CLIMATE SMART GRAM PANCHAYAT ACTION PLAN

Bhujpura Gram Panchayat

Department of Environment, Forest and Climate Change

Government of Uttar Pradesh

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मुख्य विकास अधिकारी
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दिनांकः– 09/07/24

:: संदेश ::

मै क्लाइमेट स्मार्ट ग्राम पंचायत– भुजपुरा, विकास खण्ड–सिढ़पुरा, जनपद कासगंज की कार्ययोजना विकसित करने में **पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेश, तकनीकी सहयोगी वसुधा फाउंडेशन नई दिल्ली स्थानीय सहयोगी संस्था गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी.) गोरखपुर** उत्तर प्रदेश के समर्पित प्रयासों के लिए आभार व्यक्त करता हूँ।

जिस प्रकार हम और हमारी ग्राम पंचायतें जलवायु परिवर्तन से उत्पन्न चुनौतियों का सामना कर रही है उसमें यह कार्ययोजना सहयोगी होगी। स्मार्ट और टिकाऊ प्रथाओं को बढ़ावा देकर हमारा लक्ष्य एक ऐसे मॉडल तैयार करना है जो न केवल हमारी पर्यावरण की रक्षा करे बल्कि समुदाय के समग्र कल्याण को भी बढ़ाये।

यह कार्ययोजना ग्राम पंचायतो में संवाद, सहयोग और क्रियान्वयन को प्रेरित करे। साथ मिलकर हम प्रभारी जलवायु नीतियों को लागू कर सकते हैं, स्थायी लक्ष्यों को अपना सकते हैं और एक ऐसे भविष्य का निर्माण कर सकते हैं जो न केवल पर्यावरणीय रूप से मजबूत हो बल्कि समाजिक रूप से भी न्याय संगत हो।

एक बार फिर क्लाइमेट कार्य योजना तैयार करने में अमूल्य योगदान के लिये आप सभी को धन्यवाद। हम योजना के सफल कार्यान्वयन और समुदाय एवं पर्यावरण पर इसके सकारात्मक प्रभाव की आशा करता हूँ।

।। शुभकामनाओं सहित ।।

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(सचिन)

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जनपद- कासगंज

आभार

सर्वप्रथम आप सभी को प्रधान ग्राम पंचायत भुजपुरा जनपद- कासगंज की ओर से सादर नमस्कार और अभिनंदन मुझे आशा ही नहीं पूर्ण विश्वास है कि आप सभी स्वस्थ्य होंगे मैं अपनी ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनाने की ओर बढ़ाये गये प्रथम प्रयास को आपसे साझा करते हुए रोमांचित हूँ ।

जलवायु परिर्वतन से उत्पन्न चुनौतियां हर दिन अधिक स्पष्ट होती जा रही है 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 हो प्रारम्भ किया। सर्वप्रथम आवश्यक थ ग्राम पंचायत में जलवायु परिवर्तन सम्बन्धी समस्याओं और मुद्दों की पहचान करना जिसके लिए समुदायिक सहभागिता के साथ साथ ग्राम सभा की बैठक एवं समूह केन्द्रित चर्चा के आयोजन के अतिरिक्त व्यक्तिगत चर्चा की गयी और आंकड़ों को एकत्र किया गया। आंकडे एकत्र करने की प्रक्रिया को पंचायत में क्रियान्वित करने के लिए मैं स्थानीय सहयोगी संस्था गोरखपुर इनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी.) गोरखपुर का तथा आंकडे एकत्र करने में हमारे सभी ग्रामवासियों के समर्थन और सक्रिय भागीदारी के लिए हृदय से धन्यवाद। हम सभी साथ मिलकर हमारी पंचायत में एक पर्यावरण अनुकूल वातावरण बनाऐंगे 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 विभाग उत्तर प्रदेश और तकनीकि सहयोगी पार्टनर वसुधा फाउंडेशन नई दिल्ली का भी आभारी हूं। जिन्होनें एकत्र किये गए आंकड़ो को कार्ययोजना का स्वरूप दिया तथा मार्गदर्शन एवं तकनीकि सहयोग प्रदान किया।

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

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1 Executive Summary

The Bhujpura Gram Panchayat in the District of Kasganj lies in South-western semi-arid agro-climatic zone of Uttar Pradesh. The Climate Smart Gram Panchayat Action Plan of Bhujpura has been prepared with an 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 Bhujpura is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Bhujpura GP.

The action plan[1] captures the key demographic and socio-economic aspects, key issues pertaining to the South-western semi-arid agro-climatic zone, climate variability, carbon footprint analysis of the GP, and current status of natural resources. The action plan also includes inputs from the community members of Bhujpura 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 Bhujpura.

The GP has one revenue village and two hamlets and 946 households with a total population[2] of 3,525 as reported during field surveys. The main economic activity is agriculture. A baseline assessment shows

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 Bhujpura.
- *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 Bhujpura.
- *Proposed recommendations*: Recommendations were developed for Bhujpura based on the environmental and climatic issues identified. These recommendations also take into account the prevailing agro-climatic characteristics of South-western semi-arid agro-climatic zone. Additionally, sector-wise adaptation needs & mitigation potential of Bhujpura 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)

2 Census 2011 data notes: Total Population- 2,253

that Bhujpura GP has a carbon footprint of ~1,575 tCO_2e[3].

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

- Enhancing water availability through initiatives like rejuvenation of ponds, groundwater restoration and rainwater harvesting
- Adopting sustainable agriculture practices, including micro irrigation practices and growing climate resilient crops (drought tolerant varieties like wheat, paddy and millets, etc.)
- Promoting Renewable Energy (RE) solutions such as solar-powered pumps and energy efficient pumps
- Improving income through the diversification of livelihoods, providing more opportunities in green jobs

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

The activities under these recommendations have been divided into 3 phases- Phase I (2024-27), 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 (CSAP) for Bhujpura is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Bhujpura GP.

CSAP will supplement and complement the Bhujpura 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.

