majhgawan

Around 36 percent of the population is engaged in animal husbandry. The total livestock population is around 1,650 (300 indigenous and hybrid cows, 550 indigenous and hybrid buffaloes, 700 goats, and 100 poultry birds).

Natural Resources

As per the field survey, there is 0.41 ha of common land in Bahadurpur Majhgawan. Additionally, there are 25 ponds, 5 wells and 1 canal. Of the ponds, one is an *Amrit Sarovar (Devta Maharaj)* covering an area of ~470 m². Plantation activities have been carried out in the GP in the form of social forestry, and approximately 2,500 trees have been planted that cover an area of around 1 ha. The plantations have been implemented through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) around ponds. There are a total of 4 private gardens in the GP.

Amenities in Bahadurpur Majhgawan

Electricity & LPG

- Electricity Access: 90% households

- LPG Coverage:¹⁸ 90% households

Water

- Main source of water for household use and GP level supply: Groundwater
- Piped water connectivity – 7 households¹⁹



Waste

- Open Defecation Free (ODF) Status: Achieved
- Household Toilet Coverage: ~79%



Mobility and Market Access

- Railway station - 40 km
- Bus station - 3 km
- Agriculture market - 8 km
- Bank - 3 km
- Post office - Within the GP
- Ration shop - 1 km



Educational Institutions

- 6 Primary Schools
- 2 Upper Primary School



Health Institutions

- 3 Anganwadi Centres



¹⁸ As per the data received from Pradhan during the telephonic conversation

¹⁹ It was reported by the Gram Pradhan during a discussion that the expansion of piped water supply infrastructure is planned for the future in the GP

3

Carbon Footprint

While the Carbon Footprint (in other words, Greenhouse Gas (GHG) emissions) from rural areas are 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, Bahadurpur Majhgawan GP emitted approximately 4,616.07 tonnes of carbon dioxide equivalent (tCO₂e) from a wide range of activities (see Figure 10).

Activities in energy, agriculture and waste sectors contributed to the carbon footprint of Bahadurpur Majhgawan. Energy sector emissions are due to electricity consumption²⁰, combustion of fuelwood and LPG for cooking, use of diesel pumps for irrigation, use of generator 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.

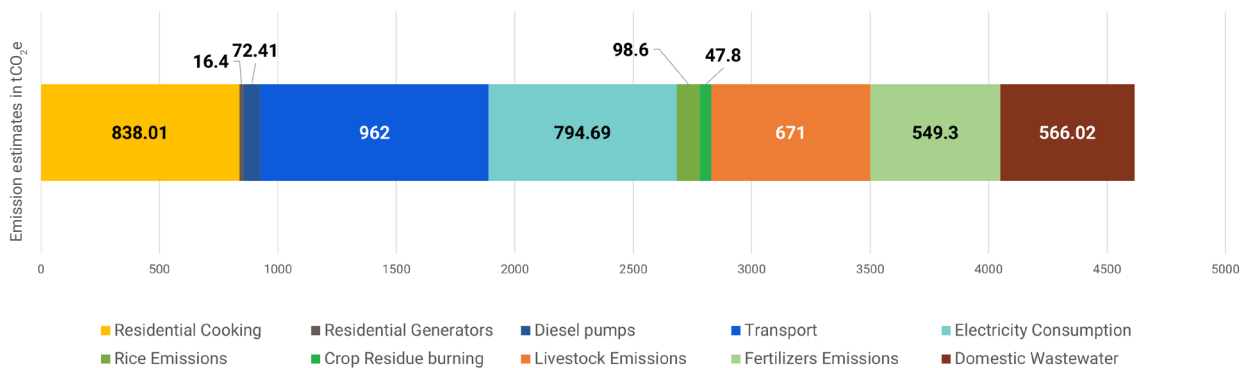


Figure 10: Carbon footprint of various activities in Bahadurpur Majhgawan in 2022

Emissions from the energy sector accounted for around 58 percent of the total emissions of Bahadurpur Majhgawan GP with the emissions from transport (962 tCO₂e), residential cooking (838 tCO₂e), and electricity consumption (794.69 tCO₂e) being the leading causes of GHG emissions. The agriculture sector accounted for around 30 percent of the total emissions. Within the sector, fertilizer use was the key emitter (549 tCO₂e) followed by livestock (671 tCO₂e). The waste sector accounted for nearly 12 percent (566 tCO₂e) of the total emissions (see Figure 11).

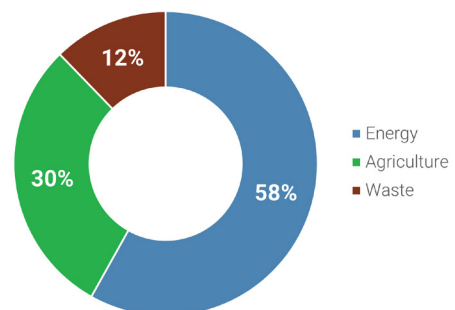


Figure 11: Share of sectors in carbon footprint of Bahadurpur Majhgawan in 2022

²⁰ 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 analysis 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:

- Frequent occurrence of droughts from June to July and hailstorms in the month of December leading to crop losses and decrease in productivity
- Changes in seasonal durations and extreme heat affecting sowing time, harvesting time and irrigation needs of crops among other impacts in the GP
- Unsustainable agricultural and animal husbandry practices
- Drinking water crisis and water availability issues
- Poor maintenance of natural resources including green cover and water bodies
- Poorly maintained internal roads and damage due to waterlogging
- Dependence on fossil fuels for residential use, agricultural and transport needs
- 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

Each thematic issue consists of several interventions, with focus on both mitigation and adaptation that address the key issues identified in the previous section. The interventions are described with phased targets and cost estimates²¹ (to the extent possible). The targets are spread across three phases: Phase-I (2024-25 to 2026-27); 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 Padhans, community members or any other stakeholder 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 have been identified. The detailed recommendations are in the following section:

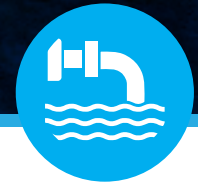
Recommendations suggested in the action plan span across the following themes:

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

²¹ 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 Management and Rejuvenation of Water Bodies



Context and Issues

- Bahadurpur Majhgawan GP relies on groundwater as the primary source of water to meet both domestic and agricultural needs. However, the water supply has decreased over the years and is currently insufficient²².
- There were frequent incidents of droughts in the months of June to July between 2018 to 2022. The community reported declining groundwater levels in the last 10 years²³. Therefore, there is a need to enhance watershed management in Bahadurpur Majhgawan.
- While there are 25 ponds and 5 wells in the village, majority of them are not fit for usage due to poor maintenance and accumulation of silt, debris, and waste. Therefore, they need to be cleaned and rejuvenated.
- The GP has 185 handpumps for drinking water supply. However, due to depleting groundwater levels, these are insufficient to meet water needs of the community²⁴.
- Insufficient drainage infrastructure contributes to waterlogging in the streets, a problem exacerbated during rainfall.
- Household toilet coverage is ~79%, and need for additional community toilets in the GP was highlighted²⁵.

Dependence on groundwater and frequent incidences of droughts in the past five years 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 Bahadurpur Majhgawan.

²² As understood from the community during field surveys and FGDs and corroborated by relevant sources

²³ As reported in the field survey

²⁴ As reported by GP during field surveys

²⁵ As per discussion with the Gram Pradhan



Rainwater Harvesting (RwH) Practices

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ol style="list-style-type: none"> 1. Installation of RwH structures in all government buildings in the GP 2. Establishment of <i>Pani Samitis</i> or Village Water and Sanitation Committee (VWSC) at the village level 	<ol style="list-style-type: none"> 1. Installation of RwH structures in residential buildings above a plot size of 2000 sq. ft. 2. Mandatory construction of RwH structures in all new buildings 	<ol style="list-style-type: none"> 1. Installation of RwH structures in residential buildings between 1000 sq. ft. - 2000 sq. ft. 2. Mandatory construction of RwH structures in all new buildings
Target	<ol style="list-style-type: none"> 1. RwH²⁶ installations in 6 public schools 2. Establishment of 1 village-level VWSC 	<ol style="list-style-type: none"> 1. Installation of RwH with an average storage capacity of 10 m³ in 75 pucca houses 2. Regular capacity building of the community and all other stakeholders to undertake upkeep and maintenance of RwH structures 	<ol style="list-style-type: none"> 1. Installation of RwH with an average storage capacity of 10 m³ in 154 pucca houses 2. Regular capacity building of the community and all other stakeholders to undertake upkeep and maintenance of RwH structures
Estimated Cost	Cost of 6 Rainwater harvesting structures with 10 m ³ capacity: ₹2,10,000	Cost of RwH structures: ₹26,25,000	Cost of RwH structures: ₹53,90,000

26 RwH structures have already been installed in the Panchayat Bhawan and two schools (Primary School Bhattpuri and Upper Primary School Gadih).



Maintenance of Water Bodies

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ol style="list-style-type: none"> 1. Rejuvenation of ponds 2. Cleaning and restoration of wells 3. Construction of recharge pits 4. Tree plantation with tree guards around water bodies 	<ol style="list-style-type: none"> 1. Construction of additional recharge pits, as required 2. Maintenance and management of all water bodies 	<ol style="list-style-type: none"> 1. Construction of additional recharge pits, as required 2. Maintenance and management of all water bodies
Target	<ol style="list-style-type: none"> 1. Cleaning and desilting of 23 ponds²⁷ 2. Cleaning and restoration of 5 wells 3. Construction of 45 recharge pits 4. 1,000 saplings of common and endangered trees to be planted and ensure at least 65% survival rate (using tree guards) <p>Covered in 'Enhancing Green Spaces and Biodiversity' section for more details</p>	<ol style="list-style-type: none"> 1. Regular maintenance and cleaning of ponds and wells 2. Construction of additional recharge pits as required 3. Additional 500 saplings planted around water bodies and ensure at least 65% survival rate (using tree guards). 	<ol style="list-style-type: none"> 1. Construction of additional recharge pits as required 2. Regular maintenance and cleaning of ponds and wells 3. Additional 500 saplings planted around water bodies and ensure at least 65% survival rate (using tree guards)
Estimated Cost	<ol style="list-style-type: none"> 1. Cleaning and desilting of 23 ponds: ₹1,61,00,000 2. Cleaning and restoration of 5 wells: ₹18,75,000 3. Construction of 45 recharge pits: ₹3,00,000 <p>Total Cost: ₹1,82,75,00</p>	<ol style="list-style-type: none"> 1. Maintenance of 5 wells: ₹18,75,000 2. Maintenance of 23 ponds: ₹86,25,000 <p>Total Cost: ₹1,05,00,000</p>	<ol style="list-style-type: none"> 1. Maintenance of 5 wells: ₹18,75,000 2. Maintenance of 23 ponds: ₹86,25,000 <p>Total Cost: ₹1,05,00,000</p>

27 Refer to HRVCA for specific location details



Improved Drainage and Sewerage Infrastructure

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ol style="list-style-type: none"> 1. Construction of drains 2. Expansion of household toilet coverage under SBM-G 3. Construction of soak pits 	<ol style="list-style-type: none"> 1. Regular maintenance of all drains to avoid water logging 2. Further expansion of household toilet coverage as per requirement All new constructions to have adjoined toilets 	Maintenance of existing infrastructure
Target	<ol style="list-style-type: none"> 1. Construction of drains: <ul style="list-style-type: none"> » Construction of drains along existing roads: ~1850 m²⁸ » Construction of drains along new roads: ~660 m 2. Construction of ~200 household toilets 3. Construction of 200 soak pits²⁹ 	<ol style="list-style-type: none"> 1. Maintenance of existing infrastructure 2. Construction of 140 additional household toilets 3. Construction of additional soak pits, as per requirement 	Maintenance of existing infrastructure
Estimated Cost	<ol style="list-style-type: none"> 1. Cost of construction of drains along existing roads: ₹40,00,000 2. Cost of construction of drains along as part of new road construction: ₹21,00,000 3. Construction of toilets: ₹24,00,000 4. Cost of construction of 200 soak pits: ₹11,00,000 <p><i>Total Cost: ₹96,00,000</i></p>	Cost of construction of toilets: ₹16,80,000	

28 Refer to HRVCA for specific location details

29 Refer to HRVCA for details

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 Pradhan Mantri Krishi Sinchai Yojana (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. CSR support can be utilised for installation of gravity based/solar powered RO water filtration system in GP.

Key Departments

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

2

Enhancing Green Spaces and Biodiversity



Context and Issues

- The GP does not have any demarcated forest land and has limited green areas.
- There are 4 private gardens with varieties of trees including of mahua, jamun, and mango. Other common trees in the GP include *neem*, *bel*, *kait*, *sheesham*, *ber*, etc.
- Due to frequent droughts between 2018-2022 and depletion of groundwater, fruit bearing trees have been drying up, and their growth affected³⁰.
- Plantation activities have been carried out in the form of social forestry under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Approximately 2,500 trees have been planted, covering an area of around 1 ha.

Bahadurpur Majhgawan Gram Panchayat has potential to enhance lung spaces, as it 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. Annual community-based plantation activities ³¹ through various initiatives: <ul style="list-style-type: none"> » Green Stewardship programme³² for students (10 students selected) 	1. Maintenance of existing plantations and nursery 2. Additional plantation of saplings with creation of <i>Bal Van</i> ³³	1. Plantation activities expanded and maintained- <i>Bal Van</i> and other plantations 2. Expanding area under agro-forestry initiative

³⁰ As reported in the field survey

³¹ Trees species listed in Annexure VI

³² School students will be engaged in planting trees and Student Leaders will be picked from each class who will motivate their fellows as well as the GP community to plant trees.

³³ New parents will be gifted with saplings of indigenous evergreen trees as a celebration of birth of their children and be encouraged to nurture the plants through their children's life

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ul style="list-style-type: none"> » Creation of a Food Forest by planting indigenous fruit trees 2. Development of Arogya Van – procurement and preparation of land, species selection and plantation of various medicinal herbs³⁴, shrubs and trees 3. Awareness and training sessions for students, youth and local communities on: <ul style="list-style-type: none"> » Importance of forest and green cover » How to plant and nurture trees » Appropriate tree species for plantation and its vulnerability 	<ul style="list-style-type: none"> 3. Farmers are encouraged to adopt agroforestry 4. <i>Arogya Van</i> is established 	<ul style="list-style-type: none"> 3. <i>Arogya Van</i> maintained and units for production of natural medicines and supplements established
	<ul style="list-style-type: none"> 1. 1,000 saplings of common and endangered trees to be planted and ensure at least 65% survival rate <p>(Sequestration potential: 5,600 tCO₂ to 10,000 tCO₂ in 15-20 years)</p>	<ul style="list-style-type: none"> 1. Another 1,000 to 1,500 saplings planted along roads, pathways and around water bodies in the GP <p>(Sequestration potential: 5,600 tCO₂ to 15,000 tCO₂ in 15-20 years)</p>	<ul style="list-style-type: none"> 1. Another 1,000 to 1,500 saplings planted <p>(Sequestration potential: 5,600 tCO₂ to 15,000 tCO₂ in 15-20 years)</p>
Target			

34 Suitable species are listed in Annexure VI

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Target	2. Around 0.2 ha of land allocated/demarcated to establish Arogya Van	2. <i>Arogya Van</i> established and maintained 3. Agroforestry adopted in ~87 ha land (40% of land suitable for agroforestry ³⁵), 8700 trees planted (Sequestration potential of teak: 48,720 tCO ₂ to 87,000 tCO ₂ in 20 years)	2. Agro-forestry adopted in the remaining land suitable for agroforestry i.e., ~130 ha land, 13000 trees planted (Sequestration potential of teak: 72,800 tCO ₂ to 1,30,000 tCO ₂ in 20 years) 3. <i>Arogya Van</i> maintained and production of natural medicines and supplements continues (as described in the ' <i>Enhancing livelihoods and green entrepreneurship</i> ' section)
Estimated Cost	Cost of tree plantation: ₹12,70,000	1. Cost of tree plantation: ₹12,70,000- ₹19,05,000 2. Cost of agroforestry: ₹34,80,000 <i>Total cost: ₹47,50,000 - ₹53,85,000</i>	1. Cost of tree plantation: ₹12,70,000- ₹19,05,000 2. Cost of agroforestry: ₹5,22,80,000 <i>Total cost: ₹5,35,50,000 - ₹5,41,85,000</i>

35 The agricultural land under wheat and potato (~217ha) is considered suitable for agroforestry.



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	<ol style="list-style-type: none"> 1. Participatory update of the People's Biodiversity Register 2. Build awareness amongst community and all stakeholders 	<ol style="list-style-type: none"> 1. Regular updating of People's Biodiversity Register 2. Enhancement in awareness amongst all stakeholders 	<ol style="list-style-type: none"> 1. Regular updating of People's Biodiversity Register 2. Enhancement in awareness amongst all stakeholders
Estimated Target	<ol style="list-style-type: none"> 1. Formation and capacity enhancement of the Biodiversity Management Committee (BMC) 2. Participatory update of the People's Biodiversity Register 	Participatory updation of People's Biodiversity Register	Participatory updation of People's Biodiversity Register continues
Estimated Cost	Formation of BMC and training cost ³⁶ : ₹25,000		

Existing Schemes and Programmes

- Plantation activities can be aligned and carried out through provisions under 'Trees Outside Forests in India's initiative by MoEFCC, Green India Mission, Jal Jeevan Mission and UP State Plantation Targets.
- Annual budgeting 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 ₹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,

³⁶ Guidelines for Operationalising Biodiversity Management Committees (BMCs), 2013, National Biodiversity Authority. <http://nbaindia.org/uploaded/pdf/Guidelines%20for%20BMC.pdf>

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 units 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
- Department of Rural Development
- Central Institute of Medicinal and Aromatic Plants, Lucknow

3 Sustainable Agriculture



Context and Issues

- The total area under agriculture in Bahadurpur Majhgawan is 697.5 ha and the gross cropped area is ~757 ha.
- 47 percent of the households in the GP depend on agriculture practices and 36 percent of the households depend on animal husbandry practices as a source of income.
- The major crops grown are potato (~217 ha), wheat (~215 ha), mustard (~179 ha), maize (~99 ha), paddy (~29 ha), and bajra (~18 ha) across *kharif* and *rabi* seasons.
- The GP has experienced 5 droughts annually between 2018 to 2022, typically during June-July, along with incidences of heatwave (between April and June) and cold waves (December), resulting in crop damage and fodder shortages³⁷.
- Agricultural water demand has increased as reported in the field surveys, stressing on the need for water conservation and improved irrigation techniques.
- The sowing time for paddy has shifted from the third week of June to the last week of July to due to insufficient rainfall and shifting rainfall patterns.
- In the years from 2018 to 2022, crop losses have been caused due to erratic rainfall, intense heat, droughts and hailstorms. The losses amount to around 2,603 quintals of produce or around ~₹52 lakhs (corroborated by prevailing MSP of the respective years).
- There have been annual occurrences of pest infestations between 2018 and 2022 in the GP.
- Consumption of urea (~580 tonnes per year) and other nitrogenous fertilizers leads to GHG emissions of ~550 tonnes CO₂e per year. The farmers also rely on other chemical inputs such as pesticides and weedicides. Natural farming is not practiced in Bahadurpur Majhgawan.
- There's a lack of information about Farmer Production Organizations (FPO) and similar groups under National Livelihood Mission. Furthermore, there is also absence of local markets and skill enterprises³⁸.
- The absence of agricultural advisory services and weather information/ alerts/ warnings system makes the community more vulnerable to extreme weather events.

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

³⁷ Based on inputs from community during field surveys

³⁸ As reported during the field survey



Building Climate Resilience

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
	Suggested Climate Smart Activities	<ol style="list-style-type: none"> Promotion and adoption of micro-irrigation practices like drip irrigation and sprinkler irrigation system Construction of bunds with trees around agricultural fields Construction of farm ponds Adoption of drought tolerant variety of rice and shift to dry direct seeded rice Farmers can grow pearl millet, sorghum, black gram, etc. (which have low water requirement) Creating awareness about various insurance programmes for farmers to protect them from crop loss Setting up of automatic/mini weather stations at strategic locations in the agricultural area monitoring station 	<ol style="list-style-type: none"> Extension of micro irrigation practices Extension of bunds Construction of additional farm ponds Initiatives on creating awareness and provide support to farmers to avail various insurance programmes for farmers to protect them crop loss	Expansion of micro irrigation practices Maintenance of bunds and tree plantation Additional tree plantation (as required) Constructing more farm ponds on the basis of requirement
Target		1. Micro-irrigation on ~65 ha (30%) agricultural land under potato cultivation	1. Micro irrigation on ~87 ha (additional 40%) of agricultural land under potato cultivation

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Target	2. Construction of bunds with trees around ~349 ha (50%) of agricultural land 3. Construction of 10 farm ponds of 300 m ³ capacity each 4. Setting up 1 mini weather monitoring station at a suitable location in the GP	2. Construction of bunds with trees around remaining ~349 ha (50%) of agricultural land 3. Construction of 10 farm ponds with 300 m ³ capacity	
Estimated Cost	1. Micro-irrigation: ₹65,00,000 2. Bund construction: ₹1,98,148 3. Farm ponds: ₹9,00,000 4. Cost of 1 mini weather station: ₹1,50,000 <i>Total cost: ₹76,60,482</i>	1. Micro-irrigation: ₹87,00,000 2. Bund construction: ₹1,98,148 3. Farm ponds: ₹9,00,000 <i>Total cost: ₹97,10,482</i>	Micro-irrigation: ₹65,10,000



Transition 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 organic fertilizers, bio-pesticides and bio-weedicides	1. Continuing the transition of agricultural land to natural farming (nursery, seed bank, certification mechanism & market linkages established)	Expanding transition from traditional agricultural practices to natural farming on 100% of agricultural land

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	2. Setting up and adoption of organic 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: <ul style="list-style-type: none"> » Importance of natural farming and drought tolerant crops » Techniques to adopt resilient cropping pattern » Sustainable irrigation methods » Certification systems » Market outreach and profitability 	2. Promotion and adoption of practices implemented in Phase I	
	Transitioning 105 ha (15 percent) of land to natural farming	Transitioning additional 175 ha (40 percent) of land to natural farming	Transitioning additional 419 ha (100 percent) of land of land to natural farming
Estimated Cost	1. Cost of trainings (one time): ₹60,000 2. Transition of land to natural farming: ₹2,58,71,370 Total Cost: ₹2,59,31,370	1. Cost of trainings (one time): ₹60,000 2. Transition of land to natural farming: ₹4,31,18,950 Total Cost: ₹4,91,18,950	1. Cost of trainings (one time): ₹60,000 2. Transition of land to natural farming: ₹10,34,85,480 Total Cost: ₹10,94,85,480



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	<ol style="list-style-type: none"> 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 <p>Refer to section '<i>Additional Recommendations</i>' for intervention on reducing methane emission from livestock.</p>	<ol style="list-style-type: none"> 1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement 	<ol style="list-style-type: none"> 1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement
Target	<ol style="list-style-type: none"> 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-vets³⁹ 	<ol style="list-style-type: none"> 1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock management 	<ol style="list-style-type: none"> 1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock management
Estimated Cost	Cost of workshop and para-vet training: As per requirement	Cost of workshop and para-vet training: As per requirement	Cost of workshop and para-vet training: 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.

³⁹ No. of community-based animal health workers trained to be based on requirement of the GP

- 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 Niyamtran Yojana*, and *Rashtriya Gokul Mission*.

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.
- 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 for 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 Bahadurpur Majhgawan can be carried out in collaboration with technical experts and institutes in the region, local NGOs, CSOs and corporates.

Key Departments

- Department of Agriculture, Cooperation and Farmer Welfare
- Department of Horticulture and Food Processing
- CIPM - Centre for Integrated Pest Management
- Fisheries Department
- Department of Land Resources
- Jal Shakti Department
- Agriculture Technology Management Agency (ATMA)
- Animal Husbandry Department
- Uttar Pradesh New & Renewable Energy Development Agency (UPNEDA)
- Regional Centres for Organic Farming
- Krishi Vigyan Kendra, Kannauj

4

Sustainable Solid Waste Management



Context and Issues

- The total waste generated⁴⁰ from all domestic activities (households, public and semi-public spaces, and commercial areas) in the GP is approximately ~1,088 kg per day, of which ~631 kg is biodegradable/organic waste and ~457 kg is non-biodegradable waste.
- There is a lack of waste collection, segregation, and effective waste treatment system in Bahadurpur Majhgawan leading to waste dumping in water bodies⁴¹. This results in pollution of water bodies.
- The large quantities of agricultural and animal waste are also adding to the waste management issues. The total livestock population of the GP is 1,550 (300 cows, 550 buffaloes, 700 goats) and the estimated dung output is roughly 13 tonnes per day⁴² which can be managed sustainably through interventions such as composting, natural fertilizer production and biogas generation in Bahadurpur Majhgawan.

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



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	<ol style="list-style-type: none"> 1. Electric vehicle and workers hired for collection and transportation of waste: 	<ol style="list-style-type: none"> 1. Maintenance of GP-level segregation and storage facility 	<ol style="list-style-type: none"> 1. Maintenance of GP-level segregation and storage facility 2. Maintenance of existing waste bins installed 3. Scaling up partnership beyond GP to other villages/districts

⁴⁰ See annexure IV for estimation methodology

⁴¹ As reported during the field surveys

⁴² Assuming cows produce 10 kg dung/day, buffaloes produce 15 kg dung/day and goats produce 150 g dung/day.

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
	Suggested Climate Smart Activities	<ul style="list-style-type: none"> » From households to GP-level storage and segregation facility – Resource Recovery Centre (RRC) » From GP to block-level plastic shredder facility <ol style="list-style-type: none"> 2. Installation of waste collection bins at strategic locations (Ration shops, markets, shops, tea stalls, etc.) 3. Setting up partnerships between Panchayat, SHGs, informal ragpickers, local scrap dealers, local businesses, and MSMEs 	<ol style="list-style-type: none"> 2. Maintenance of existing waste bins installed and additional installation of bins at new strategic locations, as per requirement 3. Scaling up partnership beyond GP to other villages/districts
Target	<ol style="list-style-type: none"> 1. Provision for 4 electric garbage vans (capacity 310 kg) to collect 1,088 kg of waste generated per day 2. 1,706 households (100%) covered under GP-level waste management system 3. Installation of 40 waste bins at strategic locations 	<ol style="list-style-type: none"> 1. Installation of additional 10 waste bins 2. Maintenance of existing facilities and waste management system 	Maintenance of existing facilities and waste management system
Estimated Cost	<ol style="list-style-type: none"> 1. Electric Garbage Van: ₹4,00,000 2. 40 waste bins/containers: ₹6,75,000 <p><i>Total cost: ₹10,75,000</i></p>	<p>10 waste bins/containers: ₹1,50,000</p> <p><i>Total cost: ₹1,50,000</i></p>	



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	<ol style="list-style-type: none"> 1. Construction of vermicompost pits 2. Partnership building between Panchayat and relevant stakeholders for setting up compost value chain in the GP 3. Establishing enterprises for production of organic fertilisers <i>(explained in detail in 'Enhancing Livelihoods & Green Entrepreneurship' section)</i> 	<ol style="list-style-type: none"> 1. Setting up of additional compost pits for treatment of biodegradable/organic waste 2. Regular maintenance of vermicompost pits 3. Scaling up partnership beyond GP to other villages/districts 	<ol style="list-style-type: none"> 1. Setting up of additional compost pits for treatment of biodegradable/organic waste 2. Regular maintenance of existing waste management infrastructure and system 3. Scaling up partnership beyond GP to other villages/districts
Target	<ol style="list-style-type: none"> 1. Construction of 20 vermicompost pits 2. Partnership model between panchayat, community members and farmer groups for: <ul style="list-style-type: none"> » Production and sale of compost » Sale of agricultural waste 	<ol style="list-style-type: none"> 1. As per requirement 2. Maintenance of compost pits 3. Scaling up partnership 	<ol style="list-style-type: none"> 1. As per requirement 2. Maintenance compost pits 3. Scaling up partnership
Estimated Cost	Cost of construction of vermicompost pits: ₹2,00,000 <i>Total cost: ₹2,00,000</i>	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. Awareness, training, and capacity-building programs for: <ul style="list-style-type: none"> » Village Water and Sanitation Committee (VWSC) » Students & youth groups » Community members & commercial establishments 2. Partnership model: explained in detail in 'Enhancing Livelihoods & Green Entrepreneurship' section	Awareness, training, and capacity-building programs enhanced	1. Awareness, training, and capacity-building programs carried out 2. Success of previous phases can be used as model to expand the initiative to nearby GPs
Target	1. Complete ban on Single Use Plastics (SUPs) 2. 50 women to be engaged in manufacturing plastic alternative products	1. Ban on SUPs upheld 2. Consumer-wide plastic use diminishes further as alternatives are available readily	1. Ban on SUPs upheld 2. Consumer-wide plastic use diminishes further as alternatives are available readily

Existing Schemes and Programmes

- MGNREGA can be tapped into for the construction of community-based composting facilities, waste collection and segregation pits; segregation and storage shed.
- The development of infrastructure and training and capacity building can be supported by initiatives under the Swachh Bharat (Gramin) Mission.

Other Sources of Finance

- CCSR funding and Panchayat-Private-Partnership (PPP) models can help to develop and operate infrastructure like plants, segregation yard, plastic-alternative enterprises, marketing, procurement of e-vehicles for waste transport, etc.
- Further, CSR support will be crucial in increasing awareness, training, and capacity building of all stakeholders involved in the production of alternative products for plastic, composting processes and to promote sustainable consumption behaviour at the individual level.

- GP's own resources, including ties and untied funds, can be utilised to develop the required infrastructure for waste management as per Swachh Bharat Mission – Gramin (SBM-G) guidelines.

Key Departments

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

5

Access to Clean, Sustainable, Affordable and Reliable Energy



Context and Issues

- Bahadurpur Majhgawan GP consumed around 9,69,133 units (kWh) of electricity in 2022-23. While 90% of the households in the GP have electricity connections, the power supply, as understood from the community members is not 24*7. As reported by the community during the field survey, the GP experiences ~6 hours of power cuts every day, on an average.
- Due to the power cuts, there are 4 diesel generators operating in the GP for power back-up which consume about ~5.4 kL of fuel annually.
- There are 69 diesel pumps which are used for irrigation and consume ~26 kL of fuel annually. Additionally, there 40 electric pumps are also used for irrigation.
- CFL (compact fluorescent) lights, other electrical fixtures and appliances with low efficiency are in use in homes and at public utilities. Additionally, the GP has expressed a need for additional street lights (135 streetlights).
- Cow dung and fuelwood is used for cooking in ~300 households. 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.

Based on the energy related concerns identified 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 Bahadurpur Majhgawan. The intent of the suggested activities is to ensure access to clean, sustainable, affordable and reliable energy for the communities in the GP. This would not only enhance their quality of life but also help to supplement incomes through productive use of energy.



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	<p>Installation of rooftop solar panels on PRI/government buildings</p> <p>(Panchayat Bhawan, Primary Schools, Upper Primary School, Government Ration Shop, Community Toilet, Resource Recovery Centre)</p>	<ol style="list-style-type: none"> 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
Target	<p>Solar rooftop capacity installed on:</p> <ul style="list-style-type: none"> » Primary School Bahadurpur: 325.16 sq. m rooftop area; ~5 kWp » Primary School Bhattpuri: 325.16 sq. m. rooftop area; ~5 kWp » Primary School Nagla Chhabar: 279 sq. m rooftop area; ~5 kWp » Primary School Nagla: 232 sq. m rooftop area; ~5 kWp » Primary School Nagla Pasha: 279 sq. m rooftop area; ~5 kWp » Upper Primary School Gadih: 353 sq. m rooftop area; ~5 kWp 	<ol style="list-style-type: none"> 1. Installation of solar panels on rooftops of ~535 pucca houses⁴³ (40% of pucca houses) <p>Solar rooftop capacity for pucca houses: ~130 sq. m.; 3 kWp</p> <p>Solar rooftop capacity installed in this phase: ~1,605 kWp</p> <p>Electricity generation potential: ~21,49,416 kWh⁴⁴ per year (~5,888 units per day)</p> <p>GHG emissions avoided: ~1,762 tCO₂e per year 2. Maintenance of solar rooftop installations </p>	<ol style="list-style-type: none"> 1. Installation of solar panels on rooftops of ~803 pucca houses (100% of pucca houses) <p>Solar rooftop capacity for pucca houses: ~130 sq. m.; 3 kWp</p> <p>Solar rooftop capacity installed in this phase: ~2,408 kWp</p> <p>Electricity generation potential: ~32,24,793 kWh⁴⁵ per year (~8,835 units per day)</p> <p>GHG emissions avoided: ~2,644 tCO₂e⁴⁶ per year 2. Maintenance of solar rooftop installations </p>

43 ~3 kWp rooftop installation estimated per household

44 This generation is twice the current electricity consumption for various purposes in the GP.

45 This generation is over 3 times the current electricity consumption for various purposes in the GP.

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

Target

- » Community toilet: 71 sq. m. rooftop area; ~4 kWp
- » Resource Recovery Center: 140 sq.m rooftop area; ~5 kWp
- » Aanganwadi (3 centres of ~130 sq.m rooftop area each): ~273 sq. ft. total rooftop area; ~ 3 kWp each (9 kWp total)
- » Gaushala: 167 sq.m rooftop area; ~5 kWp

Total Solar rooftop capacity installed in this phase: ~53 kWp**

Electricity generation potential: ~70,977 kWh per year (~194 units per day)
GHG emissions avoided: ~58 tCO₂e per year

In light of much needed and ambitious targets of the recently launched PM Surya Ghar Yojana, some households can also be part of if this phase of solar PV installation on rooftops.

Estimated Cost

Total Cost: ₹26,50,000

Cost: ~₹8.02 crore

Cost: ₹12.04 crore

Indicative Subsidy⁴⁷ : ~40% (State + CFA)

Indicative Subsidy: ~40% (State + CFA)

Effective cost: ₹3,21,00,000

Effective cost: ~₹4,81,00,000

⁴⁷ 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.



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 vegetable cultivation	Scaling up installation of agro-photovoltaic on area under vegetable cultivation
Target	Organising awareness campaigns and orientation sessions to encourage uptake of agro-photovoltaic initiatives amongst farmers	Installation of agro-photovoltaic on 2 ha of vegetable cultivation Capacity installed: 500 kWp (250 kWp per ha.) Electricity generated: 6,70,000 kWh per year; 1,835 units per day GHG emissions avoided: 549 tCO ₂ e per year	Installation of agro-photovoltaic on 2 ha of vegetable cultivation Capacity installed: 1000 kWp (500 kWp per ha.) Electricity generated: 13,40,000 kWh per year GHG emissions avoided: 1,098 tCO ₂ e per year
Estimated Cost	As per requirement	Total cost: ₹50,00,000 ⁴⁸	Total cost: ₹50,00,000



Solar Pump

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 35 (50%) diesel pump sets in the GP with solar pumps ⁴⁹ * * If solar pumps are not feasible then, energy efficient pumps (Kisan Urja Daksh Pumps by EESL) can be considered	Replacing existing 35 (100%) diesel pump sets in the GP with solar pumps	Solarisation of existing grid-connected electric pumps

48 With advancements in technology, the cost of agro-photovoltaic has been decreasing. 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 on land earmarked for horticulture and other similar crops. Hence, only a percentage of the land available under horticulture has been taken into consideration

49 Assuming diesel pump having 7.5 HP capacity

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Target	<p>Replacing 35 existing diesel pump sets with solar pumps</p> <p>Capacity installed: ~192.5 kW</p> <p>Electricity generation potential: ~2,57,796 kWh per year</p> <p>Diesel consumption avoided: 13,650 litres/year GHG Emissions avoided: 36.75 tCO₂e per year</p>	<p>Replacing 35 existing diesel pump sets with solar pumps</p> <p>Capacity installed: ~192.5 kW</p> <p>Electricity generation potential: ~2,57,796 kWh per year</p> <p>Diesel consumption avoided: 13,650 litres/year</p>	<p>Installation of agro-photovoltaic on 2 ha of vegetable cultivation</p> <p>Capacity installed: 1000 kWp (500 kWp per ha)</p> <p>Electricity generated: 13,40,000 kWh per year</p> <p>GHG emissions avoided: 1,098 tCO₂e per year</p>
Estimated Cost	Total cost: ₹1,40,00,000	Total cost: ₹1,40,00,000	Total cost: ₹1,20,00,000 – ₹1,60,00,000



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	<p>Scenario 1: Households biogas + LPG</p> <p>Scenario 2: Solar powered induction cookstoves + LPG</p> <p>Scenario 3: Solar powered induction cookstoves + improved <i>chulhas</i> + LPG</p>	<p>Scenario 1: Households biogas + LPG</p> <p>Scenario 2: Solar powered induction cookstoves + LPG</p> <p>Scenario 3: Solar powered induction cookstoves + improved <i>chulhas</i> + LPG</p>	<p>Scenario 1: Households biogas + LPG</p> <p>Scenario 2: Solar powered induction cookstoves + LPG</p> <p>Scenario 3: Solar powered induction cookstoves + improved <i>chulhas</i> + LPG</p>

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Target	<p>Scenario 1: 247 households use Biogas plants (25% households having cattle) + 1,459 households use LPG</p> <p>Scenario 2: 12 households use solar powered induction cookstoves (25% households in the top income groups) + 1,694 households use LPG</p> <p>Scenario 3: 12 households use solar powered induction cookstoves (25% households in the top income groups) + 75 households use improved <i>chulhas</i> (25% households that currently use biomass) + 1,619 households use LPG</p>	<p>Scenario 1: 247 additional households use Biogas plants (cumulative 50% of households) + 1,212 households use LPG</p> <p>Scenario 2: 12 additional households use solar powered induction cookstoves (additional 25% households in the top income groups) + 1,682 households use LPG</p> <p>Scenario 3: 12 additional households use solar powered induction cookstoves (additional 25% households in the top income groups) + 75 more households use improved <i>chulhas</i> (remaining 50% of households that currently use biomass) + 1,532 households use LPG</p>	<p>Scenario 1: Additional 494 households use Biogas plants (100% households having cattle) + 718 households use LPG</p> <p>Scenario 2: 24 additional households use solar powered induction cookstoves (100% of households in the top income groups) + 1,658 households use LPG</p> <p>Scenario 3: 24 additional households use solar powered induction cookstoves (100% of households in the top income groups) + 150 households already using improved <i>chulhas</i> (as in Phase II) + 1,358 households use LPG</p>
Estimated Cost	<p>Scenario 1: ₹1,23,50,000 for biogas plants (₹ 50,000 for 2 to 3 m³ biogas plant)</p> <p>Scenario 2: ₹5,40,000 for solar induction cookstove (Rs 45,000 for 1 double burner solar cookstove without battery)</p> <p>Scenario 3: ₹5,40,000 + ₹2,25,000 (1 improved <i>chulhas</i> @₹3,000)</p> <p><i>Average cost across scenarios: ~₹1,37,00,000</i></p>	<p>Scenario 1: ₹1,23,50,000 for biogas plants</p> <p>Scenario 2: ₹5,40,000 for solar induction cookstove</p> <p>Scenario 3: ₹5,40,000 + ₹2,25,000</p> <p><i>Average cost across scenarios: ~₹1,37,00,000</i></p>	<p>Scenario 1: ₹2,47,00,000 for biogas plants</p> <p>Scenario 2: ₹10,80,000 for solar induction cookstove</p> <p>Scenario 3: ₹10,80,000 + ₹4,50,000</p> <p><i>Average cost across scenarios: ₹2,62,00,000</i></p>



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	<ol style="list-style-type: none"> Replacing all light fixtures and fans with energy efficient fixtures in all PRI buildings Replacing at least 1 fluorescent tube light with LED tube light in each house of GP Residents must also be encouraged to upgrade other household appliances energy efficient appliances (4-5 star rated by BEE) 	<ol style="list-style-type: none"> Scaling up replacement of fluorescent tube lights in houses with LED tube lights Replacing 1 conventional fan in houses with energy efficient fan Residents must also be encouraged to upgrade other household appliances energy efficient appliances (4-5 star rated by BEE) 	Scaling up replacement of conventional fan in houses with energy efficient fans
Target	<ol style="list-style-type: none"> 100% replacement of existing fixtures with LED tube lights and energy efficient fans in all PRI/government buildings Replacing 665 existing CFL bulbs with LED bulbs in all houses ⁵⁰ (1 per household) and 230 tube lights with LED tube lights (1 per household) 	<ol style="list-style-type: none"> Replacing additional 75 CFL bulbs with LED bulbs (100% CFL bulbs replaced with LED bulbs) and 75 existing tube lights with LED tube lights in all houses (1 LED tube lights per household) Replacing ~1,706 energy efficient fans in all (100%) houses (1 in each household) 	Installing additional ~310 energy efficient fans in all (100%) houses (100% fans changed to energy efficient fans)
Estimated Cost	Cost of LED bulbs: ~₹46,550 Cost of LED tube lights: ₹50,600 <i>Total cost: ~₹97,150</i>	Cost of LED bulbs: ~₹5,250 Cost of LED tube lights: ~₹16,500 Cost of energy efficient fans: ₹18,93,660 <i>Total cost: ~ ₹19,15,410</i>	Cost of energy efficient fans: ~₹3,44,100 <i>Total cost: ~₹3,44,100</i>



Solar Streetlights⁵¹

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ol style="list-style-type: none"> 1. Converting existing CFL streetlights to solar LED streetlights 2. Install solar 68 LED streetlights along roads, public spaces and other key location 3. Installation of solar high-mast streetlights in key locations 4. Maintenance and repair of existing streetlights (as per requirement) 	<ol style="list-style-type: none"> 1. Installation of new solar LED streetlights 2. Additional solar LED high mast streetlights as per requirement 3. Maintenance and repair of existing streetlights (as per requirement) 	<ol style="list-style-type: none"> 1. Additional LED street lights converted to solar LED street lights 2. Maintenance and repair of existing streetlights (as per requirement)
Target	<ol style="list-style-type: none"> 1. Converting 5 existing CFL streetlights to solar LED streetlights 2. Install solar 68 LED streetlights along roads, public spaces and other key location 3. Installing 7 solar high mast streetlights 	<ol style="list-style-type: none"> 1. Installing additional 67 solar LED streetlights (as per requirement) 2. Installation of solar high mast street lights at strategic locations 	<ol style="list-style-type: none"> 1. Additional solar LED streetlight installations as per requirement 2. Additional high-mast solar LED streetlights as per requirement
Estimated Cost	<ol style="list-style-type: none"> 1. Cost of 68 Solar LED streetlights: ₹6,80,000 2. Cost of 7 high-mast solar LED streetlights: ₹3,50,000 <p><i>Total cost: ₹10,30,000</i></p>	<p>Cost of 67 Solar LED streetlights: ₹6,70,000</p> <p><i>Total cost: ₹6,70,000</i></p>	<p>As per requirement</p>

⁵¹ Based on inputs received from the GP during field surveys and further discussions with the Gram Pradhan

Existing Schemes and Programmes

- The Uttar Pradesh Solar Energy Policy, 2022⁵² provides:
 - a) Subsidy on solar installations in residential sector: from ₹15,000/kW to a maximum limit of ₹30,000/- per consumer over and above the Central Financial Assistance by MNRE.
 - b) Provision for solar installations in institutions in RESCO⁵³ mode by themselves or in consultation with UPNEDA with consultancy fee of 3% cost of the plant.
- Central Financial Assistance by MNRE through Grid Connected Solar Rooftop Programme
 - a) CFA up to 40 % 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% 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%.
 - b) For Group Housing Societies/Residential Welfare Associations (GHS/RWA) CFA will be limited to 20% 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 under the PM-Surya Ghar: Muft Bijli Yojana⁵⁴. 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% each per pump basis. Farmers will only need to pay an upfront cost of 10% 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% subsidy to farmers (70% 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 ₹50 lakh per megawatt in addition to subsidy being provided by Central government through MNRE's PM KUSUM Scheme.
- LED Street lighting projects in Gram Panchayats⁵⁵ :
 - 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 scheme⁵⁶ :
 - a) LED bulbs available at an affordable price of ₹10 per bulb.