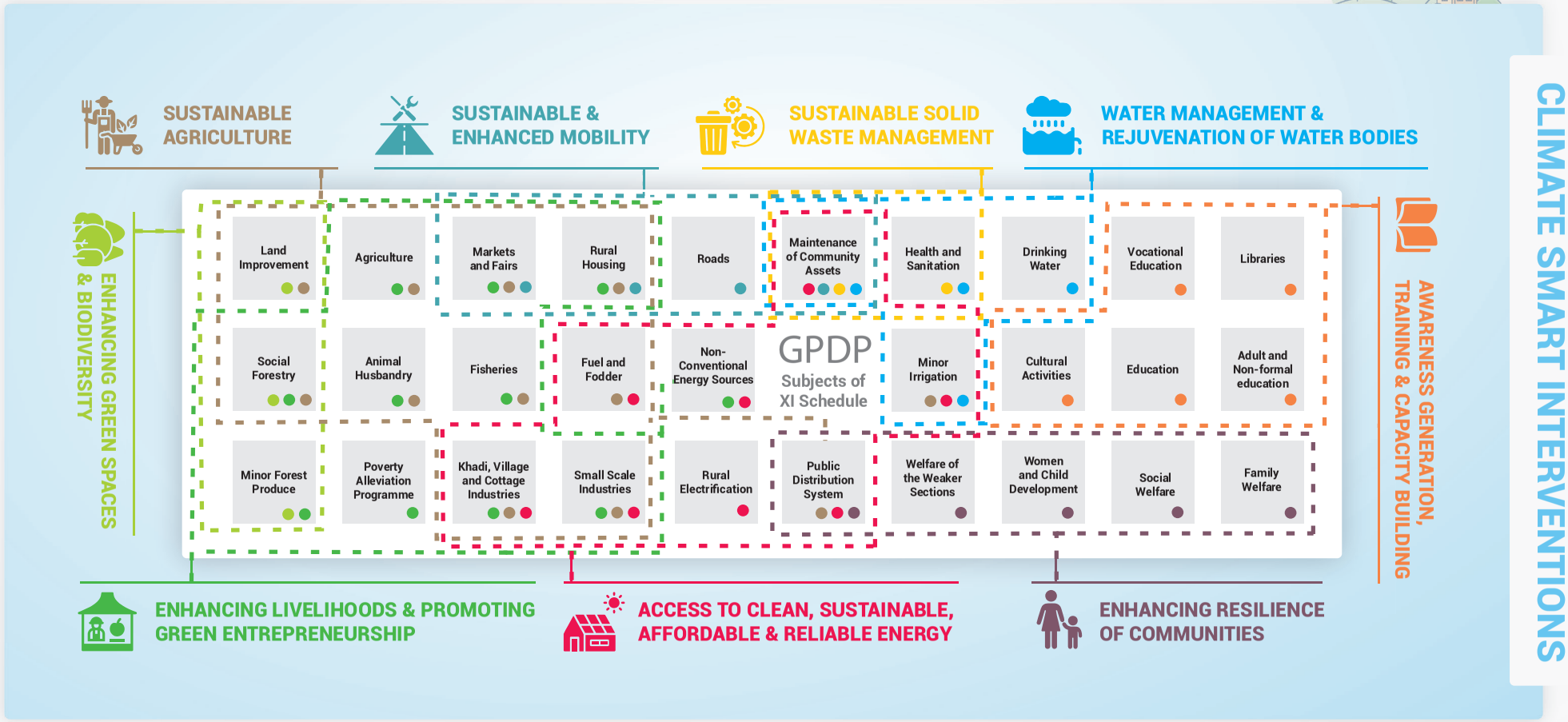
The interventions and annual targets under this Action Plan can be implemented in convergence with the planned activities of the Bhujpura GPDP. The existing budgetary allocations earmarked for certain programs under the GPDP can be used for climate adaptation and mitigation activities proposed in this 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 4,424 tonnes carbon dioxide equivalent (tCO_2e) per annum and sequestration potential goes up to 76,000 tCO_2 over the next 20-25 years. The total cost estimated for the implementation of this plan across the three phases is approximately ₹37.60 crores (for 11 years), comprising of community investment, public finance, private finance and potential CSR funding. From this, 30-35 percent (approximately ₹13 crores) of the required funding can be availed from Central and State Schemes/Missions/Programmes, while the remaining cost can be secured from CSR and private funds. The Government of Uttar Pradesh has adopted an innovative approach of 'Panchayat-Private-Partnerships' to potentially engage CSR and mobilise private finance.

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



2 Gram Panchayat Profile

Bhujpura

Bhujpura Gram Panchayat at a Glance*

Location
Sidhpura Block, Kasganj District

Total Area 274.6 ha

Composition
1 revenue village, 2 hamlets

Total Population[4] 3,525

No. of Males 1,884

No. of Females 1,641

Total Households[5] 946

Panchayat Infrastructure
5 (Panchayat Bhawan, Primary School, Health Sub-centre, Anganwadi Centre, and Community Hall)

Primary Economic Activity
Agriculture

Water Resources
1 Canal,
2 ponds, 8 wells

Land-Use[6]

Agriculture land: ~239.73 ha
Common land: 2.5 ha
Public Park: ~0.5 ha
Forest: ~1 ha,
Remaining land: ~31 ha

Agro-climatic Zone[7]

South-western Semi-arid
Climatic conditions: semi-arid to sub-humid with hot summers and cold winters
Maximum Temperature: 47 °C
Minimum Temperature: 4 °C
Average Annual Rainfall: 662 mm
Soil: Predominantly alluvial suitable for crops like wheat and pulses

Composite Vulnerability[8] **of the District**
High

Sectoral Vulnerability of District

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

* Data from field survey conducted for preparation of the plan (February, 2023)

4 Census 2011 data notes: Total Population- 2,253; Male- 1,226; Female- 1,027
5 868 pucca houses and 78 (mud, thatched, tin) kaccha houses
6 Based on several rounds of discussion with GP
7 UP Department of Agriculture
8 Uttar Pradesh SAPCC 2.0