52 https://invest.up.gov.in/wp-content/uploads/2023/02/Uttar_Pradesh_Solar_Energy_Policy_2022.pdf

53 Third party (RESCO mode) {Renewable Energy Supply Company}

54 <https://pmsuryaghar.gov.in/>

55 Street Lighting National Programme by EESL.

56 Gram Ujala scheme distributes One Crore LED bulbs in rural areas (Feb 2023), PIB. Link

- 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% 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'
 - b) 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% can be obtained for creation of infrastructure facility along the entire supply chain ⁵⁷for 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 ₹50.00 lakh per district for the period of 2020-21 to 2024-25 for setting up of cluster/community level biogas plants⁵⁸.
 - UP Bio-Energy Policy 2022⁵⁹ provides incentives for setting up CBG plants in addition to incentives available from Govt. of India under the GOBARDHAN scheme:
 - a) The incentive of ₹75 lakh/tonne to the maximum of ₹20 crore on setting up Compressed Biogas (CBG) Production Plant.
 - b) Exemption on development charges levied by development authorities.
 - c) Exemption of 100% Stamp duty and Electricity duty.
 - MNRE implemented the Waste to Energy (WTE) Programme under the umbrella of the National Bio-energy Programme:
 - a) The programme supports the setting up of plants for the generation of Biogas from urban, industrial, and agricultural waste.
 - b) Financial assistance available for Biogas generation is ₹0.25 crore per 12000 m³/day⁶⁰.

57 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

58 <https://invest.up.gov.in/bio-energy-enterprises-promotion-programme-2022/>

59 <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1883926>

60 <https://pib.gov.in/PressReleasePage.aspx?PRID=1896067>

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

6

Sustainable and Enhanced Mobility



Context and Issues

- Bahadurpur Majhgawan has a total of 1,122 internal combustion engine (ICE) vehicles; 930 two-wheelers, 106 cars, 10 jeeps, 13 Tata Magic/mini-trucks, 60 tractors, and 3 auto-rickshaws⁶¹.
- The total fuel consumed by the ICE vehicles is ~346 kilo litre (kL) of diesel and ~157 kL of petrol per annum. Overall, the fuel consumed in the transport sector has led to over ~961 tCO₂e emissions⁶².
- The field survey revealed that multiple roads within and outside the GP are affected by waterlogging and need to be elevated.

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



Enhancing Existing Road Infrastructure

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	<ol style="list-style-type: none"> 1. Elevation of roads within the GP 2. Road RCC/ Interlocking works 3. Repair works for any existing internal roads 	Maintenance of road infrastructure and repairs when necessary	Continued maintenance of road infrastructure and repairs if necessary

61 As per inputs received during field surveys

62 Based inputs from the community during field surveys

Target	Road elevation and RCC for 1.3 km interlocking for 800 m of internal roads	Regular and timely maintenance/repair of roads	Regular and timely maintenance/repair of roads
	Cost of road elevation: ~₹2,30,000	Cost as per requirement	Cost as per requirement
Estimated Cost	Road RCC/ Interlocking along with drainage structures (covered in Sustainable Solid Waste Management)		



Intermediate Public Transport

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
	Replacing 3 auto-rickshaws with e-autorickshaws	Adding more e-autorickshaws to fleet	Additional e-autorickshaws
Suggested Climate Smart Activities			
Target	Replace 3 auto-rickshaws with e-autorickshaws	Additional e-autorickshaws added to the fleet (as per requirement)	Additional e-autorickshaws added to the fleet (as per requirement)
Estimated Cost	Cost of one e-autorickshaw ⁶³ : ~ ₹3,00,000 Available subsidy: Up to ₹12,000 per vehicle <i>Effective Cost: ₹8,64,000</i> GHG emissions avoided ⁶⁴ : 1.8 tCO ₂ e	As per requirement	As per requirement

63 The cost of e-autorickshaws range from a band of ₹1,50,000 - ₹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.

64 GHG emissions avoided per auto estimated to be ~1.73 tCO₂e 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 negative

E-vehicles 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	<ol style="list-style-type: none"> Promote electric alternative of diesel tractors and goods transport vehicle Sensitising user groups (farmers/logistic owners/entrepreneurs) towards long term benefits of e-vehicles over ICE vehicles Establishing facility to hire e-tractors and e-goods vehicles 	<ol style="list-style-type: none"> Regular sensitisation of various groups about long-term advantages of e-vehicles, as well as the programs and schemes that are available for their benefit Maintenance & repair of existing e-goods carriers & e-tractors 	<ol style="list-style-type: none"> Regular sensitisation of various groups about long-term advantages of e-vehicles, as well as the programs and schemes that are available for their benefit Maintenance & repair of existing e-goods carriers & e-tractors
Target	Total 5 e-tractors and 5 e-goods carriers purchased	Additional e-vehicles and e-tractors procured if required	Additional e-vehicles and e-tractors procured if required
Estimated Cost	<ol style="list-style-type: none"> 5 e-tractors: ₹30,00,000 5 e-commercial vehicles: ₹25,00,000 – ₹50,00,000 <p>Total Cost: ₹55,00,000 – ₹85,00,00</p>	As per requirement	As per requirement

Existing Schemes and Programmes

- Road infrastructure can be repaired and enhanced 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 incentives⁶⁵ to buyers (one time) through dealers over a period of 1 year – E-Goods Carriers: @10% of ex-factory cost up to ₹ 1,00,000 per vehicle; 2-Wheeler EV: @15% of ex-factory cost up to ₹ 5000 per vehicle; 3-Wheeler EV: @15% of ex-factory cost up to ₹12,000 per vehicle.

⁶⁵ 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

- 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
- Department of Rural Development
- Uttar Pradesh New & Renewable Energy Development Agency (UPNEDA)

7

Enhancing Livelihoods and Green Entrepreneurship



Context and Issues

Agriculture and animal husbandry are the mainstay of the GP and more than 83 percent of the households are engaged in these activities. Both the sectors are fraught with livelihood insecurities, particularly due to the frequent droughts, changing climate and the current unsustainable production practices in animal husbandry. Thus, the livelihoods of a large fraction of the population are uncertain. Other key sources of income in the GP are agriculture based and/or running local businesses/shops. In the past 5 years nearly 300 people have migrated out of the GP in search for better livelihoods. This is a trend seen in most rural areas.

Presently, there 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:



Manufacturing & Selling Plastic-alternative Products

Suggested Climate Smart Activities

1. Engaging women and SHGs for manufacturing products from plastic-alternative materials (bags, home décor, cutlery, stationery items, furniture, etc.)
2. Capacity building for:
 - a. Diversification of product range
 - b. Marketing/selling of the products within & outside the GP

Target

Initial engagement of:

- a. 100 women
- b. 3 SHGs

Long-term engagement from this GP & nearby villages:

- a. Additional 200 women
- b. Additional SHGs, MSMEs & individual entrepreneurs



Composting & Selling of Organic Waste as Fertiliser

Suggested Climate Smart Activities

1. Partnership model between panchayat, community members, and farmer groups for the production & sale of compost
2. Capacity building of community members and farmer groups
 - a. Composting & vermicomposting techniques
 - b. Marketing & selling compost within & outside the GP

Target

Immediate target:

Compost/vermicompost generated from domestic waste (organic): 631 kg per day; ~18,900 kg per month (as per current waste generation)

Long-term target:

Scaling up compost/vermicompost generation as per organic waste generation (based on population growth)



Enhancing Last Mile Connectivity through Intermediate Public Transport (IPTs)

Suggested Climate Smart Activities

1. Expanding coverage of e-rickshaws for ensuring last-mile connectivity through utilisation of U.P. EV Policy 2022 and FAME-India Scheme phase-II
2. Commercial hiring (rental basis) of e-rickshaws presents green entrepreneurship opportunities for youth

Target

Immediate target:

10 e-rickshaws (Estimated cost: ₹1-₹2 lakh per E-rickshaw)

Mid-term target:

Additional 10 e-rickshaws



Facility to Hire E-goods Carriers and E-tractors

Suggested Climate Smart Activities

1. Commercial hiring (rental basis) of e-goods carriers & e-tractors presents green entrepreneurship opportunities through incentives under U.P. EV Policy 2022 and FAME-India Scheme phase-II
2. Sensitising user groups (farmers/logistic owners) towards the use of e-tractors & e-goods carriers

Target**Immediate target:**

1. 2 or 3 e-tractors (Estimated cost: ₹6 lakh per e-tractor)
2. 2 or 3 EV mini goods transport trucks (Estimated cost of mini goods EV transport truck: Approximately ₹9.2 lakhs)

Mid-term target:

Additional procurement of 2/3 e-tractors, 2/3 EV mini goods transport trucks
(Note: It is assumed that a 35 HP e-tractor is typically required in Chopan that costs around ₹6 lakhs)



Improving Livelihoods through Use of Solar Powered Cold Storage

Suggested Climate Smart Activities

1. Entrepreneurship opportunities through renting out of solar-powered cold storage space to smaller and medium farmers (within the GP & nearby villages) to minimise post-harvest losses
2. Business model/tie-up between entrepreneurs, farmer groups, cooperatives (like PARAS) and other institutional buyers for storage of fruits, vegetables, milk and milk products

Target

Setting up of cold storage with 5 to 10 MT capacity (~ ha gross cropped area under vegetable cultivation)

Cost: approx. ₹8 lakhs to ₹15 lakhs



Improving Livelihoods through Animal Husbandry and Sustainable Farming

Suggested Climate Smart Activities

1. Establishing community fodder banks: Encouraging farmers to cultivate improved varieties of fodder crops in participatory mode during the Kharif and Rabi cropping season. Surplus produce can be sold to the community fodder bank (to be stored as hay). The hay fodder can be utilised/sold as per requirement during periods shortage of forage.

A few potential fodder crops that can be grown include ⁶⁶:

- a. African tall (Maize)
- b. MP-Chari (Sorghum)
- c. Wardan (Barseem)
- d. JHO-822 (Oat)

This activity can be further supported by initiative on 'Solar-powered vertical fodder grow units' (See section 'List of Additional Projects for Consideration')

2. Planting fruit trees as an alternative source of livelihood
3. Promoting livelihoods in agriculture through the implementation of innovative agricultural techniques, cultivation of new crop varieties, and the adoption of organic farming methods

66 ICAR- Agricultural Technology Application Research Institute (ATARI), Kanpur, 2019. Available at <https://atarikanpur.icar.gov.in/img/publication11nov/NICRA%20Project.pdf>

Estimated Cost:

1. Cost of setting up fodder bank: As per requirement
2. Plantation of fruit trees: ₹2,50,000
3. Promoting innovative agricultural practices: ₹3,00,000



Arogya Van for Production & Sale of Natural Medicines and Supplements

1. Livelihood generation for communities through development and maintenance of Arogya Van for production of natural medicines & supplements
2. Partnering with Central Institute of Medicinal and Aromatic Plants, Lucknow for skill development & training

Around 0.1 ha of land to be established as Arogya Van



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

1. Training and capacity building of community members esp. graduates, youth groups and farmer groups for skill development in RE maintenance.
2. 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

- 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.
- 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.



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^{67,68,69}:

- 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 activities
- Water bodies and designed landscape (plantation/horticulture)

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

⁶⁷ https://selcofoundation.org/wp-content/uploads/2023/08/Compendium_Updated_20230922.pdf

⁶⁸ <https://www.opportunityindia.com/article/empowering-women-fpo-through-solar-power-ghummar-fpo-34521>

⁶⁹ <https://www.ecozensolutions.com/ecofrost/fpos-leverage-agri-infra-funds-for-ecofrost.html>

Case Example/Best Practice:

The Rajkumari Ratnavati Girl's School⁷⁰, 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), Chandigarh⁷¹

- 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- Maharashtra⁷²

- 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), support fodder preparations, and any other operations in the sheds. Excess power can be fed into the

⁷⁰ <https://www.avontuura.com/rajkumari-ratnavati-girls-school-diana-kellogg-architects/>

⁷¹ <https://peda.gov.in/solar-passive-complex>

⁷² <https://yraindia.org/wp-content/uploads/2019/12/RO-plant-Success-story-in-Village-Hiwara-HDB-project.pdf>

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^{73,74}

- 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 Campaign⁷⁵

- 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)⁷⁶” 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 Ahmedabad⁷⁷

- 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.”

73 <https://pscst.punjab.gov.in/en/climate-resilient-livestock-production-system>

74 <https://moef.gov.in/wp-content/uploads/2017/08/Punjab.pdf>

75 <https://jayshaktiengg.com/gujarat-government-launches-solar-scheme-for-farmers/>

76 <https://www.myscheme.gov.in/schemes/cssscspssc>

77 <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%⁷⁸ 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 Bihar⁷⁹

- 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.

⁷⁸ 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>)

⁷⁹ <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, Telangana⁸⁰

- 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)⁸¹

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.

⁸⁰ <https://wotr.org/2018/03/31/water-budgeting-in-telangana-the-need-and-the-objective-of-the-campaign/>

⁸¹ <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)⁸²

- 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 Pradesh⁸³

- 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




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

83 <https://www.apmas.org/pdf/csv/casestudy-1.pdf>

7




Linkages to Adaptation, Co-Benefits & Sustainable Development Goals

Management and Rejuvenation of Water Bodies



Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed ⁸⁴
a. Rainwater harvesting (RWH) structures 	<ul style="list-style-type: none"> 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 	<p>SDG 6: Clean Water and Sanitation</p> <ul style="list-style-type: none"> Target 6.1 Target 6.3 Target 6.4 Target 6.5 <p>SDG 11: Sustainable Cities and Communities</p> <ul style="list-style-type: none"> Target 11.4 <p>SDG 12: Ensure Sustainable Consumption and Production Patterns</p> <ul style="list-style-type: none"> Target 12.2 <p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.1 Target 13.2 <p>SDG 15: Life on Land</p> <ul style="list-style-type: none"> Target 15.1 Target 15.5 
b. Maintenance of water bodies 		
c. Improved Drainage and Sewerage Infrastructure 		





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

Enhancing Green Spaces and Biodiversity







Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Improving green cover</p> 	<ul style="list-style-type: none"> 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 	<p>SDG 11: Sustainable Cities and Communities</p> <ul style="list-style-type: none"> Target 11.7 Target 11.7 <p>SDG 12: Ensure Sustainable Consumption and Production Patterns</p> <ul style="list-style-type: none"> Target 12.2
<p>b. People's Biodiversity Register</p> 	<ul style="list-style-type: none"> Improved livestock productivity Revenue generation from agroforestry, production of natural medicines, etc. Improved environment and habitat for biodiversity, enhancing ecosystem health 	<p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.1 Target 13.2 Target 13.3 <p>SDG 15: Life on Land</p> <ul style="list-style-type: none"> Target 15.1 Target 13.2 Target 13.3 Target 13.5 Target 13.9 

Sustainable Agriculture







Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Building Climate Resilience in Agriculture</p> 	<ul style="list-style-type: none"> Increased agricultural productivity and profit Improved soil health Improved water quality due to reduced use of chemical inputs Improved agricultural water security Reduced losses and increased productivity of livestock during cold waves and heat waves Improved air quality and reduced emissions 	<p>SDG 2: Zero Hunger</p> <ul style="list-style-type: none"> Target 2.3 Target 2.4 Target 2.a; Article 10.3.e <p>SDG 6: Clean Water and Sanitation</p> <ul style="list-style-type: none"> Target 6.4 Target 13.1 

<p>b. Transition to natural farming</p> 	<ul style="list-style-type: none"> Improved water quality due to reduced use of chemical inputs Improved agricultural water security Reduced losses and increased productivity of livestock during cold waves and heat waves 	<p>SDG 12: Ensure Sustainable Consumption and Production Patterns</p> <ul style="list-style-type: none"> Target 12.2 <p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.2 Target 13.3  
<p>c. Sustainable livestock management</p> 	<ul style="list-style-type: none"> Improved air quality and reduced emissions 	

Sustainable Solid Waste Management





Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Establishing a waste management system</p> 	<p>a. Reduced waterlogging</p> <p>b. Reduction in water and land pollution/ improved sanitation</p>	<p>SDG 3: Good Health and Well being</p> <ul style="list-style-type: none"> Target 3.3 Target 3.9  <p>SDG 6: Clean Water and Sanitation</p> <ul style="list-style-type: none"> Target 6.3 Target 6.8 
<p>b. Management of organic waste</p> 	<p>c. Good health and a relatively disease-free environment due to 100% waste management and reduction in occurrence of public health risks and epidemics</p> <p>d. Livelihood and income generation</p> <p>e. Revenue and profit generation</p>	<p>SDG 8: Decent Work and Economic Growth</p> <ul style="list-style-type: none"> Target 8.3  <p>SDG 9: Industries, Innovation and Infrastructure</p> <ul style="list-style-type: none"> Target 9.1 
<p>c. Ban on single use plastics</p> 	<p>f. Enhanced inputs for sustainable agriculture</p>	<p>SDG 12: Ensure Sustainable Consumption and Production Patterns</p> <ul style="list-style-type: none"> Target 12.4 Target 12.5 Target 12.8  <p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.1 Target 13.2 Target 13.3  <p>SDG 15: Life on Land</p> <ul style="list-style-type: none"> Target 15.1 

Access to Clean, Sustainable, Affordable and Reliable Energy



Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Solar Rooftop Installation</p> 	<ul style="list-style-type: none"> 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 	<p>SDG 6: Clean Water and Sanitation</p> <ul style="list-style-type: none"> Target 6.4 <p>SDG 7: Affordable and Clean Energy</p> <ul style="list-style-type: none"> Target 7.1 Target 7.2 Target 7.3 Target 7.a Target 7.b <p>SDG 9: Industries, Innovation and Infrastructure</p> <ul style="list-style-type: none"> Target 9.1 <p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.2 Target 13.3
<p>b. Agro-photovoltaics</p> 		
<p>c. Solar Pumps</p> 		
<p>d. Clean Cooking</p> 		
<p>e. Energy Efficient Fixtures</p> 		
<p>f. Solar Streetlights</p> 		



Sustainable and Enhanced Mobility

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Enhancing the existing road infrastructure</p> 	<ul style="list-style-type: none"> 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 	<p>SDG 7: Affordable & Clean Energy</p> <ul style="list-style-type: none"> Target 7.2 <p>SDG 11: Sustainable Cities and Communities</p> <ul style="list-style-type: none"> Target 11.2 <p>SDG 9: Industries, Innovation and Infrastructure</p> <ul style="list-style-type: none"> Target 9.1 <p>SDG 13: Climate Action</p> <ul style="list-style-type: none"> Target 13.2 Target 13.3 
<p>b. Intermediate Public Transport</p> 		
<p>c. E-vehicles and E-tractors</p> 		

Enhancing Livelihoods and Green Entrepreneurship

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
<p>a. Engage already Existing SHGs in Manufacturing of Sustainable Products</p> 	<ul style="list-style-type: none"> 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 	<p>SDG 5: Achieve Gender Equality and Empower All Women and Girls</p> <ul style="list-style-type: none"> Target 5.5 

b. Composting and Selling of Organic Waste as Fertiliser



c. Enhancing last mile connectivity through Intermediate Public Transport (IPTs)



d. Facility to Hire E-goods Carriers and E-tractors



e. Improving Livelihoods through Use of Solar Powered Cold Storage



f. Improving livelihoods through animal husbandry and sustainable farming



g. Arogya Van for Production and Sale of Natural Medicines and Supplements



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



- 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 to improved human and ecosystem health
- Enhanced last-mile connectivity of goods and services
-
- Good health and a relatively disease-free environment due to 100% waste management and reduction in occurrence of public health risks and epidemics
- 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 to improved human and ecosystem health
- Enhanced last-mile connectivity of goods and services

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



The proposed recommendations on implementation will help to not only reduce Greenhouse Gas (GHG) emissions of Bahadurpur Majhgawan 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 Bahadurpur Majhgawan 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, Bahadurpur Majhgawan 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 the climate action both mitigation and adaptation into ongoing activities as envisaged in the Gram Panchayat development Plan supported under Central and State Schemes and mobilising 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 Bahadurpur Majhgawan 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.

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 districts⁸⁵ 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 Plan⁸⁶ for Bahadurpur Majhgawan 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 customised blueprint for mainstreaming climate action at the Gram Panchayat level. This in turn would strengthen localised 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 an 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

85 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, GoUPZ

86 This document comprises of the main Climate Smart Gram Panchayat Action Plan and includes the following as annexures: detailed methodology; filled questionnaire 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 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 organised 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 Bahadurpur Majhgawan 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 finalised and presented to the GP for endorsement.

Annexure II: Questionnaire



उत्तर प्रदेश क्लाइमेट स्मार्ट ग्राम पंचायत की सर्वे प्रश्नावली

ग्राम पंचायत: बहादुरपुर मझगवा विकास खण्ड: सौरिख जनपद: कन्नौज

I. गाँव की रूपरेखा

	विवरण	संख्या (सूचना का स्रोत- समुदाय के सदस्य)
1	राजस्व गाँव की संख्या	1
2	टोलों की संख्या	11
3	a कुल जनसंख्या	13600
	b कुल पुरुषों की जनसंख्या	7072
	c कुल महिलाओं की जनसंख्या	6528
	d विकलांगजन की जनसंख्या	67
	e कुल बच्चों की जनसंख्या	3700
	f वरिष्ठ नागरिक (60 वर्ष से अधिक आयु वर्ग)	379
4	कुल परिवार की संख्या	1387
a	गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार की संख्या	115
5	कुल भौगोलिक क्षेत्रफल	1034.882 hectare
6 a	साक्षरता दर	90%
7 a	पक्का घरों की संख्या	1131
b	कच्चा घरों की संख्या (मुख्य रूप से उपयोग की गई सामग्री का उल्लेख करें)	61 (खपरैल ,घास, फूस मिट्टी)





II. सामाजिक आर्थिक

8	ग्राम पंचायत में केवल कृषि (प्रकार) पर आश्रित परिवार	कुल परिवारों की संख्या	
	निजी भूमि/स्वयं की भूमि	1310	
	किराए की भूमि (हुण्डा)	71	
	अनुबंध खेती	Nill	
	दिहाड़ी मजदूर	332	
	अन्य व्यवस्था (रेहन, अधिया आदि)	400	
	अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में शामिल परिवार, उल्लेख करें)	45 (बीड़ी बनाने का काम करते हैं)	
9	ग्राम पंचायत में आय के स्रोत	कुल परिवारों की संख्या	
	सेवा क्षेत्र (उदाहरण: अध्यापन, बैंक, सरकारी नौकरी आदि)	306 परिवार	
	कुटीर उद्योग	4	
	कृषि	1310	
	कला/हस्तकला	20 (मिट्टी के बर्तन, तथा खिलौने बनाना)	
	पशुपालन	987	
	व्यवसाय (स्थानीय दुकान)	60	
	व्यवसाय/उद्यम	Nill	
	दैनिक/दिहाड़ी मजदूर (अकृषिगत)	20	
	अन्य	45 परिवार (फर्निचर, कपड़ा, रंगाई पुताई)	
10	पलायन	हां	हीं
	a क्या पिछले पांच वर्षों में आप के ग्राम पंचायत से ग्रामीणों ने पलायन किया है?	हां	<input type="checkbox"/>
	b पलायन करने वाले स्थान	पिछले पांच वर्षों में पलायन करने वाले परिवार/ व्यक्तिगत की संख्या	300
	अन्य गांव	-	पलायन के मुख्य कारण
	निकट के शहर	75 कन्नौज, हरदोई	कृषि उत्पादन में कमी, सूखा स्थानीय रोजगार का न होना
	राज्य के प्रमुख शहर	75 कानपुर, लखनऊ	आजीविका हेतु
	देश के प्रमुख महानगर	150 फरीदाबाद,सूरत,अहमदाबाद,नोएडा, दिल्ली	आजीविका हेतु
	c		



	क्या पिछले पांच वर्षों में आप के ग्राम पंचायत में परिवार/व्यक्ति ने प्रवास किए है?	<input type="checkbox"/>	नहीं
d	पिछले पांच वर्षों में आपके ग्राम पंचायत में कितने परिवार प्रवास किए हैं? मुख्य कारण स्पष्ट करें।		

11 महिलाओं की स्थिति		
a	महिला प्रमुख परिवारों की संख्या (आय का मुख्य स्रोत- महिला)	103 परिवार ऐसे है जिनमे महिला प्रमुख (पशुपालन गाय, भैंस, बकरी)
b	खेती में कार्यरत महिला	258
	निजी भूमि/स्वयं की भूमि	115
	किराएकी भूमि/हुण्डा	Null
	अनुबंध खेती	Null
	दिहाड़ी मजदूर	217
	अन्य व्यवस्था	Null
	अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में संलग्न महिलाएं, उल्लेख करें)	आधिकांश महिलाये खेती एवं पशुपालन से जुड़ी हुई है
c	नौकरी/अन्य क्षेत्र में कार्यरत महिलाएं	
	सेवा क्षेत्र (उदाहरण: अध्यापन, बैंक, सरकारी नौकरी आदि)	55
	कुटीर उद्योग	Null
	कृषि	40
	कला/हस्तकला	Null
	पशुपालन	20
	व्यवसाय (स्थानीय दुकान)	05
	दैनिक/दिहाड़ी मजदूर (अकृषिगत)	Null
	अन्य	20 (सिलाई मशीन)





12	स्वयं सहायता समूहों				
	स्वयं सहायता समूह का नाम	सदस्यों की संख्या	अपनायी गई गतिविधियाँ	वार्षिक बचत (₹0)	बैंकों से जुड़ाव/अजुड़ाव
1	भोले बाबा स्वयं सहायता समूह	10	दुकान / पशुपालन	1000	Ccl प्राप्त है
2	बाँके बिहारी स्वयं सहायता समूह	10	बकरी पालन/ दुकान	1000	Ccl प्राप्त है
3	श्री गणेश स्वयं सहायता समूह	12	खेती / पशुपालन	1200	Ccl प्राप्त है
4	जय गुरुदेव स्वयं सहायता समूह	10	पशुपालन	1000	Ccl प्राप्त है
5	जय बजरंग बली स्वयं सहायता समूह	10	दुकान	1000	Ccl प्राप्त है
6	जाय मा लक्ष्मी स्वयं सहायता समूह	10	दुकान / पशुपालन	1000	Ccl प्राप्त है
7	मा लक्ष्मी स्वयं सहायता समूह	10	बकरी पालन/ दुकान	1000	Ccl प्राप्त है
8	सरस्वती स्वयं सहायता समूह	11	खेती / पशुपालन	1100	Ccl प्राप्त है
9	कमल स्वयं सहायता समूह	12	E - रिक्शा/ दुकान, पशुपालन	1200	Ccl प्राप्त है
10	कुसुमा स्वयं सहायता समूह	12	बकरी पालन किया गया	1200	Ccl प्राप्त है
11	जय मा दुर्गे स्वयं सहायता समूह	11	परचून की दुकान किया गया/ खेती	1100	Ccl प्राप्त है
12	जय माता दी स्वयं सहायता समूह	10	बकरी पालन किया गया	1000	Ccl प्राप्त है
13	जय मा स्वयं सहायता समूह	10	परचून की दुकान किया गया	1200	Ccl प्राप्त है
14	जय गुरुदेव स्वयं सहायता समूह	10	बकरी पालन किया गया	1200	Ccl प्राप्त है
15	लक्ष्मी स्वयं सहायता समूह	10	भैंस पालन किया गया	1200	Ccl प्राप्त है
16	ओम शांती स्वयं सहायता समूह	10	बकरी पालन किया गया	1200	Ccl प्राप्त है



17	नारायण महोला स्वयं सहायता समूह	10	-	12 00	Ccl प्राप्त है
18	जय संतोषी स्वयं सहायता समूह	12	-	1440	Ccl प्राप्त है
19	जय माता स्वयं सहायता समूह	12	दुकान परचून की चलाई गयी	1440	Ccl प्राप्त है
20	कमल स्वयं सहायता समूह	12	-	1440	Ccl प्राप्त है
21	सरस्वती स्वयं सहायता समूह	11	-	1320	Ccl प्राप्त है
22	कुसमा स्वयं सहायता समूह	14	बकरी पालन किया	1440	Ccl प्राप्त है
23	माँ दुर्गे स्वयं सहायता समूह	12	-	1680	Ccl प्राप्त है
24	माँ लक्ष्मी स्वयं सहायता समूह	11	-	1320	Ccl प्राप्त है

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
1	Null	<input type="checkbox"/>				
2	Null	<input type="checkbox"/>				
3	Null	<input type="checkbox"/>				
4	Null	<input type="checkbox"/>				
5	Null	<input type="checkbox"/>				



14 अन्य समुदाय आधारितसंगठन /						
	सामाजिक संगठन / समितियों के नाम	क्या महिला प्रमुख संगठन / समिति हैं?	सदस्यों की संख्या	प्राप्त वार्षिक राजस्व / बचत	उत्पाद / सेवा	विपणन / लक्षित उपभोगकर्ता
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				
	Null	<input type="checkbox"/>				

15 योजनाएं							
	A	योजना के नाम	पंजीकृत लाभार्थी की संख्या	लाभ प्राप्त लाभार्थियों की संख्या	विगत वर्ष ग्राम पंचायत में प्राप्त कुल भगतान (रु०)	अन्य कोई बकाय T (रु०)	की गई गतिविधियाँ / कार्य
		मन्रेगा	1329	340	12,53,931		Interlocking नाली, खडंजा एवं कच्चा कार्य
		प्रधानमंत्री गरीब कल्याण अन्न योजना / एन.एफ.एस.ए.					
		प्रधानमंत्री उज्ज्वला योजना	187	187	गैस चुल्हा, सिलिंडर		
		प्रधानमंत्री कृषि सिंचाई योजना	1	1	सोलर पैनल		सिंचाई
		प्रधान मंत्री कुसुम योजना	—	—	—		
	B	अन्य योजनाएं	—	—	—		



	ग्राम उज्ज्वला योजना	—	—	—		
	ऊर्जा दक्षता योजना	—	—	—		
	प्रधानमंत्री रोजगार सृजन कार्यक्रम	—	—	—		
	प्रधानमंत्री आवास योजना	85	85	10200000		लाभार्थी का आवास बना है
	सार्वजनिक वितरण प्रणाली (पीओडीओएसओ)	4663 लाभान्वित जनसंख्या	4663 लाभान्वित जनसंख्या	Nil		5 से 35 kg राशन मिलता है
	कम्प्यूटर प्रशिक्षण कार्यक्रम	Nil				
	उत्तर प्रदेश कौशल विकास मिशन	Nil				
	राष्ट्रीय कौशल विकास योजना (RKVY)	Nil				
	मौसम आधारित फसल बीमा	Nil				
	प्रधानमंत्री फसल बीमा योजना (PMFBY)	Nil				
	मृदा स्वास्थ्य कार्ड	Nil				
	किसान क्रेडिट कार्ड	516	516			
	स्वच्छ भारत मिशन	14	14	168000		
	सौर सिंचाई पम्प योजना	1	1			लाभार्थी का सोलर पंप लगा है
	नई/नवीन भारतीय बायोगैस व कार्बनिक खाद कार्यक्रम					
	विकेन्द्रित अनाज क्रय केन्द्र योजना					
	गोवर्धन योजना					
	जल पुनर्भरण योजना					
	रेनवाटर हार्वेस्टिंग	1	1			ग्राम सचिवालय में है
	समन्वित वाटरशेड विकास कार्यक्रम					
	अन्य वाटरशेड विकास योजनाएं					



	अन्य (एक जिला-एक उत्पाद, मेक इन इण्डिया, अन्य)					
	उद्यमितता सहायतित योजनाएं आदि					

16	सक्रिय बैंक खाताधारकों की संख्या	4647 खाताधारक जो की सक्रिय है
17	ई-बैंकिंग/डिजीटल भुगतान एप/यू.पी.आई आदि से भुगतान करने वाले खाताधारकों की संख्या	587

8	निकट कृषि बाजार/क्रय केन्द्र/सरकारी केंद्र	क्या ग्राम पंचायत द्वारा बाजार/क्रय केन्द्र का उपयोग होता है	यदि नहीं, तो बाजार/केन्द्र का उपयोग क्यों नहीं किया जाता	उत्पादित फसल(कु0)	बिक्री हुई फसल (कु0)	ग्राम पंचायत से दूरी (यदि ग्राम पंचायत से दूर है) (कि0मी0)
		हां	नहीं			
1	कृषि उत्पादन मंडी छीबरामऊ	<input checked="" type="checkbox"/>		गेहूँ (4900)	2100	13 km
				मक्का (1300)	527	13 km

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 मुख्यकारण(स्वास्थ्य (1), पहुँच/उपलब्धता-(2), आर्थिक समस्या-(3), अन्य-(4) उल्लेख करें)	
A	प्राथमिक विद्यालय	1320 वर्ग फुट	525	Nil	-	



B	जू0 हाई स्कूल	2000 वर्ग फीट	134	-	nill	-
C	हाई स्कूल		<input checked="" type="checkbox"/>			
D	अन्य संस्थान		<input checked="" type="checkbox"/>			

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
	Nill				

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)
1	आगरा से लखनऊ	2	1 km	(1)



III. भूमि संसाधनों संबंधित सूचनाएं/जानकारी

22	वन भूमि का विवरण	
A	वन का क्षेत्र	Null
B	वन विभाग द्वारा अधिसूचित क्षेत्र	Null
C	सार्वजनिक उपयोग हेतु उपलब्ध वन क्षेत्र	Null
D	कितने क्षेत्र पर अतिक्रमण है?	Null
E	विगत पांच वर्षों में कोई वन उन्मूलन/वन कटाई की गतिविधियां	Null
F	अनुमानित वन उन्मूलन/वन कटाई का क्षेत्रफल (एकड़)	Null

23	अन्य भूमि का वर्गीकरण			
A	ग्राम पंचायत के पास ग्राम सभा की कितनी भूमि उपलब्ध है?	2 एकड़		
B	कितनी भूमि पर अतिक्रमण है? (एकड़)	2 एकड़		
C	ग्राम पंचायत में खनन गतिविधियां	हां <input type="checkbox"/>	नहीं <input checked="" type="checkbox"/>	आच्छादित क्षेत्रफल
	खनन के प्रकार बालू खनन 1, खनिज खनन—(उल्लेख करें) 2, अन्य (उल्लेख करें) 3	Null		
	अतिरिक्त सूचनाएं	Null		

24	जल निकाय क्षेत्र		
	विवरण	हां	नहीं
A	क्या आप के ग्राम पंचायत में जल निकाय क्षेत्र है?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B	ग्राम पंचायत में कुल जल निकाय क्षेत्रों की संख्या	25 (तालाब, छोटे नाला)	
C	क्या जल निकाय क्षेत्र में अतिक्रमण है?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D	जल निकाय क्षेत्र में अतिक्रमण कब से है?	8 वर्षों से	
E	क्या जल निकाय क्षेत्र के आस-पास के भूमि पर अतिक्रमण किया गया है?	हां	



25		जल आपूर्ति
a	ग्राम पंचायतमें घरों हेतु जल आपूर्ति का मुख्य स्रोत क्या है? नहर (1) वर्षा जल—(2) भूमिगत जल—(3) तालाब/झील—(4) अन्य— (5)	(3) भूमिगत जल, (5) submersible
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) कूआ (7) अन्य (8), उल्लेखित करें। अगर 4 है, तो कितनी दूर से लाया जा रहा है?	5, 8 (Summersible)
d	कितने घरों में जलापूर्ति पाइप से है?	ग्राम पंचायत में पानी की टंकी नहीं है
e	क्या पानी का बहाव/प्रवाह दर कम, अधिक या संतोषजनक है?	Null
f	पाइप जलापूर्ति की नियमितता 24×7 घण्टे(1) काफी नियमित (2) अनियमित (3)	Null
g	ग्राम पंचायत में कृषि सिंचाई हेतु जल आपूर्ति का मुख्य स्रोत क्या है? नहर (1) वर्षा जल (2) भूमिगत जल – (नलकूप (3A), कूआ (3B))	(2)वर्षा जल, (4)तालाब, (7) व्यक्तिगत बोर



	तालाब / झील (4) पानी टैंक (5) नदी (6) अन्य (7)	
h	क्या उपरोक्त जल आपूर्ति स्रोत मौसमी या बारहमासी है?	वर्षा मौसमी है एवं व्यक्तिगत बोरिंग का प्रयोग जरूरत के अनुसार बारहमासी है।
i	क्या जलापूर्ति का बहाव/प्रवाह दर कम/अधिक या संतोषजनक है?	प्रवाह दर कम
j	अतिरिक्त जानकारी (उदाहरण : क्या घरेलू, कृषि व संबंधित गतिविधियों, उद्योगों आदि के लिए जल आपूर्ति पर्याप्त है) क्या विगत वर्षों में भूजल, नदी या नहर से जल की उपलब्धता बढ़ी/घटी या सूख गया? क्या सूखे या गर्मी के मौसम में पानी की टंकियों का उपयोग बढ़ जाता है?	जलापूर्ति अपर्याप्त है, इसके साथ ही जल की उपलब्धता घटी है



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
		हा		
C	दिनों की संख्या	20 दिन		
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
		<input type="checkbox"/>	हा	<input type="checkbox"/>
C	दिनों की संख्या		25	
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
		<input type="checkbox"/>	हा	<input type="checkbox"/>
C	दिनों की संख्या		30	
D	अन्य सूचनाएं (मानसून माह में कोई परिवर्तन)	देर से आया		
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
		हां		<input type="checkbox"/>
B	ग्रीष्म ऋतु की वर्षा में देखे गये परिवर्तन	वर्षा दिनों में वृद्धि	वर्षा दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
		<input type="checkbox"/>	हा	<input type="checkbox"/>
C	दिनों की संख्या		15-20	
D	शरद ऋतु की वर्षा में देखे गये परिवर्तन	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं



		<input type="checkbox"/>	हां	<input type="checkbox"/>
E	दिनों की संख्या		5-7	
F	अन्य सूचनाएं/जानकारी			



चरम मौसम की घटनाएं

30 सूखा						
a	सूखे की घटना	प्रथम वर्ष (2022) ✓ <input type="checkbox"/>	द्वितीय वर्ष (2021) ✓ <input type="checkbox"/>	तृतीय वर्ष (2020) ✓ <input type="checkbox"/>	चतुर्थ वर्ष (2019) ✓ <input type="checkbox"/>	पंचम वर्ष (2018) ✓ <input type="checkbox"/>
b	किस माह में सूखा देखा गया	जून, जुलाई	जुलाई, अगस्त	जून, जुलाई	जून, जुलाई	जून, जुलाई
c	सूखे का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता, कुएं खोदा आदि)	घरेलू स्तर पर प्रबन्धन <input checked="" type="checkbox"/> ग्राम पंचायत में अभी घरेलू स्तर पर कोई ऐसा प्रबंधन नहीं किया जा रहा है			कृषि स्तर पर प्रबन्धन (कम पानी वाली फसलों का उत्पादन करना जैसे धान की जगह मूँगफली का क्षेत्रफल बढ़ाया गया)	
d	सूखे की आवृत्ति : सूखे की घटना (पिछले पांच वर्षों में)	वृद्धि हा	कमी <input type="checkbox"/>	कोई परिवर्तन नहीं <input type="checkbox"/>		
e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना-1, स्वास्थ्य पर प्रभाव-2	1 - 1975 में सूखे की वजह से आगजनी हुई थी				
31 बाढ़						
	बाढ़ की घटना नहीं	प्रथम वर्ष (2022) <input type="checkbox"/>	द्वितीय वर्ष (2021) <input type="checkbox"/>	तृतीय वर्ष (2020) <input type="checkbox"/>	चतुर्थ वर्ष (2019) <input type="checkbox"/>	पंचम वर्ष (2018) <input type="checkbox"/>
b	किस माह में बाढ़ देखा गया	Null	Null	Null	Null	Null
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 <input type="checkbox"/>	कमी <input type="checkbox"/>	कोई परिवर्तन नहीं <input type="checkbox"/>		
e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना-1, स्वास्थ्य पर प्रभाव-2					
32 भूस्खलन						
a	भूस्खलन की घटना नहीं होती है।	प्रथम वर्ष (2022) <input type="checkbox"/>	द्वितीय वर्ष (2021) <input type="checkbox"/>	तृतीय वर्ष (2020) <input type="checkbox"/>	चतुर्थ वर्ष (2019) <input type="checkbox"/>	पंचम वर्ष (2018) <input type="checkbox"/>
b	किस माह में भूस्खलन देखी गई	Null	Null	Null	Null	Null