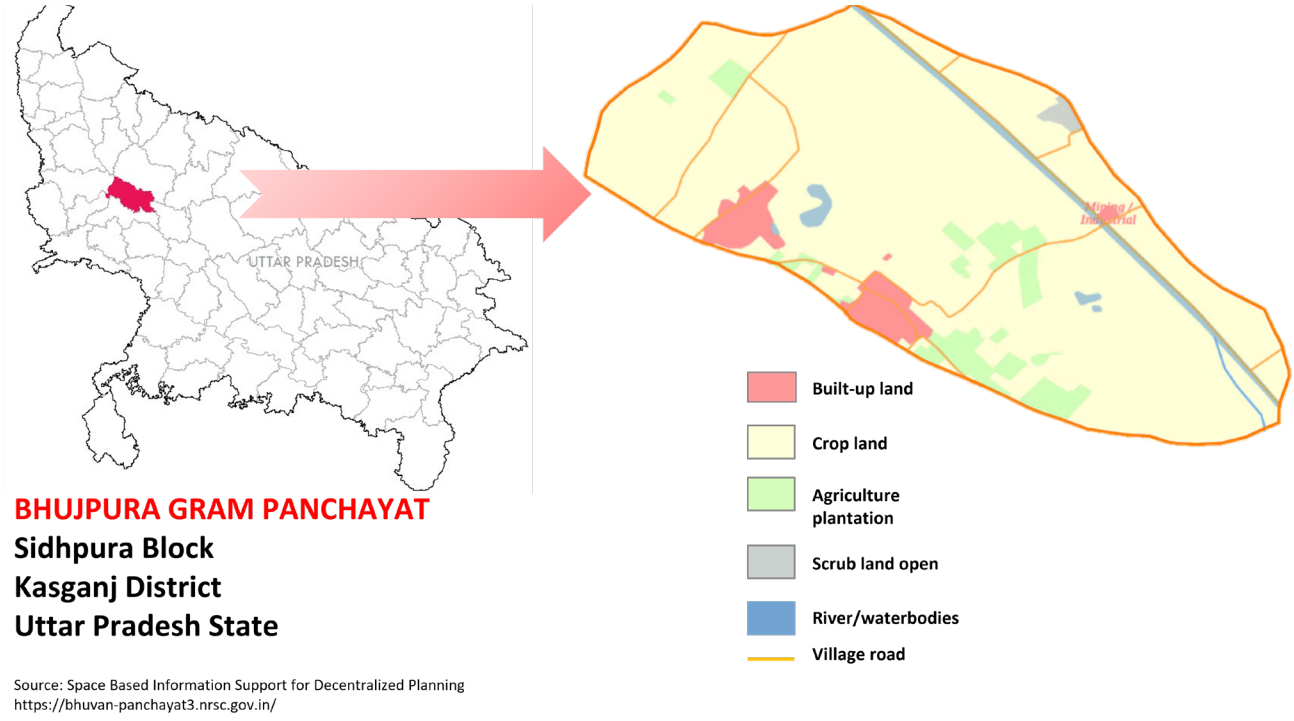


Figure 1: : Land-use map of Bhujpura Gram Panchayat, Kasganj District

Climate Variability Profile

The climate variability data (temperature and rainfall) received from the India Meteorological Department (IMD)[9] - indicates that there has been no significant change in average maximum and minimum temperature in the region (Kasganj district) between 1990 and 2020.[10] (see Figure 2). During the same timeframe, annual rainfall[11] shows no significant change (see Figure 3). However, the IMD data does not capture granular temperature variability at the Panchayat level and further, there are days for which data was not available.

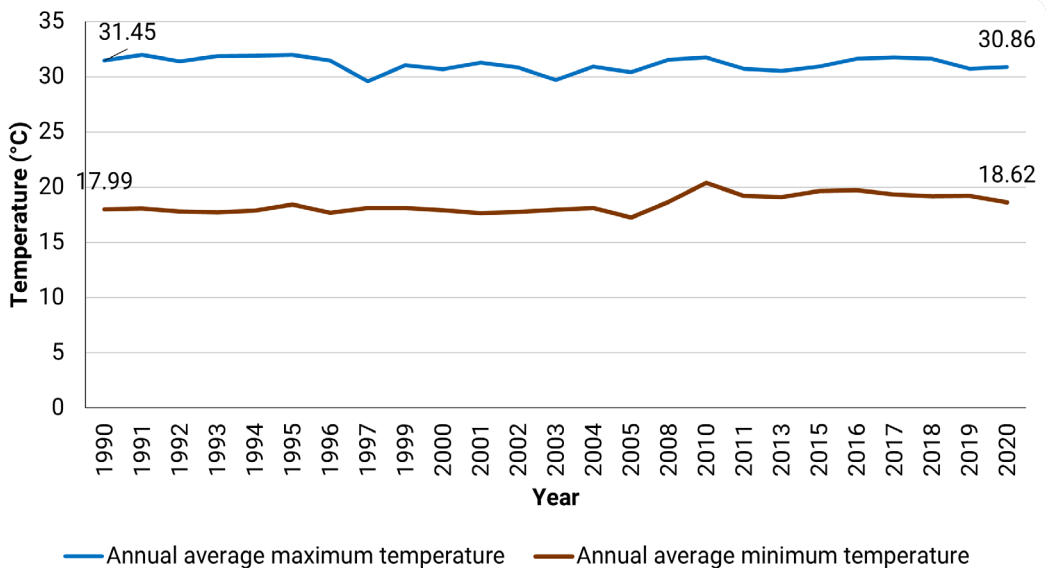


Figure 2: Annual average maximum and minimum temperature in Bhujpura, 1990- 2020

9 Daily temperature (maximum and minimum) data and daily rainfall data taken for Bhujpura GP from Aligarh station (nearest IMD station in the same agro-climatic zone)

10 Temperature data for 1998, 2006, 2007, 2009, 2014 not available

11 Daily rainfall data for 1998, 2006, 2009, 2012 not available

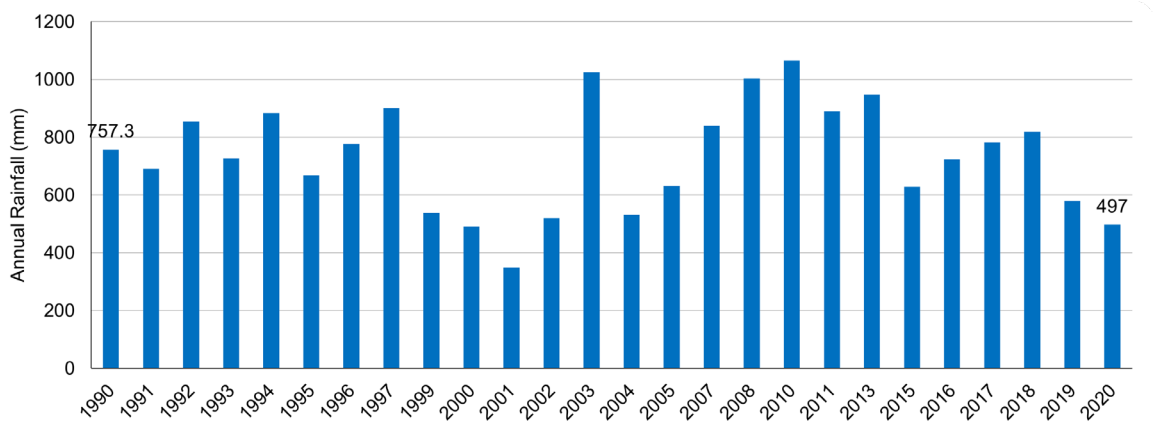


Figure 3: Annual rainfall (mm) in Bhujpura, 1990-2020

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

Further, the perception of communities on weather changes informed from the field survey and focus group discussion indicates that across the decade of 2010-2020, the GP has witnessed an increase in the number of summer days by15 days and decrease in the number of winter days by approximately 30 days. They also indicated that the number of rainy days has also decreased by roughly 30 days[15]

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

Key Economic Activities

Agriculture serves as the primary source of income, engaging nearly 54 percent of the total households[16] (see Figure 4). This is followed by engagement in non-farm related wage labour (~37 percent). A little over 2 percent of the households are involved in animal husbandry. Other households are involved in the service sector, local businesses, arts/handicrafts, etc.

Household level income estimates from the primary survey revealed that a significant number of the households (68 percent) earn less than ₹50,000 per annum, while a small number of the households (2 percent) earn more than ₹2 lakhs - ₹5 lakhs (see Figure 5). At the time of the survey, ~48 percent of the households were below poverty line (BPL) in the GP. The ration

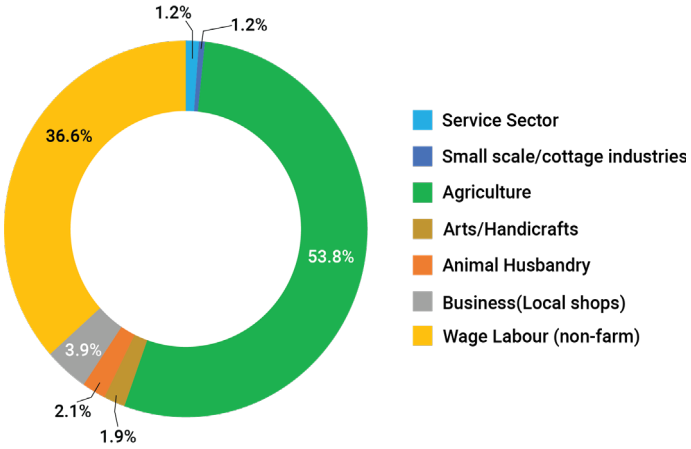


Figure 4: Household level primary sources of income in Bhujpura

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

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

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

15 Data from the field survey conducted for preparation of the plan

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

card data reveals that nearly 48 percent of the households benefit from the public distribution schemes and hold ration cards. Of these, only 60 households hold *Antyodaya* cards[17] (Figure 6).

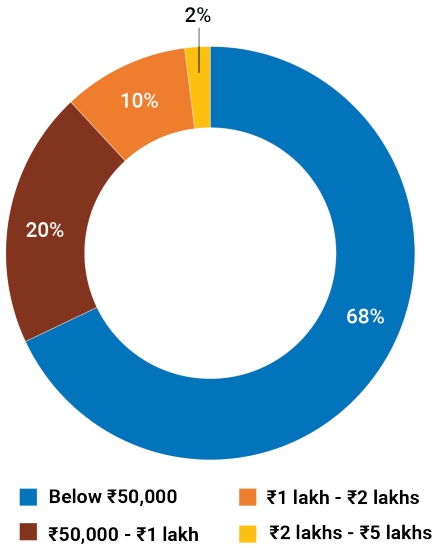


Figure 5: Household level income estimates in Bhujpura

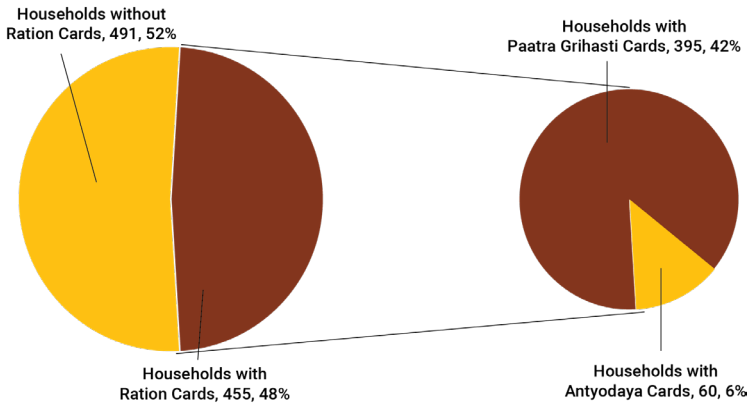


Figure 6: Households with ration cards in Bhujpura

Women's Employment

There are 80 working women in Bhujpura, as reported in the field survey. They are mostly engaged in non-farm related wage labour activities. Other sources of employment include animal husbandry, agriculture, and arts/handicrafts. A small number of women are involved in the service sector such as teaching, banking, and in government jobs, running businesses such as local shops (See Figure 7). There are 80 women-headed households[18] (around 8.4 percent of the total households) in the GP.

The field survey also indicates that there are 8 self-help groups which are mostly involved in agriculture and goat rearing activities.

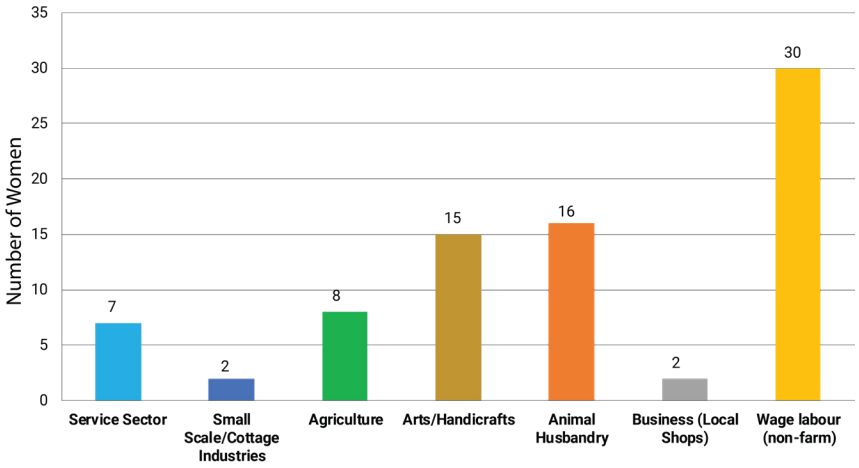


Figure 7: Number of women engaged in various economic activities in Bhujpura

17 National Food Security Portal https://nfsa.gov.in/portal/Ration_Card_State_Portals_AA

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

Agriculture

Nearly 54 percent of the households in Bhujpura depend on agriculture for their livelihoods. The net sown area in Bhujpura is approximately 240 ha while the gross cropped area is ~297 ha. The major *kharif* crops grown are paddy, maize, *bajra*. The major *rabi* crops grown are wheat, mustard, potato, cauliflower, and tomato. Pulses grown here include *masoor, urad, arhar* and *moong*. Other crops grown in Bhujpura are colocasia, tobacco and mango. Figure 8 gives the crop-wise distribution of the gross cropped area in the GP. The sources of irrigation include canals, tubewells, and ponds. There are 400 diesel pumps and 10 electric pumps in use in the GP.

Additionally, around 2.1 percent of the population of the GP is engaged in animal husbandry. The total livestock population is 690 (50 cows, 320 buffaloes, 20 pigs, and 300 goats) in Bhujpura.

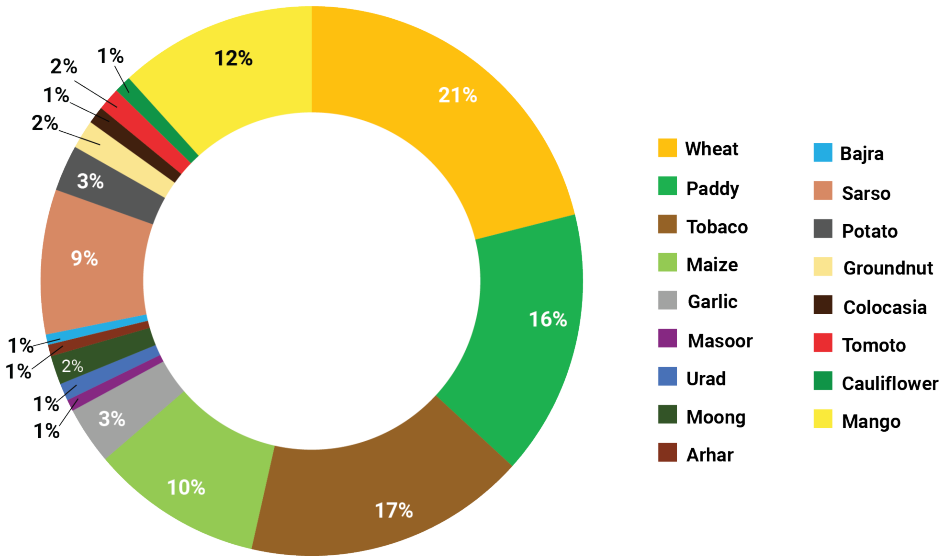


Figure 8: Crop-wise distribution of gross cropped area in Bhujpura GP

Natural Resources

Bhujpura has 2 ponds and 8 wells, as per the field survey. There is also 1 ha of forest area in the GP. Plantation activities are carried out in Bhujpura usually in the month of July. Currently, these plantations cover a total of 0.5 acre. The plantations have been implemented through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Mango, guava, *jamun, ashok, neem*, and *pakad* trees are mostly grown in these plantations.