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		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना-1, स्वास्थ्य पर प्रभाव-2					
33 ओलावृष्टि						
a	ओलावृष्टि की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	किस माह में ओलावृष्टि हुई	फरवरी	फरवरी	मार्च	Null	अप्रैल
c	ओलावृष्टि का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	सरकारी सहायता			कृषि स्तर पर प्रबन्धन	
d	ओलावृष्टि की आवृत्ति : ओलावृष्टि की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
		हा	<input type="checkbox"/>	<input type="checkbox"/>		
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)
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	किस माह में कीट/बीमारी को देखा गया?	दिसम्बर-जनवरी, फरवरी मार्च	दिसम्बर-जनवरी, फरवरी मार्च	दिसम्बर-जनवरी, फरवरी मार्च	दिसम्बर-जनवरी, फरवरी मार्च	दिसम्बर-जनवरी, फरवरी मार्च
b	किस माह में कीट/बीमारी को देखा गया?	आलू में झुलसा रोग सरसों में माहू कीट	गेंहू में पीला रतुवा रोग	मूंगफली में माहू कीट	आलू में झुलसा रोग सरसों में माहू कीट	गेंहू में पीला रतुवा रोग
c	कीट/बीमारी का प्रबन्धन कैसे किया गया? (सरकारी सहायता, निजी सहायता आदि)	निजी सहायता (कीटों एवं रोगों की रोकथाम हेतु कीटनाशकों, रोगनाशकों का उपयोग करते हैं)				
d	कीट/बीमारी की आवृत्ति : कीट बीमारी का घटनाक्रम (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
		हा	<input type="checkbox"/>	<input type="checkbox"/>		
	अतिरिक्त जानकारी/सूचनाएं					

35	ग्राम पंचायत में आपदा की तैयारी
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	ग्राम पंचायत स्तर पर क्या आपदा प्रबन्धन/तैयारी के उपाय उपलब्ध है?	क्या ग्रामीणों तक इसकी पहुँच/उपलब्धता है?	
		हां	नहीं
आपदा तैयारी के उपाय		हां	नहीं
ग्राम आपदा प्रबन्धन योजना	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ग्राम आपदा प्रबन्धन समिति	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
पूर्व चेतावनी प्रणाली/मौसमी चेतावनी प्रणाली/कृषि चेतावनी प्रणाली	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
आपातकाल अनाज बैंक	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
अन्य	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

36		अनाज भण्डारण	
a	ग्राम पंचायत के आपातकालिन खाद्य/अनाज बैंक में किस प्रकार का भोजन भण्डारित किया जाता है?		
	अनाज (विवरण दें)	<input checked="" type="checkbox"/>	
	तेल	<input checked="" type="checkbox"/>	
	चेनी	<input checked="" type="checkbox"/>	
	अन्य खाद्य पदार्थ – उल्लेख करें	<input checked="" type="checkbox"/>	
b	क्या ग्राम पंचायत में शीतगृह है, अगर है तो उसकी क्षमता क्या है?	<input checked="" type="checkbox"/>	

37		ग्राम पंचायत में मौसम की चेतावनी, पूर्व चेतावनी प्रणाली, कृषि आधारित चेतावनी के लिए उपलब्ध जानकारी के स्रोत	
	स्थानीय कृषि अधिकारी	<input checked="" type="checkbox"/>	
	समाचार पत्र/समाचार/रेडियो	<input checked="" type="checkbox"/>	
	मोबाईल फोन/एप	<input checked="" type="checkbox"/>	
	मौखिक	<input checked="" type="checkbox"/>	
	कृषि विज्ञान केन्द्र/कृषि ज्ञान केन्द्र	<input checked="" type="checkbox"/>	
	पशुपालन विभाग	<input checked="" type="checkbox"/>	
	उद्यान विभाग	<input checked="" type="checkbox"/>	
	अन्य	<input checked="" type="checkbox"/>	



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 स्वरूप आय में हानि (औसत रु०)
	प्रथम वर्ष (2022)	(1)	धान	गर्मी	750 कुन्तल	1500000
	द्वितीय वर्ष (2021)	(2)	गेहूँ , सरसों	ओलावृष्टि,	400 कुन्तल 25 कुन्तल	910750
	तृतीय वर्ष (2020)	(1)	धान	सूखा	640 कुन्तल	1200000
	चतुर्थ वर्ष (2019)	(2)	गेहूँ	ओला वृष्टि एवं असमय बारिश	340 कुन्तल	680000
	पंचवां वर्ष (2018)	(1)	धान	सूखा	448 कुन्तल	896000
b	क्या आप फसल बीमा के बारे में जानते हैं?	हां	नहीं			
		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
	अतिरिक्त जानकारी (फसल बीमा के लाभार्थी— बड़े किसान, लघु एवं सीमान्त किसान आदि) फसल बीमा लाभार्थी का संतुष्टि स्तर क्या है?	न के बराबर है फसल बीमा लाभार्थी का संतुष्टि स्तर सामान्य है`				



39 फसल पद्धति में बदलाव					
A	सामान्य फसल	खरीफ धान	रबी गेंहूँ, सरसों, आलू	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
	धान	जून का तीसरा सप्ताह, जुलाई के प्रथम सप्ताह	हां	जुलाई के अंतिम सप्ताह	वर्षा न होने के कारण
	गेंहूँ	नवंबर के दूसरे सप्ताह	कोई परिवर्तन नहीं हुआ		
	सरसों	October	कोई परिवर्तन नहीं हुआ		
c	अन्य सूचना / जानकारी (विलुप्त फसल / प्रजाति आदि उल्लेख करें)	मोटे आनाज की फसले (ज्वार, बाजरा, मक्का)			

40 सिंचाई प्रणाली / पद्धति में परिवर्तन					
a	फसल का नाम	वर्तमान में सिंचाई पद्धति का उपयोगफव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)	वर्तमान में उपयोग किए गए पानी की मात्रा (रूपया / एकड़)	पूर्व में सिंचाई पद्धति का उपयोगफव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)	पूर्व में उपयोग किए गए पानी की मात्रा (रूपया / एकड़)
	धान	(6) डीजल पंप सेट/समर सिबल	2500	(6) वर्षा आधारित/पंप सेट	1000



	गेहूँ	(4)वर्षा आधारित पानी/ (6)समर सिबल	1500	(6) वर्षा आधारित/तालाबो से	400	
b	ग्राम पंचायत में सिंचाई हेतु पम्पों की संख्या	डीजल आधारित	विद्युत आधारित	सौर पम्प	पारम्परिक सिंचाई विधियां	
		4	40	1	तालाब, वर्षा	नाला
c	अन्य सूचनाएं/जानकारी अगर कोई है	4 Government tubewell				
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)		(1), (6) बकरी पालन			
b	डेयरी पर प्रभाव	पशु हानि गाय (1) भैंस (2) अन्य (3)बकरी, मुर्गी	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? वृद्धि (1) कमी (2) परिवर्तन नहीं (3)
	प्रथम वर्ष (2022)	1,2,3	गाय- 13 भैंस - 18 बकरी - 53	रोग, आयु	बरसात एवं सर्दी के दिनों में	(2)
	द्वितीय वर्ष(2021)	3	50 (बकरी)	रोग	बरसात के दिनों में	(2)
	तृतीय वर्ष (2020)	1,2,3	गाय-9 भैंस - 14 बकरी -46	रोग, आयु, दुर्घटना	लगभग हर मौसम मे पर ज्यादातर सर्दियों मे	(2)
	चतुर्थ वर्ष(2019)	1,2,3	गाय- 21 भैंस - 19 बकरी - 57	रोग, आयु, दुर्घटना	लगभग हर मौसम मे पर ज्यादातर सर्दियों मे	(2)



	पंचम वर्ष(2018))	1,2,3	गाय- 26 भैंस - 23 बकरी - 44	रोग, आयु, दुर्घटना	लगभग हर मौसम मे पर ज्यादातर सर्दियों मे	(2)
	अन्य जानकारी / सूचनाएं	Nill				
c	मुर्गी पालन पर प्रभाव	पक्षी हानि मुर्गी (1) बत्ताख (2) अन्य (3)	पक्षी हानि की संख्या (प्रत्येक पक्षी का उल्लेख करें)	हानि के कारण	हानि के मौसम / ऋ तु	उत्पादकता में कोई परिवर्तन पाया गया है? वृद्धि (1) कमी (2) परिवर्तन नहीं (3)
	प्रथम वर्ष (2022)	मुर्गी (1)	23	ज्यादातर रोग के कारण	हर मौसम मे	(2)
	द्वितीय वर्ष(2021)	मुर्गी (1))	28	ज्यादातर रोग के कारण	हर मौसम मे	(2)
	तृतीय वर्ष (2020)	मुर्गी (1)	19	ज्यादातर रोग के कारण	हर मौसम मे	(2)
	चतुर्थ वर्ष(2019)	मुर्गी (1)	26	ज्यादातर रोग के कारण ज्यादातर रोग के कारण	हर मौसम मे	(2)
	पंचम वर्ष(2018))	मुर्गी (1)	29	ज्यादातर रोग के कारण	हर मौसम मे	(2)
	अन्य जानकारी / सूचनाएं	Nill				
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)	NILL				
	द्वितीय वर्ष(2021)	NILL				
	तृतीय वर्ष (2020)	NILL				
	चतुर्थ वर्ष(2019)	NILL				



1. कृषि व पशुपालन

प्रमुख उगाई जाने वाले फसलें व सम्बन्धित सूचनाएं/जानकारी		कीटनाशक उपयोग					खरपतवारनाशी				
फसल (अनाज, तिलहन, दलहन, उद्यान एवं फूल आदि)	ऋतु/मौसम	उपज (कु0)	उर्वरक के प्रकार	उर्वरक उपयोग औसत प्रयुक्त मात्रा (किग्रा0/एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये उर्वरकों की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नहीं 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 नाशी 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)
धान	गर्मी	18-20	यूरिया, जिंक, सल्फर (रासायनिक उर्वरक)	50 kg 50 kg 50 kg	(1)	क्राटे (कीटनाशक), diathanem-45	250 gm /acre 250 gm /acre	(1)	2-4D,	250 ml / (एकड़)	(1)
गेंहूँ	सर्दी	16-20	यूरिया, डाई (रासायनिक उर्वरक)	100 केजी 50 केजी	(1)	क्राटे (कीटनाशक)फ्यू राडान, फास्ट 10	200 ml/acre ,200 gm /acre	(1)	2-4D,	250 ml / (एकड़)	(1)
क्या ग्राम पंचायत में फसल अवशेष जलाये जाते हैं	हां <input checked="" type="checkbox"/>	नहीं <input type="checkbox"/>	जलाये गये खेतों का कुल क्षेत्रफल (एकड़)	क्या यह फसल अवशेष पूर्व में जलाये जाते थे	अगर नहीं तो, कब से जलाना आरम्भ किया	क्या फसल अवशेष प्रबन्धन की योजनाओं को जानते/जागरूक है?					



हां			90	नहीं	5 वर्षों से	नहीं
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43 जैविक खेती सम्बन्धित गतिविधियां					
	फसल	क्षेत्रफल	प्रति फसल आय (रु0 / कुन्तल)	बिक्री हेतु बाजार	तृतीय पक्ष द्वारा प्रमाणित / सत्यापित
	Nil				
	Nil				
	Nil				
	Nil				
	Nil				
	Nil				

44 अन्य स्थाई खेती सम्बन्धी गतिविधियां (जैसे शून्य/जीरो बजट प्राकृतिक खेती)				
	फसल	स्थायी गतिविधियां (शून्य जुताई, मल्लिचंग, फसल चक्र, अन्तःफसलें, वर्मी कम्पोस्ट, कम्पोस्ट, मिश्रित फसले, प्राकृतिक कीट प्रबन्धन, जैव पदार्थ में वृद्धि आदि)	क्षेत्रफल (एकड़)	प्रति फसल प्राप्त आय (रुपया)
	Nil			
	Nil			
	Nil			
	Nil			
	Nil			



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
सामाजिक वानिकी	1 acre	तालाब के चारों तरफ	(4) मनरेगा के अंतर्गत 2500 पौधे गड़दे खोदकर लगाए गए	मिश्रित प्रजाति (2)	सागौन, आम, नींबू, अमरूद, नीम, जामुन	2 वर्ष पूर्व	48%	अभी तक लोग को अवसर नहीं मिल है	(2)	(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 प्रति वर्ष	
गाय (देशी नस्ल)	100	पशु आहार एवं चराई	6000/-	
गाय (संकर नस्ल)	200	पोषण पूरक अर्थात् पशुआहार,	2000/-	
भैंस (देशी नस्ल)	450	पशुआहार, खुले में चराई	22000 रुपये/वार्षिक सिर्फ दुग्ध उत्पादन के माध्यम से	
भैंस (संकर नस्ल)	100	पोषण पूरक अर्थात् पशुआहार,	25000 रुपये/वार्षिक सिर्फ दुग्ध उत्पादन के माध्यम से	
बकरी	700	पशुआहार, खुले में चराई	6000 रुपये/वार्षिक	
सुअर				
मुर्गी	100	पशुआहार	900-1000 रुपये/वार्षिक	
मत्स्य				
अन्य				

VI. स्वच्छता एवं स्वास्थ्य

47 जल की गुणवत्ता (पियजल या नल जल से आपूर्ति परिवार)							
a	आपूर्ति किये जाने वाले पानी की गुणवत्ता कैसी है?	उपयुक्त	अनुपयुक्त				
		<input checked="" type="checkbox"/>	<input type="checkbox"/>				
b	जल का स्वाद कैसा लगता है?	तीक्ष्ण	नमकीन	सामान्य			
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
c	आपूर्ति होने वाले जल में सामान्यतः दूषित पदार्थ क्या हैं?	नमकीन	गन्दा	मटमैला	बालू/कीचड़	गन्ध	कुछ नहीं
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



d	जल को शुद्ध करने के लिए आप किस विधि का प्रयोग करते हैं?	उबालकर	जल शोधक	आयोडीन/ फिटकरी मिलाकर	सौर शुद्धीकरण	क्ले वेसल फिल्ट्रेशन	अन्य, (कृपया उल्लेख करें)
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> क्लोरीन

48 ठोस अपशिष्ट उत्पादन/अपशिष्ट प्रबन्धन							
a	अपने घर में प्रतिदिन उत्पन्न होने वाला अपशिष्ट पदार्थ/कचरा	सब्जी का छिलका, सूखा कचरा (1-1.5 केजी)					
b	आपके ग्राम पंचायत में अपशिष्ट पदार्थ/कचरा कैसे इकट्ठा किया जाता है?	वाहन द्वारा					
c	कचरा संग्रह कितनी बार होता है?	<input type="checkbox"/> प्रतिदिन	<input checked="" type="checkbox"/> साप्ताहिक	<input type="checkbox"/> 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ग्राम पंचायत से दूरी/ग्राम पंचायत में अवस्थिति - (800 मीटर) कटघर रोड पर ठोस अपविस्ट प्रबंधन कचरा घर बहादुरपुर में			
e	क्या आपके ग्राम पंचायत क्षेत्र में सामान्य कूड़ेदान रखे गये हैं?	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
f	क्या आप कचरे को सूखे और गीले कचरे की श्रेणी में बांटते हैं?	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
g	आप गृह स्तर पर कचरे का उपचार कैसे करते हैं?	पुनःचक्रमण	कम्पोटिंग	वर्मी कम्पोस्ट	अपशिष्ट	जलाना	अन्य (उल्लेखित करें)
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	नहीं करते हैं।

49 खुले में शौच मुक्त स्थिति			
a	क्या आपका गांव खुले में शौच मुक्त घोषित है?	<input checked="" type="checkbox"/> हां	<input type="checkbox"/> नहीं
b	स्वयं के शौचालय वाले परिवारों की संख्या	1476	<input type="checkbox"/>



c	सामुदायिक शौचालय/इज्जत घर की संख्या	1	<input type="checkbox"/>	प्रमुख स्थान-मझगवां
d	क्या शौचालय का उपयोग किया जा रहा है?	हाँ		
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	उत्पन्न अपशिष्ट जल की मात्रा (अनुमानित लीटर प्रतिदिन)	20000 ली.				
c	गांव में किया गया अपशिष्ट जल उपचार, यदि कोई है तो-	नहीं				
d	अपशिष्ट जल पुनःचक्रण या पुनः उपयोग की गतिविधि, यदि कोई है तो-	नहीं				

51	स्वास्थ्य देखभाल की सुविधा			
	स्वास्थ्य केन्द्र की उपलब्धता	हां	नहीं	उपलब्ध छत का क्षेत्रफल (वर्गमीटर)
a	प्राथमिक स्वास्थ्य केन्द्र	<input type="checkbox"/>	<input type="checkbox"/>	
b	सामुदायिक स्वास्थ्य केन्द्र	<input type="checkbox"/>	<input type="checkbox"/>	
c	उपस्वास्थ्य केन्द्र	<input checked="" type="checkbox"/>	<input type="checkbox"/>	मरम्मत करने वाला है
d	आंगनवाड़ी	<input checked="" type="checkbox"/>	<input type="checkbox"/>	400 वर्ग फुट
e	आशा	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f	स्वास्थ्य कैम्प/मेला	<input type="checkbox"/>	<input type="checkbox"/>	
g	डिजिटल स्वास्थ्य देखभाल	<input type="checkbox"/>	<input type="checkbox"/>	

52	रोग/बीमारी								
	विगत वर्ष निम्नवत् बीमारी/रोग से कितने लोग प्रभावित हुए 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)	300	120	130	50	सामुदायिक स्वास्थ्य केन्द्र	<input type="checkbox"/>	<input type="checkbox"/>	
b	जल-जनित रोग (हैजा / डायरिया / टाईफाई ड / हैपेटाइटिस आदि)	22	13	6	3	सामुदायिक स्वास्थ्य केन्द्र	<input type="checkbox"/>	<input type="checkbox"/>	
c	श्वास सम्बन्धी रोग जो वायु प्रदूषण से होते हैं (इनडोर एण्ड आउटडोर)	35	15	0	20	सामुदायिक स्वास्थ्य केन्द्र	<input type="checkbox"/>	<input type="checkbox"/>	
d	कुपोषण	5	5	0	0	आशा एवं ANM	<input type="checkbox"/>	<input type="checkbox"/>	

VII. उर्जा

53		
a	आपके ग्राम पंचायत में कुल कितने घर विद्युतकृत हैं	1240
b	ग्राम पंचायत में निम्नलिखित अनुमानित विद्युत उपकरणों की संख्या	
	ए0सी0	20
	एयर कुलर	140
	रेफ्रिजरेटर / फ्रीज	350

54	विद्युत कटौती की आवृत्ति	
a	दिन में कुछ बार	<input checked="" type="checkbox"/>
	दिन में एक बार	<input type="checkbox"/>
	विद्युत कटौती नहीं	<input type="checkbox"/>
b	प्रतिदिन कितने घण्टे गुल रहती है?	6 घंटे
	यदि प्रतिदिन नहीं तो सप्ताह में कितने घण्टे बिजली गुल होती है?	





55	वोल्टेज अस्थिरता / उतार-चढ़ाव की आवृत्ति क्या है?	
	दिन में कुछ बार	<input checked="" type="checkbox"/>
	दिन में एक बार	<input type="checkbox"/>
	अस्थिरता / उतार-चढ़ाव	<input type="checkbox"/>

56	पावर बैकअप का मतलब विद्युत कटौती के दौरान उपयोग	संख्या
	डीजल चलित जेनरेटर	4
	सौर उर्जा	1
	इमरजेंसी लाईट	30
	इन्टवर्टर्स	75
	अन्य साधन (उल्लेख करें)	

57	नवीकरणीय / अक्षयऊर्जा 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	x	
	विद्यालय की छत पर सौर उर्जा स्थापना	1	300 वाट
	चिकित्सालय की छत पर सौर उर्जा स्थापना	x	
	ग्राम पंचायत भवन पर सौर उर्जा स्थापना	1	300 वाट
	अन्य सौर उर्जा स्थापना	x	
	सौर स्ट्रीट लाईट	x	
	बायोगैस	x	
	विकेन्द्रित नवीनीकरण उर्जा / मिनी ग्रीड	x	
b	क्या आप सौर उर्जा स्थापना के लिए उपलब्ध अनुदान के बारे में जानते हैं (कुछ योजनाओं / कार्यक्रमों का उल्लेख करें)	नहीं	





58	भोजन बनाने हेतु प्रयुक्त ईंधन	परिवारों की संख्या	प्रति परिवार प्रयुक्त औसत मात्रा (किग्रा/महीना)	
	पारम्परिक जलौनी (उपले/जलौनी लकड़ी)	300	250-300 केजी/महीना	
	बायोगैस	×		
	एलपीजी गैस	800	7-8 केजी/महीना	
	विद्युत	×		
	सौर उर्जा	×		
	अन्य (कोयला, मिट्टी का तेल, चारकोल आदि)	×		
59	वाहन की संख्या			
	वाहन के प्रकार	ग्राम पंचायत में वाहन संख्या (अनुमानित)	प्रयुक्त ईंधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
a	जीप	10	डीजल	60-70 किलोमीटर/प्रतिदिन
b	कार	106	पेट्रोल, डीजल	25 किलोमीटर/प्रतिदिन
c	दो पहिया वाहन	930	पेट्रोल	20 किलोमीटर/प्रतिदिन
d	विद्युत चालित वाहन	-	-	-
e	आटो	3	डीजल	60 किलोमीटर/प्रतिदिन
f	ई-रिक्शा	14	बैटरी	50 किलोमीटर/प्रतिदिन
g	अन्य, डाला, ट्रक	13	डीजल	150 किलोमीटर/प्रतिदिन

60	कृषि यंत्र	ग्राम पंचायत में कृषि यंत्रों/मशीनों की संख्या	प्रयुक्त ईंधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
a	ट्रैक्टर	60	डीजल	10 km प्रतिदिन जुताई/बुवाई एवं घरेलु उपयोग
b	कम्बाईन हारवेस्टर	-	-	-





c	अन्य (कृपया उल्लेख करें)	रोटावेटर,सीड ड्रिल	ट्रैक्टर के द्वारा ही उपयोग किया जाता है	जुताई एवं बुवाई के समय उपयोग किया जाता है
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61 ग्राम पंचायत में अवस्थित पेट्रोल पम्प (अगर कोई है)											
	ईंधन के प्रकार	प्रतिदिन की बिक्री	पम्प से आपूर्ति वाले गांव की संख्या	कितने प्रकार के वाहन एक दिन/महीना में पेट्रोल पम्प से ईंधन लेते हैं? (समय/ अवधि का उल्लेख करें)							
				टैक्स्टर	कृषि यंत्र	जीप	कार	दो पहिया वाहन	आटो	ई-रिक्शा	अन्य
a	Nil										
b	Nil										

62 औद्योगिक इकाई				
	उद्योग के प्रकार	संख्या	उर्जा के स्रोत: ग्रिड विद्युत (1), डीजल जेनरेटर (2), नवीनीकरण/अक्षय उर्जा (3)	उर्जा की खपत प्रति माह विद्युत का उपयोग (किलोवाट) ईंधन उपयोग (लीटर प्रतिदिन)
	Nil			
	Nil			
	Nil			
	Nil			



Annexure-III: HRVCA



क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना

ग्राम पंचायत—बहादुरपुर मझिगवां

विकास खण्ड—सौरिख

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खतरा, जोखिम, नाजुकता एवं क्षमता विश्लेषण

जलवायु परिवर्तनशीलता-प्रवृत्ति/परिवर्तन, मुख्य चुनौतियां/झटके एवं तनाव

ग्राम पंचायत-बहादुरपुर मझिगवां में मौसम सर्दी एवं गर्मी का प्रभाव रहता है। समुदाय से चर्चा के दौरान यह निकल कर आया कि सभी मौसम की तीव्रता में वृद्धि हुई है। लोगों ने बताया कि सूखा और लू का प्रभाव बढ़ा है इससे होने वाले नुकसान के बारे में भी बताया। 9 कि०मी० का क्षेत्र ऐसा है जहां पर वर्षा अत्यन्त कम होती है अर्थात् नाम मात्र के बराबर होती है इससे भूजल स्तर बड़ी तेजी से नीचे जा रहा है। खेती किसानों करने वाले लोगों ने बताया हमारे पहले फलदार बागों की प्रचुरता थी आज देखने को नहीं मिल रही है। प्रत्येक व्यक्ति के पास आम अमरूद की बाग थी आज गायब है।

विभिन्न प्रक्रिया के तहत पी०आर०ए० विधियों का प्रयोग करते हुए प्राप्त सूचनाओं एवं प्राथमिक आंकड़ों के आधार पर जलवायुगत आपदा, खतरा, जोखिम प्रोफाइल में अपेक्षित सूचनाओं का संकलन किया गया। आपदा खतरा, जोखिम प्रोफाइल से सम्बन्धित निम्न सूचनानाएं हैं-

1. गांव को प्रभावित करने वाली आपदाओं की पहचान करना एवं इनका प्राथमिकीकरण :-

समुदाय के साथ स्थानीय आपदाओं के बारे में विस्तृत चर्चा की गई। प्रमुख रूप से आपदाओं से दैनिक दिनचर्या, आजीविका, स्वास्थ्य, पेयजल, साफ-सफाई आदि प्रभावित होते हैं। चर्चा के आधार पर आपदाओं की एक सूची प्राप्त हुई। सूची के आधार पर स्थानीय आपदायें एवं उनके प्रभाव तथा उनसे उत्पन्न समस्याओं की तुलनात्मक रैंकिंग कर उनका प्राथमिकीकरण किया गया। इस गांव की प्रमुख आपदा लू, सूखा, एवं शीतलहर है। जिससे खेती, आजीविका, स्वास्थ्य एवं पेयजल, साफ-सफाई पर प्रभाव पड़ रहा है और इसके जोखिम की सम्भावना बढ़ जाती है।

2. आपदा का इतिहास एवं क्षति

समुदाय को प्रभावित करने वाली आपदाओं एवं उनसे होने वाली क्षति पर विस्तृत चर्चा व विचार विमर्श किया गया जिनका व्यापक प्रभाव समुदाय एवं संसाधनों पर पड़ा है। ग्राम पंचायत बहादुरपुर मझिगवां में वर्ष 2013 एवं 2014 में भीषण सूखा पड़ा, जिसके प्रभाव से आजीविका का संकट व पलायन की स्थिति पैदा हो गई। वर्ष-2021 में मार्च अप्रैल के महीने में भारी वर्षा व ओलावृष्टि से फसलों को बहुत नुकसान हुआ। वर्ष 2022 की वर्षा अक्टूबर महीने में हुई वर्षा से आलू की फसल पूरी तरीके से नष्ट हो गयी। ग्राम गढ़िया निवासी सतेन्द्र त्रिपाठी बताते हैं वर्ष 2010 एव 2011 तक जहां अरहर और गन्ना पर्याप्त मात्रा में होता था। विगत वर्षों में भूजल स्तर नीचे जाने के कारण फलदार पौधे सूख रहे हैं गत 10 वर्ष पूर्व भूजल स्तर जहां 35 से 40 फिट पर था आज 50-55 फिट पर पहुंच गया है।

विस्तृत विवरण हेतु संलग्नक संख्या-04 देखें

आपदा की पहचान एवं प्राथमिकीकरण के आधार पर निम्न आपदाएं ग्राम पंचायत-बहादुरपुर मझिगवां को प्रभावित करती हैं-

आपदा का नाम	जन	फर	मार्च	अप्रै	मई	जून	जुला	अग	सितं	अक्टू	नवं	दिसं
सूखा												
दू												
शीतलहर												
आंधी तूफान												
ओला-पत्थर												

आपदा ऐतिहासिक मानचित्रण, मौसमी कैलेंडर बनाने एवं उस दौरान समुदाय से हुई चर्चा से यह स्पष्ट हुआ कि वर्षा के दिनों में काफी कम वर्षा का होना तथा तापमान में इस गांव की प्रमुख समस्या सूखा है, जो प्रत्येक वर्ष समुदाय को प्रभावित करती है वही दूसरे नं0 पर शीतलहर है, अधिकांश किसान आलू फसल की खेती करते हैं। शीतलहर के समय पाला पड़ता है जिससे आलू में झुलसा रोग लग जाता है और लोगों की पैदावार प्रभावित हो जाती है विगत वर्षों से वर्षा अक्टूबर माह में होने लगी है जिसके चलते प्रमुख फसल गेहूं, सरसों, आलू की बुवाई देर से हो पाती है जिससे उत्पादन पर असर पड़ता है। शीतलहर का प्रभाव बकरियों पर ज्यादा पड़ता है और बकरियां मरने लगती हैं आजीवका का संकट बढ़ जाता है, खासतौर पर छोटे व मझोले किसान अत्यधिक प्रभावित होते होते हैं।

2. जलवायु परिवर्तन जनित आपदा के जोखिम, खतरों का मानचित्रण एवं आकलन

उपरोक्त आपदाओं के आधार पर होने वाले नुकसान, सम्भावित जोखिम, समुदाय एवं संसाधनों पर पड़ने वाले अनुमानित प्रभाव तथा उनसे पड़ने वाले असर आदि की विस्तृत जानकारी प्राप्त की गयी। आपदाओं का ग्राम पंचायत बहादुरपुर मझिगवां के लोगों ने माना कि प्रतिवर्ष आपदाओं में इजाफा हो रहा है। वहीं गांव की आधारभूत संरचना पर्यावरणीय क्षति पर आजीविका मानव जीवन, स्वास्थ्य, पशुपालन, पेयजल पर सूखा, शीतलहर का असर देखने को मिलता है। जोखिम से प्रतिवर्ष तरह-तरह के नुकसान सहना पड़ता है। जो निम्न प्रकार हैं-

खतरा एवं जोखिम विश्लेषण से प्राप्त सूचनाएं :-

क्रम सं0	आसन्न आपदा / खतरे	संभावित जोखिम का क्षेत्र	संभावित जोखिम प्रभावित क्षेत्र			
			जोखिम	आबादी	घर	संसाधन
1.	सूखा	पेयजल	जलस्तर नीचे जाना पेयजल की कमी	पूरा गांव		इण्डियामार्का हैण्डपम्प व निजी नलों का पानी न देना
		कृषि	उपज प्रभावित	पूरा गांव		385 हे0
		उद्यान	सिंचाई में वृद्धि से लागत बढ़ना।			आम, अमरूद के पेड़ों का सूखना
		पशुपालन	जानवरों के लिये		200	अधिकांश

	लू	स्वास्थ्य	लू लगने से मानव व पशु प्रभावित	सम्पूर्ण ग्राम	1131	पेयजल, चारा व स्वास्थ्य सेवाओं पर प्रतिकूल प्रभाव	
		शिक्षा	बच्चों का स्वास्थ्य प्रभावित				शिक्षा बाधित
		समाजिक सुरक्षा	वृद्धजन, बच्चे, विकलांग, महिलाओं के गिर जाना / घायल हो जाना	अधिकांश क्षेत्र			आवागमन अवरुद्ध होना
		कृषि	खरीफ की फसल का नुकसान, धान की नर्सरी का नुकसान, रबी की फसल की बोवाई में विलम्ब, बीमारियों, कीट का प्रकोप	...	....		40 एकड़ क्षेत्र में जलजमाव
		पशुपालन	पशुउत्पाद का कम होना, बीमारी आदि का प्रकोप	20 घर			भैंस, बकरी एवं भेड़ पालन
		आजीविका	स्थानीय स्तर पर मजदूरी न मिलना				पलायन करके आजीविका की तलाश में बाहर जाना
		जल निकाय	जलनिकायों में गंदा पानी भरना	पूरा गांव	....		10 एकड़ के जलनिकायों में गन्दा पानी भरना
2.	सूखा	पेयजल	जलस्तर का नीचे जाना, पेयजल की कमी / संकट	सम्पूर्ण गांव	.....	7 इण्डियामार्क हैण्डपम्प एवं निजी नलों का जलस्तर नीचे चला जाता है।	
		कृषि	उपज का प्रभावित होना	सम्पूर्ण गांव	.....	200 हेक्टेयर	
		उद्यान / सब्जी	सिंचाई लागत		...	अधिकांश पेड़	

			की बीमारियों का होना, उत्पादन कम होना आदि			
3.	लू	स्वास्थ्य	मनव एवं पशुओं को लू लगना, स्वास्थ्य खराब होना, टीकाकरण में बाधा	पूरा गांव		स्वास्थ्य सेवाएं बाधित होना, पेयजल संकट गहरा जाना
		शिक्षा	बच्चों का स्वास्थ्य प्रभावित।		बच्चे	शिक्षा बाधित होना
4.	शीतलहर	स्वास्थ्य	जनवर एवं मानवों में ठण्ड का प्रकोप	अधिकांश बुजुर्ग व बच्चे	1131	शीतलहर के चलते मानव स्वास्थ्य पर असर
		कृषि	शीतलहर से फसलों प्रभावित	पूरा गांव		खेत
		पशुपालन	पशुओं के दुग्ध उत्पादन पर असर	पशुपालक परिवार		बकरियों की मृत्यु
5.	ओलावृष्टि	मानव स्वास्थ्य एवं पेयजल	छोटे बच्चे, वृद्धजन महिलाओं के गिरने, चोट लगने का खतरा, जानवरों के घायल होना।	सम्पूर्ण गांव		कच्चे घरों का क्षतिग्रस्त होना व फसलों का नष्ट होना

आजीविका के साधनों पर आपदा का प्रभाव

इस क्षेत्र के आजीविका का मुख्य साधन कृषिगत मजदूरी एवं पशुपालन है जिससे सूखा, शीतलहर, लू आदि का प्रभाव पड़ता है सूखा से जहां कृषि और आजीविका प्रभावित होती है वहीं शीतलहर एवं लू में मानवजीवन व पशुपालन प्रभावित होता है।

विस्तृत विवरण हेतु संलग्नक संख्या-04 देखें।

3.नाजुकता विश्लेषण

आपदाओं का सामना बार-बार करने से समुदाय हर स्तर पर प्रभावित होता है। समुदाय सामाजिक और आर्थिक रूप से भी कमजोर होता जाता है, समुदाय एवं ग्राम पंचायत को आपदा की दृष्टि से सुरक्षित बनाने की दिशा में नाजुक समुदाय, नाजुक संसाधन, नाजुक स्थल आदि की जानकारी अति आवश्यक है। इसे जानने के लिये समुदाय, आशा, आंगनबाड़ी, कार्यकर्त्री 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 जानकारी प्राप्त की गयी।

2. सूखा :-

समुदाय आधारित चर्चा करने पर पता चलता है कि गांव में सूखे का भी व्यापक असर रहता है। लोग बताते हैं कि जब हम लोग छोटे थे तो धान की बिजाई होती थी। लोग धान छीट देते थे और बारिश होती थी। आज असमय व असमान बारिश में सूखे की स्थिति पैदा कर दी है, पहले जब आद्रा नछत्र लगता था तब वर्षाकाल जून में शुरू हो जाता था। विगत कुछ वर्षों से ऐसा नहीं हो रहा है बल्कि अक्टूबर के महीने में वर्षा प्रारम्भ हो रही है जिससे निम्नलिखित समस्याओं में वृद्धि हो रही है—

- गांव का जलस्तर निरन्तर नीचे खिसक रहा है।
- गांव में 5 कुएं हैं जोकि खरपतवार कूड़े कचरे से पटे पड़े हैं। किसी भी कुएं में पानी ही नहीं है। इनकी साफ-सफाई व गाद निकालकर जल प्रबंधन कर सकते हैं।
- वृक्षों के नाम पर पुराने पेड़ हैं। फलदार पौधे जैसे आम, जामुन, अमरुद, जलस्तर नीचे जाने के कारण सूख रहे हैं।
- **सूखा का समुदाय पर प्रभाव :-**
- बढ़ते तापमान के कारण पशुधन के लिए चारे की समस्या उत्पन्न हो जाती है।
- घरेलू जल तथा इण्डियामार्का हैण्डपम्पों का जलस्तर काफी नीचे चला जाता है।

3. लू

गांव के तीसरे नंबर की प्रमुख आपदा लू है। चर्चा आधारित निष्कर्षों से पता चलता है कि इसका असर दुधारू पशुओं व बकरियों पर ज्यादा पड़ता है। पेयजल की कमी आ जाती है। समुदाय आधारित चर्चा कर पता चलता है कि लू गर्मियों के दिनों में मई व जून के महीने में अपना असर दिखाती है, तापमान अत्यधिक बढ़ जाता है गर्म हवाएं चलने लगती हैं जिससे समुदाय के स्वास्थ्य खराब होता एवं विभिन्न बीमारियों में वृद्धि होती है। पशुओं को चारा व पेयजल की प्रमुख रूप से समस्या होती है।

4. शीतलहर :-

शीतलहर का सबसे ज्यादा असर दुधारू पशुओं पर पड़ता है। गांव के निवासी रवि शर्मा बताते हैं जब ज्यादा शीतलहर चलती है तो बकरियों व भेड़ों में टी0पी0आर0 नामक बीमारी आ जाती है जिससे बकरियों व भेड़ों में पेशाब रुकना, पोंकना, नाक से बलगम निकलना, व मुंह में छाले पड़ जाते हैं एवं मुंह पक जाता है। बकरियां मरने लगती हैं। गाय भैंसों में दूध का उत्पादन घट जाता है। फसलों खासकर आलू की फसल झुलसने लगती है, सरसों के दाने छोटे पड़ जाते हैं स्थानीय लोग बताते हैं कि हमारे यहां कंद की प्रमुख फसल आलू ही है। ज्यादा शीतलहर चलती है तो पत्तियां ऐंठने लगती हैं और असमय झड़ जाती हैं जिससे पैदावार पर असर पड़ता है। शीतलहर के प्रकोप से जहां जनजीवन अस्त-व्यस्त होता है। वहीं पेड़ पौधे पशु पक्षी भी प्रभावित होते हैं। दुधारू पशुओं में ठंड के कारण पानी चारे की कमी हो जाती है जिसके चलते दूध में कमी आ जाती है।

उपरोक्त के अतिरिक्त समुदाय की व्यवहारगत एवं ढांचागत संरचना में कमियां

- गांव में अधिकांश लोग पढ़े लिखे हैं। नौकरी पेशे में होने के बावजूद कृषक उत्पादन संगठन (F.P.O) आदि के बारे में जानकारी का अभाव है।
- गांव में राष्ट्रीय आजीविका मिशन के अन्तर्गत समूह बने हैं। लेकिन उनमें भी स्थानीय बाजार,

- गांव में वैकल्पिक ऊर्जा के बारे में कोई भी जानकारी नहीं है, सिर्फ बिजली पर निर्भरता है। अधिकांश पक्के घर हैं। छतों पर अपनी आवश्यकतानुसार सौर पैनल लगाये जा सकते हैं। राष्ट्रहित में जहां एक ओर बिजली की बचत होगी वहीं प्राकृतिक संसाधन बचेंगे।
- गांव में नालियां संकरी होने की वजह से बरसात के दिनों में भर जाती है जिससे पानी सड़क एवं गली में फैल जाता है जिससे विभिन्न प्रकार की बीमारियां जैसे टॉयफायड, उल्टी, डायरिया बुखारआदि पैदा होती है।
- कृषिगत गतिविधियों में अत्यधिक रसायनों का प्रयोग देखा-देखी में बढ़ा है। जिससे भूमि की उर्वरा शक्ति क्षीण हो रही है।
- इस ग्राम पंचायत में पशुपालन अंतर्गत भैंसे पर्याप्त मात्रा में हैं और गोबर के ढेर सड़कों के किनारे अव्यवस्थित रूप में मिल जायेंगे। जबकि गोबर से कम्पोस्ट खाद तैयार कर मिट्टी की उर्वरा शक्ति बढ़ाई जा सकती है।
- गांव की प्रमुख फसलें, गेहूं, आलू, सरसों व मूंगफली है। जलजमाव व बाढ़ का प्रभाव न होने के चलते दलहनी फसलें ली जा सकती है।
- गांव में जनसुविधा केन्द्र स्थापित किया गया है। लेकिन बसाहट की दृष्टि से कुछेक लोगों तक की नाजुकता बढ़ती है।
- गांव स्तर पर घरेलू व छोटे उद्योगों का अभाव है।

क्षमता विश्लेषण

आपदाओं के संदर्भ में गांव को क्लाइमेट स्मार्ट बनाने की दृष्टि से गांव की क्षमता बढ़ाना अत्यन्त आवश्यक है। उसको समझने के लिये जलवायु परिवर्तन से होने वाली आपदाओं एवं खतरों से गांव के साथ ही आसपास उपलब्ध संसाधन भी प्रभावित होते हैं। यह संसाधन भौतिक पर्यावरणीय एवं मानव संसाधन के रूप में उपलब्ध होते हैं। इनकी पहचान होने आपदा के खतरों से निपटने में आसानी होती है। अर्थात् यह संसाधन मददगार होते हैं।

ग्राम पंचायत बहादुरपुर मझिगवां सौरिख इन्दरगढ़ मार्ग के दोनो ओर स्थित है आगरा एक्सप्रेसवे गांव के ग्राम पंचायत की बसाहट को विभाजित करता है। एक ओर जहां 6 बसाहट आगरा एक्सप्रेसवे के बाईं तरफ हैं वहीं 5 बसाहट आगरा एक्सप्रेसवे के दाईं व बाईं तरफ हैं। ब्लाक मुख्यालय से मात्र 6 कि०मी० की दूरी, 6 प्राथमिक विद्यालय, 2 उच्चप्राथमिक विद्यालय 1 डिग्री कालेज है। लोगों के आवागमन हेतु गांवों में सड़के हैं लेकिन जर्जर अवस्था में हैं ग्राम पंचायत बहादुरपुर मझिगवां में अधिकांश घर पक्के हैं ग्राम पंचायत बहादुरपुर मझिगवां के मजरा गढ़िया में जलनिकासी की समुचित व्यवस्था न होने के कारण गलियों में जलजमाव की समस्या उत्पन्न हो रही है। वहीं मजरा भटपुरी के लिये एक मात्र मार्ग रजबहा के किनारे से निकला है। जो कि बरसात के दिनों में क्षतिग्रस्त हो जाता है लोगों को आवागमन में कठिनाई का सामना करना पड़ता है। घरों में पेयजल के लिये निजी हैंडपम्प हैं या फिर इण्डियामार्क हैण्डपम्प एक मात्र सहारा हैं गांव वाले बताते हैं कि गर्मी के दिनों में हैण्डपम्प पानी छोड़ देते हैं जिससे पेयजल की समस्या उत्पन्न होती है। मजरा उददा नगरिया के पास आम की छोटी-छोटी बागें है। जिनमे आम, महुआ, जामुन के पेड़ हैं स्थानीय लोग बताते हैं कि जल स्तर तेजी के साथ नीचे जाने की वजह से फलदार वृक्ष सूख रहे हैं। ग्राम पंचायत में कुल मिलाकरके 25 छोटे-बड़े तालाब हैं। संगठन के तौर यहां महिलाओं के 24 स्वयं सहायता समूह हैं जिसमें अधिकांश समूहों की बैंक लिंकेज है तथा सी०सी०एल० हो चुका है।

सुविधा संसाधन मानचित्र के लिए आंकड़े एवं तथ्य

विशेषकर संसाधनों के सन्दर्भ में किये गये क्षमता आंकलन को तीन भागों में विभक्त किया गया है जिसमें गांव में उपलब्ध भौतिक एवं पर्यावरणीय संसाधनों को सामाजिक मानचित्रण एवं सुविधा मानचित्र पर अंकित किया गया जबकि मानव संसाधन के बारे में समुदाय के साथ चर्चाकर सूचनाएं प्राप्त की गई जो निम्न प्रारूप पर दर्ज हैं।