Amenities in Bhujpura

Electricity & LPG

- Electricity Access: ~90-95%Households
- LPG Coverage: ~65-70% Households

Water

- Main source of water for household use and GP level supply: groundwater
- Household-level Piped Water Supply[19]: 100%

Waste

- Open Defecation Free (ODF) Status: Achieved
- Household Toilet Coverage: ~97%
- 1 Community Toilet

Mobility and Market Access[20]

- Connectivity to Yamuna Expressway: 40 km
- State Highway: SH 33 Kasganj – Etah: 15 km
- Railway Station: 16 km
- Bus Station: 4 km
- Agriculture Market: 4 km
- Ration Shop: 350 m
- Post Office within the GP
- Police Station: 4 km
- Block Development Office: 4 km
- Bank: 4 km

Education

- Government Primary School

Health

- 1 Anganwadi Centre
- 1 Health Sub Centre

19 Jal Jeevan Dashboard https://ejalshakti.gov.in/jjm/citizen_corner/villageinformation.aspx
20 As indicated in the field survey

3 Carbon Footprint

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

Further, the carbon footprint also aids in providing recommendations to ensure sustainable development that aligns with the principles of the LiFE Mission. Overall, in 2022, Bhujpura GP emitted approximately 1,575 tonnes of carbon dioxide equivalent (tCO_2e) from a wide range of activities (see Figure 9).

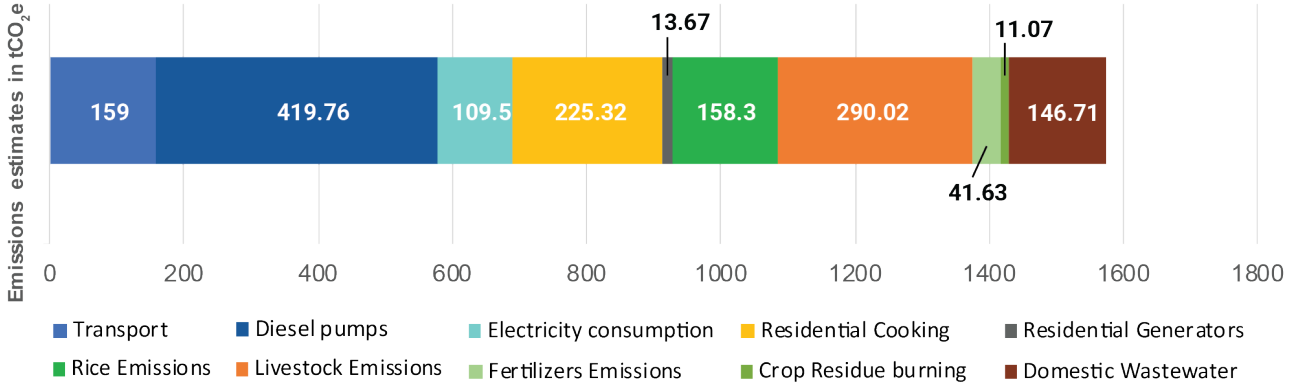


Figure 9: Carbon footprint of various activities in Bhujpura in 2022

Activities in the agriculture, energy and waste sectors contributed to the carbon footprint of Bhujpura. Agriculture sector emissions include those due to rice cultivation, application of fertiliser on agricultural fields, emission from livestock and manure management, and crop residue burning. Energy sector emissions are due to electricity consumption[21], combustions of fuelwood and LPG for cooking, use of diesel pumps for irrigation, use of generators for power backup and use of fossil fuel in various means of transport. Emissions due to domestic wastewater are included in the waste sector.

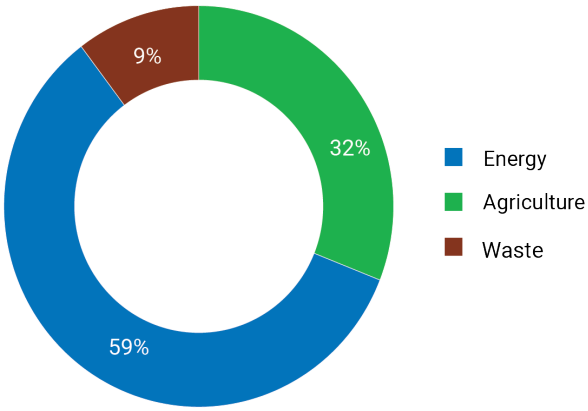


Figure 10: Share of sectors in carbon footprint of Bhujpura in 2022

The energy sector accounted for 59 percent of the total emissions. Within the sector, diesel pump sets accounted for the majority of emissions (~420 tCO_2e), this was followed by residential cooking (~225 tCO_2e), transport (~159 tCO_2e), electricity consumption (~109 tCO_2e) and residential generators (~14 tCO_2e). Emissions from the agriculture sector accounted for 32 percent of the total emissions of Bhujpura GP, with emissions from livestock (~290 tCO_2e) and rice cultivation (~158 tCO_2e) being the leading causes of GHG emissions. The waste sector accounted for 9 percent of the total emissions.

21 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 the field surveys, and focus group discussions.

Wherever possible, this information was corroborated with available government data sources. However, certain issues are completely based on information from the community because for these GP level data was not available for corroboration. The issues identified in the GP are summarized below. Further, the detailed issues are listed in the respective themes of the recommendations section.

Broad Issues:

- Changes in seasonal durations and erratic rainfall affecting sowing time, harvesting time and irrigation needs of crops among other impacts in the GP
- Frequent occurrence of droughts in the months of July to August and waterlogging issues in the months of August to September
- Unsustainable agricultural and animal husbandry practices
- Limited waste management practices
- Poor maintenance of natural resources including water bodies
- Dependence on fossil fuels and traditional fuels for cooking, 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

5 Proposed Recommendations

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 estimates**[22] (to the extent possible). The targets are spread across three phases: Phase-I (2024-25 to 2026-2027); Phase-II (2027-28 to 2029-30); and Phase-III (2030-31 to 2034-35).

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

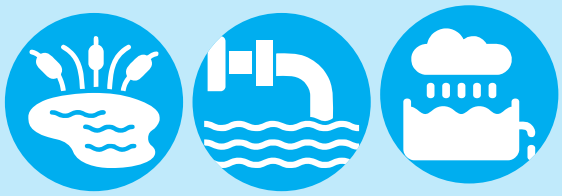
The financing avenues identified include, Central or State schemes, various tied and untied funds of the Gram Panchayat or private finance through CSR interventions have been identified. The detailed recommendations are in the following section:

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

1. **Management and Rejuvenation of Water Bodies**
2. **Sustainable Agriculture**
3. **Enhancing Green Spaces and Biodiversity**
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.

22 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[23]

- Bhujpura GP primarily relies on groundwater as primary source of water for domestic use while canal, tubewells, and ponds are the main sources of irrigation in the GP.
- There have been frequent incidences of droughts in the month of July to August every year from 2018 to 2022.
- There are 2 ponds in Bhujpura, both are poorly maintained and filled with silt, debris, and waste and therefore they need to be cleaned and rejuvenated.
- Waterlogging is one of the key concerns in Bhujpura, particularly during the months of August and September. It affects kharif crops across nearly 20 acres, impacts livestock, pollutes drinking water and causes health problems.[24] It is exacerbated by inefficient and poorly maintained drainage infrastructure.
- The dependence on groundwater and frequent incidence of droughts in the past five years emphasize 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 Bhujpura.

23 As understood from the community during field surveys and FGDs and corroborated by relevant resources.

24 Based on inputs received during field survey

Rejuvenation and Conservation 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	1. Cleaning, desilting and fencing of water bodies 2. Reboring and repairing of hand pumps 3. Tree plantation around water bodies with tree guards. 4. Capacity building of the existing Village Water and Sanitation Committee (VWSC)[25]: a. To enhance awareness among various key community groups to improve water conservation b. Prepare/update Village Water Security Plan to ensure optimum utilisation of available water to meet the needs of various users	1. Additional tree plantation around water bodies 2. Regular maintenance of water bodies 3. Capacity building of the community and other stakeholders 4. Update Village Water Security Plan to ensure optimum utilisation of available water	1. Regular maintenance of water bodies 2. Update Village Water Security Plan to ensure optimum utilisation of available water
Target	1. 2 ponds cleaned & desilted[26] 2. 8 wells desilted & repaired 3. Reboring of 4 hand pumps 4. Repairing of 45 hand pumps 5. Plantation of 1000 trees with tree guards (around water bodies)	1. Maintenance of 2 ponds 2. Additional 1000 trees planted around water bodies with tree guards	Maintenance of 2 ponds

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

26 Jagnaiya pond (2 acre) and Hathgada pond (2.5 acre) as per HRVCA

Estimated cost	1. Cleaning of ponds: ₹14,00,000 2. Desilting of wells; ₹3,80,000 3. Reboring of hand pumps: ₹90,000 4. Repairing of hand pumps: ₹1,30,000 5. Plantation around water bodies: covered in section "Enhancing Green Spaces and Biodiversity": ₹12,70,000 *Total cost: ₹20 lakhs*	1. Maintenance of ponds: ₹7,50,000 2. Plantation around water bodies: covered in section "Enhancing Green Spaces and Biodiversity": ₹12,70,000 *Total Cost: ₹7.5 lakhs*	Maintenance of ponds: ₹7,50,000 *Total Cost: ₹7.5 lakhs*

Enhancing Drainage Infrastructure

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Construction of new drains 2. Cleaning, desilting, and repair of existing drains	Phase I activities continue	Phase I activities continue
Target	1. Construction of drains in 2 locations[27] of total length around 1,500 m 2. Cleaning and desilting of existing 2 km drain	Regular maintenance of drains in the GP	Regular maintenance of drains in the GP

27 Refer to HRVCA for details of locations

Estimated cost	1. Construction of 1,500 m of drains: ₹11,39,000 2. Cleaning and desilting of existing drains: ₹3,00,000 *Total cost: ₹14.39 lakhs*	As per requirement	As per requirement

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	1. RwH structures installation in Panchayati Raj Institution (PRI) buildings 2. Recharge pits for recharging groundwater 3. Incorporating RwH system in all new buildings	1. Installation of RwH structures in residential buildings above a plot size of 1500 sq. ft. 2. Digging of more recharge pits/trenches in the identified catchment areas 3. Incorporating RwH system in all new buildings	1. Installation of RwH structures in residential buildings 1000 sq. ft. 2. Incorporating RwH system in all new buildings
Target	1. RwH in all PRI buildings- Installation of recharge pit of storage capacity 10 m^3 2. 5 recharge pits dug[28]	1. 608 pucca households to install RwH structures with an average storage capacity of 10 m^3 2. Digging more recharge pits as per requirements	1. 260 pucca households to install RwH structures with an average storage capacity of 10 m^3 2. Maintenance of recharge pits
Estimated cost	1. RwH: ₹1,75,000 for 5 units 2. Recharge pits: ₹1,75,000 for 5 units *Total cost: ₹3.5 lakhs*	1. RwH: ₹2,12,80,000 for 608 units 2. Recharge pits: cost as per requirement *Total cost: ₹2,12,80,000*	RwH: ₹91,00,000 for 260 units *Total cost: ₹91 lakhs*

28 Installation of recharge pits at PRI buildings (based on inputs received from GP)

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

Key Departments

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

2. Sustainable Agriculture

Context and Issues

- The total area under agriculture in Bhujpura is 239.73 ha and the gross cropped area is nearly 297 ha.
- Nearly 54% of the households in the GP depend on agriculture practices as their source of income.
- The major crops grown are wheat (~63 ha), paddy (~46 ha), maize (~30 ha), mustard (~25 ha), garlic (~10 ha), potato (~8 ha), and other crops (~29 ha), across *kharif* and *rabi* seasons. Additionally, there are farmers engaged in cultivation and management of mango orchards (~35 ha).[29]
- Since 2018, Bhujpura GP has experienced droughts every year between 2018 and 2022, typically during July to August[30], leading to crop failures and fodder shortages that threaten farmers' livelihood.
- The sowing time for wheat, mustard, and potato has shifted from November to December due to delayed winters.[31]
- Between 2019 to 2022, crop losses were caused by erratic rainfall, intense summer season, and diseases. The losses amount to around 4,590 quintals of produce (paddy, wheat, mustard, *moong, arhar,* etc.) or approximately Rs 89 lakh (corroborated by prevailing MSP of the respective years).
- Farmers in Bhujpura use ~23 tonnes of urea, ~13 tonnes of DAP, and other nitrogenous fertilizers annually, leading to GHG emissions of ~42 tonnes CO_2e per year. Additionally, farmers rely on other chemical inputs such as pesticides and weedicides. Natural farming is not practiced in Bhujpura.
- The agricultural water demand has increased significantly, as reported in the field survey, stressing on the need for water conservation and improved irrigation techniques.
- Households practicing animal husbandry lack sustainable manure management practices.[32]

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

29 As per inputs received during the surveys
30 Based on inputs from the community during field surveys
31 As reported by GP during field surveys
32 As reported by GP during field surveys