भौतिक संसाधनों की उपलब्धता एवं गांव से दूरी

विवरण	संख्या	संपर्क व्यक्ति का नाम एवं संख्या	गांव से दूरी
प्राथमिक विद्यालय बहादुरपुर	01	श्रीमती रागिनी त्रिपाठी	0 कि०मी०
प्राथमिक विद्यालय भटपुरी	01	श्री आर्यन कौशल	03 कि०मी०
प्राथमिक विद्यालय नगलाझाबर	01	श्रीमती शशिबाला	03 कि०मी०
प्राथमिक विद्यालय नगलाबीरभान	01	श्री प्रदीप कुमार	02.5 कि०मी०
प्राथमिक विद्यालय नगलापशा	01	श्री रवि प्रकाश	03 कि०मी०
प्राथमिक विद्यालय राजारामपुर	01	श्री विपिन कुमार	03 कि०मी०
उच्च प्राथमिक विद्यालय मझिगवां	01	श्री सचेन्द्र कुमार	01 कि०मी०
उच्च प्राथमिक विद्यालय गढ़िया	01	श्री कौशलेन्द्र सिंह	01 कि०मी०
ग्राम सचिवालय	01		02 कि०मी०
जिला चिकित्सालय	01		54 कि०मी०
एम्बुलेंस	01	102, 108	06 कि०मी०
विकास खण्ड कार्यालय खड़नीसौरिख	01		06 कि०मी०
समुदायिक स्वास्थ्य केन्द्र सौरिख	01		05 कि०मी०
तहसील, छिबरामऊ	01		15 कि०मी०
आपदा विभाग, कन्नौज	01		50 कि०मी०
पोस्ट आफिस बहादुरपुर	01		0 कि०मी०
बिजली विभाग, सौरिख	01		03 कि०मी०
डिग्री कालेज	01		500 मी०
फायर स्टेशन, कन्नौज	01		50 कि०मी०
बस स्टेशन, सौरिख	01		3 कि०मी०
रेलवे स्टेशन, गुरसहायगंज	01		40 कि०मी०
खाद बीज दवा केन्द्र सौरिख	01		03 कि०मी०
बजार, सौरिख	01		03 कि०मी०
बैंक बरना सौरिख	01		03 कि०मी०
राशन की दुकान बहादुरपुर	01		01 कि०मी०
मण्डी समिति—छिबरामऊ	01		15 कि०मी०

प्राकृतिक संसाधन उपलब्धता संख्या एवं दूरी

क्रमांक	संसाधन	संख्या	विवरण/नाम/संपर्क संख्या	दूरी
पर्यावरणीय संसाधन				
01	तालाब	25	—	03 किमी0
02	कुआँ	05	—	03 किमी0
03	नाला	22	—	500 मी0
04	बग	04	अमर सिंह, मुदमंगलसिंह, रामचरनसिंह, राधेश्याम	
05	कृषिगत क्षेत्र	697.505 हे0		
06	खुला क्षेत्र/सामुदायिक भूमि	0.408 हे0		01 किमी0

मानव संसाधन					
1-	ग्राम प्रधान	0	श्री मुदमंगलसिंह श्री	9450007821	03किमी0
2-	सचिव	01	अजयपाल	9170548798	03किमी0
3-	लेखपाल	01	श्री ज्ञानसिंह	9794914558	03किमी0
4-	पंचायत सहायक	01	श्री अमित कुमार	9140786206	03किमी0
5-	ए0एन0एम0	01	श्रीमती कमलेश	7839703261	01किमी0
6-	आंगनवाड़ी	02	श्रीमती सुमनलता श्रीमती	9795705652	01किमी0
	आंगनवाड़ी		आदेशकुमारी	9554204325	1.5किमी0
	आशाबहू	09	श्रीमती शान्तीदेवी	9818288034	0किमी0
			श्रीमती कान्ती देवी	7054181820	0किमी0
			श्रीमती ज्ञानश्री	8009867601	500मी0
			श्रीमती सुनीता	7080084273	01किमी0
			श्रीमती मीना	7880979147	02किमी0
			श्रीमती निर्मला देवी	7388702850	03किमी0
			श्रीमती मीरा देवी	8127758070	500 मी0
			श्रीमती सुचेता	8604900704	2.5किमी0
			श्रीमती रंजना	8127562928	2.5किमी0
	झोलाछाप डाक्टर	02			
	भूत पूर्व सैनिक	20			

आपदा के समय उपलब्ध संसाधनों व सुविधाओं का महत्वपूर्ण योगदान होता है। ये सुविधाएं एवं संसाधन आपदा के प्रभाव को कम करने में सहायक होती हैं। साथ ही यह भी आवश्यक है कि प्राप्त सुविधाओं से समुदाय को लाभ मिल रहा है या नहीं या फिर सुविधाएं समुदाय के पहुंच में हैं ही नहीं। संसाधनों से जुड़े तथ्यों की यह पूरी प्रक्रिया समुदाय की सहभागिता के आधार पर पारदर्शी तरीके से प्रदर्शित होती है। जिसका पूरा विवरण संकलित किया गया है।

निम्नीग संसाधन

क्लाइमेट स्मार्ट ग्राम पंचायत बहादुरपुर मझिगवां की कार्ययोजना का निर्माण

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना बनाने हेतु सभी अभ्यासों को करने के उपरान्त सेक्टरवार जानकारी प्राप्त करने के लिये सामूहिक चर्चा की गई इस चर्चा के दौरान सभी सेक्टरों के अन्तर्गत आने वाले विभिन्न बिन्दुओं की ग्राम पंचायत में वर्तमान स्थिति उससे सम्बन्धित समस्याओं के निराकरण हेतु विशिष्ट कार्ययोजना के बारे में जानकारी प्राप्त की गयी उपरोक्त सूचनाओं तथ्यों एवं ग्रामीणों से चर्चा व विचार-विमर्श के बाद क्लाइमेट स्मार्ट ग्राम अवधारणा के तहत ग्राम पंचायत योजना को तैयार किया गया है जिसमें आपदा जोखिम, जोखिम के कारण व समाधान आदि के बारे में संकलन कर तैयार किया गया है सेक्टरवार क्लाइमेट स्मार्ट ग्राम पंचायत बहादुरपुर मझिगवां की कार्य योजना तालिका-

क्रम	कार्य का क्षेत्र	कार्य का नाम	कार्य का विवरण	परिसम्पत्ति का स्थान	अनुमानित धनराशि	माप	योजना का परिव्यय
1	मानव विकास एवं सामाजिक सुरक्षा, साफ-सफाई एवं स्वच्छता	नाला निर्माण	बहादुरपुर प्राथमिक विद्यालय से शान्तिनिकेतन तक	बहादुर	16 लाख	650 मी0	15वां वित्त/मनरेगा
2		नाला निर्माण	हर्ष कुमार के मकान से इन्द्रेश की दुकान तक	बहादुर	20 लाख	900 मी0	15वां वित्त/मनरेगा
3		नाला निर्माण	रामस्वरूप के मकान से हाइवे तक	नगलाबीरभान	354500/-		15वां वित्त/मनरेगा
4		पक्का नाला	प्रभात के घर से तालाब तक	भटपुरी	306400/-	300 मी0	15वां वित्त/मनरेगा
5		तालाब संरक्षण कार्य	नगला उर्दा में तालाब सफाई कार्य	नगला उर्दा	198500/-	50 डिस्मिल	15वां वित्त/मनरेगा
6		तालाब संरक्षण कार्य	मझिगवां में तालाब सफाई कार्य	मझिगवां	250600/-	1 एकड़	15वां वित्त/मनरेगा
7		तालाब संरक्षण कार्य	नगलाबीरभान 8में तालाब सफाई कार्य	नगलाबीरभान	300600/-	1 एकड़	15वां वित्त/मनरेगा
8		तालाब संरक्षण कार्य	नगला मध्य में तालाब सफाई कार्य	नगला मध्य	230600/-	50 डिस्मिल	15वां वित्त/मनरेगा
9		तालाब संरक्षण कार्य	नगला झाबर में तालाब खुदाई का कार्य	नगला झाबर	198500/-	40 डिस्मिल	15वां वित्त/मनरेगा
10		तालाब संरक्षण कार्य	बहादुरपुर में तालाब सफाई का कार्य	बहादुरपुर	350600/-	2 एकड़	15वां वित्त/मनरेगा
11	से0 02	सी0सी0/इण्टर0 रोड नाली	जगदीश के मन्दिर से शिवा के मकान तक	बहादुरपुर	224600/-	100 मी *6 फीट	15वां वित्त/मनरेगा

	बुनियादी/आधारभूत संरचना एवं पर्यावरण						
12		सी0सी0/इण्टर0 रोड नाली	राकेश के मकान से आलोक के मकान तक	बहादुरपुर	224600/-	100 मी * 6 फीट	15वां वित/मनरेगा
13		सी0सी0/इण्टर0 रोड नाली	बृजेन्द्र के मकान से बम्बा तक	बहादुरपुर	351000/-	70 मी X 3फीट	15वां वित/मनरेगा
14		सी0सी0/इण्टर0 रोड नाली	सुरेश के मकान शीलेन्द्र के मकान तक	मझिगवां	357700/-	75मी X 3 फीट	15वां वित/मनरेगा
15		सी0सी0/इण्टर0 रोड नाली	जसवीर के मकान से पुलिया तक	मझिगवा	395500/-	90 मी X4 फीट	15वां वित/मनरेगा
16		सी0सी0/इण्टर0 रोड नाली	राममोहन के मकान से शमशानघाट तक	भटपुरी	355100/-	80 मी X3 फीट	15वां वित/मनरेगा
17		सी0सी0/इण्टर0 रोड नाली	अखिलेश के खेत से मिजाजी लाल के घर तक	भटपुरी	199900/-	70 मी X3 फीट	15वां वित/मनरेगा
18		सी0सी0/इण्टर0 रोड नाली	श्यामसिंह के घर से रामअवतार के घर तक	भटपुरी	186800/-	57 मी X3 फीट	15वां वित/मनरेगा
19		सी0सी0/इण्टर0 रोड नाली	मेवाराम के घर से रामस्वरूप के घर तक	भटपुरी	195300/-	60 मी X3 फीट	15वां वित/मनरेगा
20		सी0सी0/इण्टर0 रोड नाली	परिक्रमा मार्ग से रमन के मकान तक	नगला पसा	184200/-	58 मी X 3फीट	15वां वित/मनरेगा
21	सेक्टर 3 आंजीविका पशुपालन, एवं कृषि	पौधरोपण का कार्य	शमशानघाट की मेड़बन्दी का कार्य	भटपुरी	161300/-	1 एकड़	15वां वित/मनरेगा
22		पौधरोपण का कार्य	खलिहान की मेड़बन्दी का कार्य	भटपुरी	90600/-	1 JOB	15वां वित/मनरेगा
23		पौधरोपण का कार्य	गौचर भूमि में मेड़बन्दी का कार्य	नगलाबीर भान	79500/-	1 JOB	15वां वित/मनरेगा
24		पौधरोपण का कार्य	शमशानघाट पर पौधरोपण का कार्य	बहादुरपुर	91500/-	1 JOB	15वां वित/मनरेगा
25		पौधरोपण का कार्य	शमशानघाट पर पौधरोपण का कार्य	मझिगवां	80200/-	2 एकड़	15वां वित/मनरेगा

29	चकमाग 2 फुट उच्चोकरण कार्य	कश्मीर के खेत से नदी तक	भटपुरी	90000/-	850 मा X 3 फीट	15वां वित्त/मनरे
30	चकमार्ग उच्चोकरण कार्य	शंकरलाल के खेत से शमशान तक	भटपुरी	80600/-	35X4 मी	15वां वित्त/मनरे

क्र०सं०	सेक्टर	कार्य का नाम	कार्य का विवरण	अनुमानित धनराशि	अवधि	योजना
01	सेक्टर.3 आजीविका/पशुपालन/पर्यावरण	नर्सरी का निर्माण	कटघरा रोड कचरा घर के पास	3 लाख रू०	2 वर्ष	15वां वित्त/म
02		स्थाई पशुआश्रय (4 पशु तक)	व्यक्तिगत लाभार्थी सं० 180	1 लाख 20 हजार रू० प्रति	1 वर्ष	15वां वित्त/म
03		तालाब जीर्णोद्धार	23 तालाब	5 लाख रू० प्रति	2 वर्ष	15वां वित्त/म
04		सोकपिट निर्माण	व्यक्तिगत लाभार्थी सं० 200	5500 रू० प्रति लाभार्थी	2 वर्ष	15वां वित्त/म
05		मोटे अनाज प्रशिक्षण /जागरूकता	बीज, ज्ञान, प्रशिक्षण आदि की जानकारी पर	1 लाख रू०	1 वर्ष	15वां वित्त/म

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना के निरूपण की सहभागी प्रक्रिया

वातावरण निर्माण

किसी भी कार्य का व्यवस्थित निष्पादन के लिये वातावरण निर्माण नितान्त जरूरी प्रक्रिया है कि जिससे लोगों सम्बन्धित कार्य के प्रति एक समझ बन सके, चूंकि किसी भी समग्र योजना के लिए सभी वर्गों का होना एवं उनकी जरूरतें अलग-अलग हो सकती हैं इसी दृष्टि से ग्राम पंचायत पुरवा के प्रधान श्री छविनाथ मौर्य गांव के उत्साही युवकों वृद्धजनों समूह की दीदियों पशुपालकों, सामाजिक सोंच के लोगों किसानों से सामूहिक चर्चा की गई साथ ही साथ योजना एवं विकास की चर्चा की गयी जिससे गांव का समुचित विकास हो सके। समस्त ग्रामीणजनों को सूचना हो इसके लिये ग्राम प्रधान जी ने दिनांक-19.01.2023 को ग्राम सचिवालय से प्रसारण तन्त्र के माध्यम से एक बैठक का आयोजन किया गया।

खुली बैठक

ग्राम पंचायत पुरवा के लिये क्लाइमेट स्मार्ट ग्राम पंचायत कार्ययोजना निरूपण हेतु हितभागियों की खुली बैठक पूर्व निर्धारित सूचना के अनुसार दि०-14.02.2023 को ग्राम सचिवालय परिसर में खुली बैठक का आयोजन किया गया जिसमें ग्राम प्रधान, पंचायत सदस्य, आंगनवाड़ी, रसोइया, समूह की महिलायें युवक किसान एवं बुजुर्गजनों ने हिस्सा लिया सभी मजदूरों को मिलाकर कुल 114 लोगों ने भाग लिया



पंचायत समितियों का विवरण

नियोजन एवं विकास समिति	निर्माण कार्य समिति	प्रसाशनिक समिति
अध्यक्ष-श्री मुदमंगल सिंह सदस्य-श्रीमती सोनम देवी अ०ज० " सुमन देवी पि०जा० " श्री प्रेमपाल अनु०जा० " श्री अनमोल सदस्य " श्री रवीन्द्र प्रताप सिंह " श्री खलील	अध्यक्ष-श्री सुरेश सिंह " श्रीमती सोनम अ०ज० " प्रियंका पि०जा० " श्री अनमोल सदस्य " श्री प्रवीन कुमार " श्री खलील " श्री रवीन्द्र प्रताप सिंह	अध्यक्ष-श्री मुदमंगल सिंह " श्रीमती सोनम अ०ज० " सुमन देवी पि०जा० " श्री सुरेश सिंह सदस्य " श्री संजीव " श्री प्रेमपाल " श्री अनमोल
शिक्षा समिति	स्वास्थ्य एवं परिवार कल्याण समिति	जल प्रबन्धन समिति
अध्यक्ष-श्री मुदमंगल सिंह " श्री प्रवीन कुमार पि०जा०	अध्यक्ष- अंजनी सदस्य-सुमन पि०जा०	अध्यक्ष-श्री प्रेम पाल " श्रीमती सोनम अ०ज०

.. श्री सोनम अनु0जा0	.. सोनम अनु0जा0	.. सुमन पि0जा0
.. श्री अवनीश सदस्य	.. श्यामा देवी सदस्य	.. श्री अनमोल सदस्य
.. श्री प्रेमपाल	.. प्रवीण कुमार	.. श्री अवनीश सिंह
.. श्री अनमोल	.. श्रीमती विमला	.. श्री खलील
.. श्रीमती गीता	.. श्रीमती पुण्या	.. श्री रविन्द्र प्रताप सिंह
.. श्री सुधीर सिंह	.. श्री सुधीर सिंह	.. श्रीमती गीता
	.. श्री संजीव कुमार	

ग्राम पंचायत सदस्यों का विवरण-

क्रमांक	पंचायत सदस्य का नाम	वार्ड क्रम
1.	श्री श्री मुदमंगल सिंह (ग्राम प्रधान)	वार्ड क्रम
2.	श्री अनमोल त्रिपाठी (वार्ड सदस्य)	1
3.	सुमन देवी	2
4.	प्रवीण कुमार	3
5.	प्रियंका देवी	4
6.	श्री सुरेश सिंह	5
7.	श्री प्रेम पाल	6
8.	श्री रविन्द्र प्रताप सिंह	7
9.	श्री सुधीर सिंह	8
10.	संजीत कुमार	9
11.	सरोज देवी	10
12.	श्री खलील	11
13.	श्यामा देवी	12
14.	श्री अवनीश सिंह	13
15.	अर्चना देवी	14
16.	सोनम देवी	15
17.	गीता देवी	16

संलग्नक-2

ट्रांजेक्ट वाक (ग्राम भ्रमण)

ग्राम पंचायत में जलवायु आपदा एवं जोखिम की पहचान समझ रहन-सहन आदि को जानने समझने की दृष्टि से समुदाय के साथ भ्रमण किया गया। भ्रमण के दौरान ग्राम प्रधान, पंचायत सचिव, पंचायत सहायक स्वयं सहायता समूह की महिलायें एवं समुदाय के सभी वर्गों ने मिलकर ग्राम पंचायत के भटपुरी, बहादुरपुर, मझिगवां, गढ़िया, नगलामध्य, नगलाबीरभान, नगलापशा, उद्दानगरिया, नगलाझाबर, राजारामपुर नगलापूर्व भ्रमण करते हुए गांव संरचना पशुपालन वसाहट, कर सभी लोग ग्राम सचिवालय में एकत्रित हुए।

ट्रांजेक्ट वाक के दौरान अवलोकन की गई स्थितियां

बसाहट	<p>11 टोले ग्राम पंचायत के अधिकांश घरों की संरचना पक्की है ग्राम बहादुरपुर मझिगवां की बसाहट सौरिख इन्दरगढ़ मार्ग के दोनो किनारों पर बसा है इस ग्राम पंचायत से मजरा की दूरी भटपुरी 4 कि०मी०, नगलाझाबर 2 कि०मी० नगलामध्य एक कि०मी० नगलाबीरभान 2.5 कि०मी० गढ़िया एक कि०मी० नगलापशां 2 कि०मी० नगलापूर्वी 2.5 कि०मी० राजारामपुर 3 कि०मी० उद्दानगरिया 500 मी० की दूरी पर स्थित</p>
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संलग्नक-3

सामाजिक मानचित्रण

सभी मजदूरों के भ्रमण के उपरान्त ग्राम पंचायत में स्थित ग्राम पंचायत बहादुरपुर मझिगावां के मजरा गढ़िया में स्थित ग्राम सचिवालय के परिसर में ग्रामवासियों की उपस्थिति में सामाजिक मानचित्रण तैयार किया गया। जिसके आधार पर प्राप्त सूचनाएं निम्न तालिका में प्रदर्शित हैं।

विवरण	संख्या	गुणात्मक विवरण
ग्राम पंचायत के चौहद्दी का क्षेत्र	1034.882 हे०	ग्यारह बसाहट, बाग-बगीचा एवं खेती का हिस्सा मिलाकर
कुल मजदूरों की संख्या	11	बहादुरपुर, मझिगावां, गढ़िया, पसानगला, नगलाबीरभान, नगलापूर्वी, राजारामपुर, नगलामध्य, भटपुरी, उद्दानगरिया, नगलाझाबर
कुल घरों की संख्या	1131	
कुल पक्के घरों की संख्या	1070	अधिकांश पक्के मकान हैं
कुल कच्चे घरों की संख्या	61	.....
आर्थिक रूप से कमजोर	115	

महसूस होगी कुल ग्यारह बसाहट, बहादुरपुर मझिगवां, गढ़िया, नगलापशा,नगलाबीरभान, नगलापूर्वी (मढ़ा)
राजारामपुर, भटपुरी, उर्दा, मगरिया नगलाझाबर नगला मध्य यहां ब्राह्मण, ठाकुर मुस्लिम कहार, शाक्य,
धोबी, धानुक मेहतर आदि जातियां है।

आपदा का ऐतिहासिक समय रेखा एवं घटनाक्रम

ग्राम पंचायत बहादुरपुर मझिगवां का ऐतिहासिक समयरेखा आपदा एवं उनके प्रभाव को जानने के बाद समुदाय के साथ विमर्श कर भी जानने का प्रयास किया गया कि आपदायें इस ग्राम पंचायत को प्रभावित करती रहती हैं इस ग्राम पंचायत की प्रमुख आपदा सूखा ओलावृष्टि, शीतलहर है इन्हे साथगत वर्षा में कोरोना नामक बीमारी आपदा के रूप में आयी। लोगों को बचाने के लिये सरकार ने लाकडाउन लगा दिया जिससे लोग अपने घरों में कैद हो गये इसका सीधा असर खेती से तैयार उत्पादों पर पड़ा है सबकुछ बन्द हो जाने के कारण बाजार ही नहीं मिल पाया जिसके चलते बड़े पैमाने पर लोगों की आजीविका प्रभावित हुई ।