Drought Management for Agriculture

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Promotion and adoption of micro irrigation practices like drip irrigation and sprinkler irrigation 2. Construction of bunds with trees around agricultural fields 3. Adoption of drought tolerant variety of rice and shift to dry direct seeded rice to reduce water requirement of the crop 4. Adoption of drought tolerant variety of wheat 5. Increase area under millet crops 6. Promote artificial recharge by building farm ponds where feasible 7. Need based nutrient management in crops[33] (e.g., Organic recycling, nutrient for foliar spray, etc.) 8. Creating awareness about various insurance programmes for farmers to protect them from crop loss	1. Extension of micro irrigation 2. Extension of bunds 3. Construction of more farm ponds 4. Expansion of phase I activities to adopt drought tolerant variety 5. Crop rotation and mixed cropping with drought resistance crops such as millets and legumes 6. Continue the initiatives on creating awareness and provide support to farmer to avail various insurance programmes to protect them from crop loss	1. Extension of micro irrigation 2. Expansion of Phase II activities to adopt drought tolerant variety

33 Drought Manual (2020), https://vedas.sac.gov.in/static/pdf/Drought%20Manual-2020.pdf

Target	1. 119.5 ha to have bunds with trees (50 percent of total agricultural area) 2. Micro irrigation practices introduced in mango orchards of ~35 ha 3. Construction of 5-10 farm ponds of 300 m^3 capacity each as feasible	1. All agriculture land 120.2 ha to have bunds with trees 2. Micro irrigation practices introduced in 22.7 ha (50% of agricultural land under mustard, tomato, cauliflower, potato and groundnut) 3. Construction of 15-20 farm ponds as feasible	1. Micro irrigation practices introduced in 22.8 ha (100% of total agricultural land under mustard, tomato, cauliflower, potato and groundnut) 2. Maintenance of bunds and farm ponds
Estimated cost	1. Bunds: around ₹1,63,950 2. Micro irrigation: ₹35,00,000 3. Farm ponds: ₹4,50,000 to ₹9,00,000 *Total cost: ₹31,13,950 to ₹45,63,950*	1. Bunds: around ₹1,64,400 2. Micro irrigation: ₹22,70,000 3. Farm ponds: ₹13,50,000 to ₹18,00,000 *Total cost: ₹37,84,400 to ₹42,34,400*	Micro irrigation: ₹22,80,000 *Total cost: ₹22,80,000*

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. Promote natural farming through the use of organic fertiliser, bio-pesticides and bio-weedicides. a. Training and demonstration b. Development of nursery and local seed bank c. Organic/natural farming certification process to initiated d. Market linkages to be explored	1. Continuing the transition of agricultural land to natural farming (nursery, seed bank, certification mechanism & market linkages established) 2. Promotion and adoption of practices implemented in Phase I	1. 100 percent expansion of transitioning agricultural land to natural farming 2. Continued engagement with KVK for IPM

Suggested Climate Smart Activities	2. Promotion and adoption of practices such as mixed cropping, crop rotation, zero tillage 3. Use of mulching to minimise evaporation losses from irrigated fields 4. Promotion of Agro-Eco System Analysis (AESA) based Integrated Pest Management (IPM)[34] strategies for area under mango farming		
Target	1. Transitioning 36 ha (15 percent) of agricultural land to natural farming 2. Training and capacity building of 58 mango farmers on AESA based IPM strategies	1. Transitioning 81 ha (40 percent) of agricultural land to natural farming 2. Implementation of AESA based IPM strategies	1. Transitioning remaining 122.7 ha (100 percent covered) of agricultural land to natural farming 2. Regular engagement with KVK on IPM strategies
Estimated cost	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ₹88,95,600 3. Cost of training (on IPM strategies): As per requirement *Total cost: ₹89,55,600*	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ~₹2,00,15,100 *Total cost: ₹2,00,75,100*	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ~₹3,03,19,170 *Total cost: ₹3,03,79,170*

34 https://niphm.gov.in/IPMPackages/Mango.pdf

Sustainable Livestock Management

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Raising awareness and capacity building for households engaged in animal husbandry for livestock management 2. Training community members as animal health workers/para-vet training for improving access to livestock health services *Refer to section "Additional Recommendations" for intervention on reducing methane emission from livestock.*	1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement	1. Expansion of training and capacity building activities 2. Scaling up para-vet training as per requirement
Target	1. Workshops organised for households engaged in animal husbandry on sustainable rearing practices, disease prevention, and management of livestock health 2. Training of 2 para-vets[35]	1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock	1. Additional workshops on disease prevention and sustainable rearing practices organised 2. Continued training and capacity building for livestock
Estimated cost	Cost of workshop and para-vet training: As per requirement	As per requirement	As per requirement

Existing Schemes and Programmes

- Drought management and proofing practices can be supported through funds and subsidies from Pradhan Mantri Krishi Sinchai Yojana (PMKSY), UP Millets revival programme, Pradhan Mantri Fasal Bima Yojana, National Agricultural Insurance Scheme, Weather-based Crop Insurance Scheme, Gramin Krishi Mausam Seva Scheme.
- Drought proofing activities and creation of nurseries and seed banks can be streamlined through MGNREGA.

35 No. of community-based animal health workers trained based on requirement of the GP

- Natural farming practices can be supported through funds and subsidies provided under various schemes such as: Paramparagat Krishi Vikas Yojana (PKVY) and Soil Health Management Scheme
- Technical and knowledge support as well as organic farming demonstrations for farmers can be enabled through National and Regional Centres for Organic Farming (NCOF & RCOF), Krishi Vigyan Kendra (KVK), nearest Organic Farming Cell of the Department of Agriculture, Cooperation and Farmer Welfare.
- Agricultural Technology Management Agency (ATMA) can be tapped into for support for training and capacity building of the farmers and FPOs for technology upgradation and sustainable farming.
- Krishi Raksha Scheme supports farmers in pest control through different ecological resources and to promote use of bio-chemicals.
- Para-veterinarian training and capacity building can be leveraged through state schemes like State Rural Livelihood Mission, Uttar Pradesh *Pashudhan Swasthya Evam Rog Niyantran Yojana,* and *Rashtriya Gokul Mission*.

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 Bhujpura 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, Kasganj

3. Enhancing Green Spaces and Biodiversity

Context and Issues

- In the GP, 1 ha of land is under forest, which is notified by the Forest department.
- The plantation in Bhujpura includes 0.5 acres of community plantation near schools, beside pond and near Panchayat building, which was carried out under MGNREGA. The major species include mango, guava, jamun, *ashok, neem*, and *pakad* trees are mostly grown in plantations.
- Further, most plantation activities are usually carried out in the month of July, most recent conducted in the year 2022.[36]

Bhujpura gram panchayat has potential to enhance lung spaces, as it will not only improve thermal comfort and provide shade but also improve soil health and water levels in the long term, in addition to enhancing carbon sink in the GP.