क्रम सं०	वर्ष	आपदा / खतरा	घटनाओं का कारण	मृतकों की संख्या	प्रभावित लोगों की संख्या	आर्थिक क्षति	न्यूनीकरण हेतु किया गया कार्य
1	1975 मार्च-अप्रैल	ओलावृष्टि	आंधी तूफान / ओलावृष्टि	—	650	410 हे० गेहूं, अरहर, चना, मसूर, सरसों	कुछ भी सम्भव नहीं हो पाया
2	1986	आगजनी	मानवीय चूक	—	430	पूरा गांव जलकर राख	मिट्टी बालू आदि से बुझाने का प्रयास
3	2013-14	ओलावृष्टि	भारी ओलावृष्टि	—	1600	520 हे० क्षेत्र प्रभावित	कुछ भी सम्भव नहीं हो पाया
4	2019	आगजनी की घटना	मानवीय चूक	—	6 परिवार प्रभावित	घर-गृहस्- ती का सामान	बालू रेता पानी आदि से बुझाने का प्रयास
5	2020-21	कोरोना का प्रभाव	लोग आजीविका हेतु दिल्ली मुम्बई आदि शहरों से लोग गांवों को लौटे	8	लगभग 2600	रोजगार बाधित तथा अर्थिक क्षति	मास्क एवं सैनिटाइजर का उपयोग, साफ-सफाई उचित दूरी का पालन
6	2021-22	बारिश एवं ओलावृष्टि	मौसम खराब	—	पूरा गांव	रबी की फसलें	कोई कार्य नहीं

आजीविका के साधनों पर आपदाओं का प्रभाव

क्रम सं०	आजीविका के प्रकार	परिवार की संख्या	आपदा	आपदा का प्रभाव			क्या प्रभाव पड़ता है
				अधिक	मध्यम	कम	
1	कृषि	25	सूखा				<ul style="list-style-type: none"> • सिंचाई पर अधिक खर्च • फसलों की बढ़वार पर असर • फसल उत्पादन में कमी
			शीतलहर				<ul style="list-style-type: none"> • फसलों में झुलसा रोग • आलू में पाले की समस्या

Annexure IV: Estimating Targets and Costs

Enhancing Green Spaces and Biodiversity

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
a) Plantation activities	<p>Phase 1: Similar to current level of plantation activities that the GP does (to be asked during consultation with the Pradhan)</p> <p>Phase 2: Increase plantation targets by 1500-2000 based on availability of land</p> <p>Phase 3: Further increase target by 1500-2000 based on availability of land</p>	<p>Tree plantation (preparation, sapling, labour, etc.)⁸⁷ = ₹70 per tree (saplings are also available at no cost from DoEFCC, GoUP)</p> <p>Tree Guards (metal)⁸⁸ = ₹1,200 per unit</p> <p>Maintenance of plantations: ₹1.5 lakh/ha</p>	<p>Sequestration potential estimated based on teak species - 5.6 to 10 tCO₂e sequestered per tree</p> <p>Plantation density for agro forestry is considered 100 trees/ha</p>
b) Arogya van	<p>For a GP with area less than 300-400 ha, one <i>Arogya van</i> can be suggested with 0.1 ha area</p> <p>For a GP with area of around 1000 ha, one <i>Arogya van</i> can be suggested with an area of 0.2- 0.5 ha based on availability of land</p>		
c) Agro-forestry	<p>(Can be subjective and agro-forestry activities can be started from Phase 1)</p> <p>Phase 2: 40 % of total agricultural land; with +100 trees planted per hectare</p> <p>Phase 3: Remaining agricultural land; with + 100 trees planted per hectare</p>	<p>Cost of agroforestry⁸⁹ = ₹40,000/hectare⁹⁰</p>	

87 Cost as per plantation guidelines and inputs from GPs

88 Cost as per market rates

89 Cost as per Sub-mission on Agroforestry Guidelines, National Mission for Sustainable Agriculture

90 <https://link.springer.com/article/10.1007/s42535-022-00348-9>

Sustainable Agriculture

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
a) Micro irrigation- drip and sprinkler irrigation	<p>Phase 1: 30% of total agricultural land to be covered</p> <p>Phase 2: 70% of total agricultural land to be covered</p> <p>Phase 3: 100% of total agricultural land to be covered</p>	₹1 lakh per ha	
b) Construction of bunds	<p>Phase 1: 50% of total agricultural land to be covered</p> <p>Phase 2: 100% of total agricultural land to be covered</p> <p>Phase 3: Maintenance of bunds</p> <ul style="list-style-type: none"> - Bunding is done on periphery of agricultural fields - Farmers in GP have land holdings of various sizes <p>Assumption: all fields are square</p>	1m of bunding ⁹¹ = ₹150	
c) Construction of farm ponds	<p>Phase 1: 5-10 ponds</p> <p>Phase 2: 15- 20 ponds</p> <p>Phase: More if required + Maintenance of ponds</p> <p>Capacity of 1 farm pond= 300 m³</p> <p>Depends on number of large farms in GP + requirement of ponds (based on conversation with Pradhan)</p>	Construction of 1 farm pond ⁹² = ₹90,000	

91 Cost as per inputs received from GPs in HRVCA

92 Cost as per inputs received from GPs in HRVCA

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
d) Transition to natural farming	<p>Phase 1: 15% of total agricultural land to be covered</p> <p>Phase 2: 40% of total agricultural land to be covered</p> <p>Phase 3: 100% of total agricultural land to be covered</p>	<p>A. Training & demonstration (3 sessions): ₹60,000</p> <p>B. Certification (based on expert consultation): ₹33,000</p> <p>C. Introduction of cropping system- organic seed procurement; planting nitrogen harvesting plants: > Cost per acre = ₹2,500</p> <p>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= ₹2,500</p> <p>E. Calculation (cost of transition per acre)= (a)+(b)+(c)+(d) = ₹1,00,000</p> <p>Total Cost⁹³: Area (ha)*2.471*Calculation done in (e) [Area (ha)*2.471*1,00,000 = ₹2,47,100]</p>	

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

Management & Rejuvenation of Water Bodies

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
<p>a) Maintenance of Water Bodies</p> <p>(Cost not to be double counted if these plantations are a part of the overall green space enhancement initiative as mentioned above)</p>	<p>Phase 1: Cleaning, desilting & fencing of water bodies + Tree plantations (1000) around periphery of water bodies</p> <p>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</p> <p>Phase 3: Installation of RWH structures in residential buildings 1000 sq.ft.+ Incorporating RWH system in all new buildings</p>	<p>Approximate cost⁹⁴:</p> <ol style="list-style-type: none"> 1. Restoration (cleaning, desilting, increase in catchment area, etc.) of 1pond = ₹7 lakhs 2. Construction of 1 Retention Pond (300 m3 capacity) = ₹7 lakhs 3. Tree plantation with tree guard =₹1,200 per unit 4. Maintenance Cost: <ol style="list-style-type: none"> a. 1 Pond/water body = ₹3,75,000 b. 1 Retention Pond = ₹50,000 c. Tree with tree guard = ₹20 per unit 	
<p>b) Enhancing Drainage and Sewage Infrastructure</p>	<p>Phase 1:</p> <ol style="list-style-type: none"> a. Cleaning & desilting of existing drains + enhancing drainage infrastructure (construction of new drains) b. Expansion of household toilet coverage under SBM-G c. Construction of soak pits <p>Phase 2 & 3 : Continued activities carried out in Phase 1</p>	<p>Refer mostly to the costs provided in the HRVCA</p>	

94 Cost as per inputs received from GPs in HRVCA

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
<p>c) Rainwater harvesting (RwH) structures</p>	<p>Phase 1: Installation of rainwater harvesting structures (RwH) in all PRI buildings + recharge pits (as recommended in HRVCA)</p> <p>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</p> <p>Phase 3 : Installation of RwH structures in residential buildings 1000 sq.ft.+ Incorporating RwH system in all new buildings</p>	<p>Cost of 1 rainwater harvesting structure with 10 m³ capacity⁹⁵ = ₹35,000</p> <p>Cost of 1 recharge pit⁹⁶= ₹35,000</p>	

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

96 Cost as per inputs received from GPs in HRVCA

Sustainable and Enhanced Mobility

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
a) Enhancing existing road infrastructure	<p>Phase 1: Road elevation works + Road Rcc/ Interlocking works</p> <p>Phase 2 & 3 : Continued maintenance of roads</p>	<p>Cost per km of road upgradation/repair⁹⁷ : Rs 50,00,000 per km</p>	
b) Enhancing Intermediate Public Transport (IPT)	<p>E-autorickshaws as per inputs on requirement of GP</p>	<p>Cost of 1 e-autorickshaw: ~ ₹3,00,000</p> <p>Available subsidy: up to ₹12,000 per vehicle</p>	
c) Facility to hire e-tractors & e-goods vehicles	<p>Phase 1: Promote electric alternatives of diesel tractors and goods transport vehicles + sensitising farmers about long-term benefits of e-vehicles</p> <p>Phase 2 & 3 : Continued sensitisation</p>	<p>Cost of 1 e-tractor= Rs 6,00,000</p> <p>Cost of 1 commercial e-vehicle= Rs 5 to 10 lakhs</p>	

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

Sustainable Solid Waste Management

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
<p>a) Establishing a waste management system</p>	<p>Phase 1 :</p> <ul style="list-style-type: none"> 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) e. Setting up of resource recovery center f. Hiring of <i>safai karmis</i> 	<p>Total waste generated = Primary data, if not available, take average per capita waste generated in the GP as approximately 80 g per day ;</p> <p>Biodegradable/ organic waste: 58%</p> <p>Non-biodegradable/ inorganic waste: 42%</p> <p>No. of e-garbage Vans required⁹⁸ = Total waste generated / capacity of each van (310 kg)</p> <p>No. of waste bins = from HRVCA or can be estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)</p> <p>Cost of setting up resource recovery center = ₹ 2,50,000</p> <p>Annual salary of each safai karmi⁹⁹ = ₹1,20,000 per annum</p>	

98 Cost as per market rates

99 Cost arrived after discussion with GP Pradhan

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
	<p>Phase 2 :</p> <ul style="list-style-type: none"> 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 	<p>No. of plastic shredder unit = 1 per GP</p> <p>Additional waste bins = from HRVCA or estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)</p>	
	<p>Phase 3:</p> <ul style="list-style-type: none"> a. Maintenance works b. Scaling up partnership 	<p>Cost¹⁰⁰ :</p> <ul style="list-style-type: none"> 1. 1 Electric Garbage Van = Rs. 95,000 to 1,00,000 2. 1 waste bins/containers¹⁰¹ = Rs. 15,000 3. Plastic shredder unit¹⁰² = Rs. 50,000 per unit 	

100 Cost as per market rates

101 Cost as per SBM guidelines and inputs in HRVCA

102 Cost as per market rates

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
b) Management of organic waste	<p>Phase 1:</p> <p>a. Setting up Compost & vermi-compost pits through community involvement</p> <p>b. Partnership model between panchayat, community members and farmer groups for:</p> <ol style="list-style-type: none"> 1. Production & sale of compost 2. Sale of agricultural waste 	<p>Total biodegradable/organic waste generated = Primary data</p> <p>Organic waste from houses, commercial shops, PRI buildings, public buildings and open spaces, etc. = xxx kg per day (as per primary data)</p> <p>Potential compost quantity (kg per day) which can be generated¹⁰³ = xxx kg/day of organic waste / 2</p> <p>Periodic composting of ___ kg per year of agricultural waste (as per primary data)</p>	
	<p>Phase 2 & 3</p> <p>a. Maintenance and increasing compost pits capacity</p> <p>b. Scaling up partnership</p>	<p>Cost¹⁰⁴ : 1. Compost Pits cost reference: 30 vermicomposting and 15 Nadep compost pits = Rs. 4,50,000</p> <p>2. Solid Waste Management Yard (for both organic and inorganic waste) cost reference: Rs. 35,00,000</p>	

103 <https://www.biocycle.net/connection-CO2-math-for-compost-benefits/#:~:text=In%20the%20process%20of%20making%20>

104 Cost as per inputs received from GPs in HRVCA

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
c) Ban on single-use-plastics	<p>Phase 1:</p> <ul style="list-style-type: none"> 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	
	<p>Phase 2:</p> <ul style="list-style-type: none"> 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	
	<p>Phase 3:</p> <ul style="list-style-type: none"> 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	
d) Improving Sanitation Infrastructure	<p>Phase 1: Enhancing household toilet coverage</p> <p>Phase 2 & 3: Increasing toilet coverage and maintenance of existing infrastructure</p>	Cost of 1 twin pit toilet ¹⁰⁵ = ₹15,000 to ₹20,000	

105 https://smartnet.niua.org/sites/default/files/resources/SBM_Guideline.pdf

Access to Clean, Sustainable, Affordable and Reliable Energy

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
a) Solar Rooftops	<p>Phase 1 :</p> <p>PRI buildings (Panchayat Bhawan, schools, anganwadi, PHC, CHC, CSC etc)</p> <p>Assumption- 70% of rooftop area is available for solar rooftop installation</p>	<p>Total rooftop capacity installed = 5 sq.m. = 5 kW</p> <p>About 10 sq.m. area is required to set up 1 kWp grid connected rooftop solar system¹⁰⁶</p> <p>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)</p> <p>Installed capacity- from the above website</p> <p>Total installed capacity= Panchayat Bhawan+ School 1+ School 2.... + an other PRI buildings</p> <p>Cost per kWh= ₹50,000¹⁰⁷</p> <p>No. of units of clean electricity generated per day= Electricity generated/365</p>	<p>Annual electricity generated (kWh)* 0.82/ 1000= ____ tonnes of CO₂</p>

106 <https://upneda.org.in/faqs.aspx>

107 Cost as per MNRE and current market rates

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
	<p>Phase 2 & 3: Households Assumption- 70% of rooftop area is available for solar rooftop installation Installed capacity taken to be 3 kWp</p> <p>Phase 1: 40% of total pucca houses to install</p> <p>Phase 3: 100% of total pucca houses to install</p>	<p>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= ₹50,000¹⁰⁸</p> <p>No. of units of clean electricity generated per day= Annual Electricity generated/ 365</p>	
b) Agro-photovoltaic	<p>Phase 2: 25 % of suitable agricultural area</p> <p>Phase 3: 50% of suitable agricultural area</p> <p>Suitable agri area- area under legumes & vegetables (keep the value under 10 ha)</p>	<p>250 kWp installed per hectare</p> <p>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= ₹1 lakh¹⁰⁹</p> <p>No. of units of clean electricity generated per day= Annual Electricity generated/ 365</p>	

108 Cost as per MNRE and current market rates

109 Cost as per market rate of installation

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
c) Solar pumps	<p>Phase 1: 20% of diesel pumps replaced</p> <p>Phase 2: 50% of diesel pumps replaced</p> <p>Phase 3: 100% of diesel pumps replaced</p>	<p>Installed capacity = 5.5 kWh per pump</p> <p>Total installed capacity= No.of pumps replaced * 5.5 kWh</p> <p>Annual clean electricity generated= Total installed capacity (kWh) *310 (days)*24 (hrs)*0.18 (CUF)</p> <p>No. of units of clean electricity generated per day= Annual Electricity generated/ 365</p> <p>Cost per pump = ₹3 to ₹5 lakhs¹¹⁰</p>	<p>Diesel consumption avoided= 390 litres/ per/ year</p> <p>Total diesel consumption avoided per year= No.of pumps replaced * 390</p> <p>Emissions avoided= 1.05 tonnes CO₂e per pump per year</p>
d) Clean cooking	<p>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 <i>chulhas</i></p> <p>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 <i>chulhas</i></p>	<p>Cost for 1 biogas plant= ₹50,000 for 2 to 3 m³ biogas plant</p> <p>Cost for 1 for double burner solar cookstove without battery= ₹45,000</p> <p>Cost for 1 improved <i>chulhas</i>= ₹3,000¹¹¹</p>	

¹¹⁰Cost as per market rates and PMKSY guidelines

¹¹¹Costs as per market rates

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
	<p>Phase 3: 100% of households having cattle to install biogas + 100% of households in the top income groups to have solar induction cookstoves</p>		
e) Energy efficiency (EE)	<p>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</p> <p>Phase 2: All incandescent/ CFL bulbs replaced with LED bulb & all fluorescent tube lights replaced with LED tube light + 1 conventional fan replaced with EE fan in all HH</p> <p>Phase 3: All fans in all HH to be replaced with EE fans</p>	<p>Cost of 1 LED bulb= ₹70</p> <p>Cost of 1 LED tubelight= ₹220</p> <p>Cost of 1 EE fan= ₹1,110¹¹²</p>	
f) Solar streetlights	<p>Based on inputs from Pradhan</p> <p>High-mast solar street light-1 (or more as per requirement) for each PRI building, pond/lake, green space/parks/ playground/ gardens/ <i>arogya</i> van</p>	<p>Cost of 1 high-mast= ₹50,000</p> <p>Cost of 1 solar LED street light= ₹10,000¹¹³</p>	

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

113 Costs as per market rates

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
a) Construction & Renting out of Solar-powered Cold Storage	Setting up of cold storage	<p>Capacity : 1 unit = 5 - 10 metric tonnes based on production of vegetables and fruits/ and/or milk and milk products</p> <p>Cost: ₹8-15 lakh per unit</p>	

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

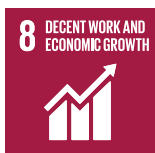
Target 7.2: Increase share of renewable energy in energy mix

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

Timber Trees

Name of plants	Family	Local names	Uses/ Medicinal properties
<i>Acacia nilotica</i>	Fabaceae	Babul	It is used for such products as bodies and wheels of carts, instruments and tools
<i>Ficus religiosa</i>	Moraceae	Peepal	Has medicinal properties and religious value
<i>Azadirachta indica</i> <i>A. Juss.</i>	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.
<i>Tectona grandis</i>	Lamiaceae	Sagaun	It is used in the manufacture of outdoor furniture and boat decks
<i>Dalbergia sissoo</i>	Fabaceae	Sheesham	It has several applications in aircraft and marine plywood, as charcoal for heating and cooking food, creating musical instruments etc
<i>Madhuca longifolia</i>	Sapotaceae	Mahua	It provides quality timber wood for various uses
<i>Shorea robusta</i>	Dipterocarpaceae	Sal	It is used for railway sleepers, ship-building, and bridges.
<i>Cinnamomum tamala</i>	Lauraceae	Indian bay leaf	It helps manage various health issues and used in cooking.

Fruits and Wild Food Plants

Name of plants	Family	Local names	Uses/ Medicinal properties
<i>Mangifera indica</i>	Anacardiaceae	Aam, Mango	All parts are used in traditional treatments
<i>Artocarpus heterophyllus</i>	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.
<i>Psidium guajava</i>	Myrtaceae	Guava, Amrood	It is a common and popular traditional remedy for various gastric ailments
<i>Agaricus campestris</i> L	Agaricaceae	Dharti Ka Phool	A type of mushroom
<i>Alangium salvifolium</i> (L.f.) Wang	Alangiaceae	Dhera, Ako	Ripe fruits are eaten
<i>Amorphophallus paeoniifolius</i> Dennst	Araceae	Elephant foot, Zimi Kand	Eaten as vegetable.
<i>Crotolaria juncea</i> L.	Fabaceae	Sanai	Light boiled buds eaten as vegetable.
<i>Manilkara hexandra</i> (Roxb) Dub	Sapoataceae	Khirini	The fruits are made into pickles & sauces.
<i>Eugenia jambolana</i>	Myrtaceae	Jamun	The root, leaves, fruits and bark have numerous medicinal properties
<i>Aegle marmelos</i>	Rutaceae	Bael	The unripe fruit, root, leaf, and branch are used to make medicine.
<i>Morus rubra</i>	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

Name of plants	Family	Local names	Uses/ Medicinal properties
<i>Withania somnifera</i>	Solanaceae	Ashwagandha	It is useful for different types of diseases
<i>Bacopa monnieri</i>	Plantaginaceae	Brahmi	It is used to manage different respiratory ailments
<i>Andrographis paniculata</i>	Acanthaceae	Kalmegh	It helps to boost immunity and is used to manage the symptoms of the common cold, sinusitis and allergies
<i>Rauvolfia serpentina</i>	Apocynaceae	Sarpagandha	It is used for the treatment of many different ailments.

Endangered trees with medicinal properties

Name of plants	Family	Local names	Uses/ Medicinal properties
<i>Acorus calamus L.</i>	Araceae	Bach, Bal, Ghorbach	A useful ethnomedicinal plants for curing bronchitis, cough, and cold
<i>Asparagus adscendens Roxb.</i>	Liliaceae	Satavar	Helps in treating conditions related to hormone imbalance
<i>Celastrus paniculatus Wild.</i>	Celastraceae	Umjain, Mujhani, Malkangani, Kakundan	Useful in the treatments of a variety of ailments

Other Trees

Name of plants	Family	Local names	Uses/ Medicinal properties
<i>Populus ciliata</i>	Salicaceae	Semal, kapok	Its leaves are used for animal fodder and herbal teas
<i>Eucalyptus globulus</i>	Myrtaceae	Tailapatra	Used in medicines to treat coughs and the common cold and also used to make essential oil