36 As reported during the field surveys

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[37] through various initiatives: **a. Green Stewardship programme**[38] for students (5 students selected) b. Awareness building program among community on forest conservation and protection	1. Existing plantations maintained 2. Farmer encouraged to adopt agroforestry	1. Plantation activities to continue and maintained 2. 31 ha (100 percent of land suitable for agroforestry) is covered under agro-forestry initiative
Target	1000 saplings of common and endangered trees to be planted and ensure at least 65 percent survival rate (using tree guards). Sequestration potential 5,600 tCO_2 to 10,000 tCO_2 in 15-20 years	1. Another 1500 to 2000 sapling planted, along roads, pathways and around water bodies in the GP Sequestration potential 9,800 tCO_2 to 17,500 tCO_2 in 15-20 years 2. Agro-forestry adopted in 12 ha land (40 percent of land suitable for agroforestry[39]), 1,200 trees planted Sequestration potential of teak plantation= 6,720 tCO_2 to 12,000 tCO_2 in 20 years	1. Another 1500 to 2000 saplings planted Sequestration potential 9,800 tCO2 to 17,500 tCO2 in 15-20 years 2. Agro-forestry adopted in the remaining land suitable for agroforestry i.e. 19 ha, and 1,900 trees planted Sequestration potential= 10,640 tCO2 to 19,000 tCO2 in 20 years for teak plantation

37 Trees species listed in Annexure VI

38 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.

39 The agricultural land under wheat and vegetables (31 ha) is considered suitable for agroforestry.

Estimated cost	Plantation activities: ₹12,70,000 *Total cost: ₹12.7 lakhs*	1. Plantation activities: ₹19,05,000 to ₹25,40,000 2. Agro-forestry activities: ₹4,80,000 3. Maintenance of plantations: ₹1,80,000 *Total cost: ₹25.65 lakhs to ₹32 lakhs*	1. Plantation activities: ₹19,05,000 to ₹25,40,000 2. Agro-forestry activities: ₹7,60,000 3. Maintenance of plantations: ₹1,80,000 *Total cost: ₹28.45 lakhs to ₹34.8 lakhs*

People's Biodiversity Register

Phase	**I** **2024-25 to 2026-27**	**II** **2027-28 to 2029-30**	**III** **2030-31 to 2034-35**
Suggested Climate Smart Activities	1. Updating People's Biodiversity Register 2. Build awareness	1. Updating of People's Biodiversity Register continued 2. Strengthen awareness	1. Updating of People's Biodiversity Register continued 2. Strengthen awareness
Target	1. Formation and capacity enhancement of the Biodiversity Management Committee (BMC) 2. Participatory update of the People's Biodiversity Register	Participatory update of the People's Biodiversity Register continues	Participatory update of the People's Biodiversity Register continues
Estimated cost	*Formation of BMC and training cost[40] : ₹25,000*		

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

Existing Schemes and Programmes

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

Key Departments

- Department of Environment, Forest and Climate Change
- State Biodiversity Board
- Panchayati Raj Department
- Department of Rural Development

4. Sustainable Solid Waste Management

Context and Issues

- The total waste generated[41] from all domestic activities (household, public and semi-public spaces, and commercial areas) in the GP is approximately 282 kg per day. Out of this, approximately 164 kg is biodegradable/organic waste and 118 kg is non-biodegradable waste.
- As per inputs received during field surveys, there is a lack of solid waste management in the GP
- The large quantities of agricultural and animal waste also add to the waste management issues in Bhujpura. The total livestock population in the GP is 670 (including cow, buffalos, and goats) and the estimated dung output is roughly 5.3 tonnes per day which can be managed substantially through interventions such as composting, vermicomposting, natural fertilisers production and biogas generation in Bhujpura.[42]
- The household toilet coverage is nearly 97% in the GP.

Against this backdrop the following solutions are proposed to ensure 100% solid waste management as well as boost the rural economy and create livelihood opportunities.

41 Refer to Annexure IV for estimation methodology

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

Establishing a Waste Management System

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Setting up GP-level segregation and storage facility: for non-biodegradable waste 2. 1 Electric vehicle for collection and transportation of waste from households to GP level storage facility 3. Installation of waste collection bins at strategic locations (markets, shops, tea stalls etc.) 4. Setting up partnerships between Panchayat, SHGs, informal ragpickers, local scrap dealers, local businesses, and Micro, Small, and Medium Enterprises (MSMEs)	1. Maintenance of GP-level segregation and storage facility 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	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
Target	1. 1 EV for daily waste collection 2. 946 households (100 percent) covered under GP's waste management system 3. Installation of 18 waste bins at strategic locations such as PRI buildings, public spaces, market, etc.	1. Maintenance of existing facilities and waste management system 2. Installation of additional waste bins as per requirement	1. Maintenance of existing facilities and waste management system 2. Installation of additional waste bins as per requirement
Estimated cost	1. 1 EV: ₹1,05, 000 2. 18 waste bins/ containers: ₹3,50,000 *Total cost: ₹4.55 lakhs*	As per requirement	As per requirement

Management of Organic Waste

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Setting up 20 vermicompost pits 2. Partnership building between Panchayat and relevant stakeholders	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	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
Target	1. Setting up of 20 vermicomposting pits 2. Partnership model between panchayat, community members and farmer groups for (explained in detail in "Enhancing Livelihoods and Green Entrepreneurship" section): » Production and sale of compost » Sale of agricultural waste	1. Setting up of additional compost pits for treatment of all (100 percent) of biodegradable/organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance of compost pits 3. Scaling up partnership	1. Setting up of additional compost pits for treatment of all (100 percent) of biodegradable/ organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance compost pits 3. Scaling up partnership
Estimated cost	Cost of vermicompost pits[43]: ₹4,00,000 *Total cost: ₹4 lakhs*	As per requirement	As per requirement

43 Refer to Annexure 4

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: » Village Water and Sanitation Committee (VWSC) » Students & youth groups » Community members & commercial establishments 2. Partnership model between panchayat women and SHGs for manufacturing products from plastic alternative products (explained in detail in "Enhancing Livelihoods and Green Entrepreneurship" section)	1. Regular awareness, training, and capacity-building programs 2. Scaling up partnership beyond GP to other villages/districts	1. Regular awareness, training, and capacity-building programs 2. Scaling up partnership beyond GP to other villages/districts
Target	1. Complete ban on Single Use Plastics (SUPs) 2. 100-120 women to be engaged in manufacturing plastic alternative products (out of the 150 women currently engaged with SHGs)	1. Ban on SUPs upheld 2. Increased engagement in manufacturing plastic alternative products from this GP & nearby villages of: a. Additional 200 women b. Additional SHGs, MSMEs & individual entrepreneurs	1. Ban on SUPs upheld 2. Consumer-wide plastic use diminishes as alternatives are available readily

Enhancing Sanitation Infrastructure

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. Construction of household toilets 2. Maintenance of community toilet	Regular maintenance of community toilet	Regular maintenance of community toilet
Target	1. Construction of 25 toilets for households 2. Maintenance of 1 community toilet	Maintenance of 1 community toilet	Maintenance of 1 community toilet
Estimated cost	1. Household toilets - ₹3,00,000 2. Community toilet maintenance: As per requirement *Total cost: ₹3 lakhs*	As per requirement	As per requirement

Existing Schemes and Programmes

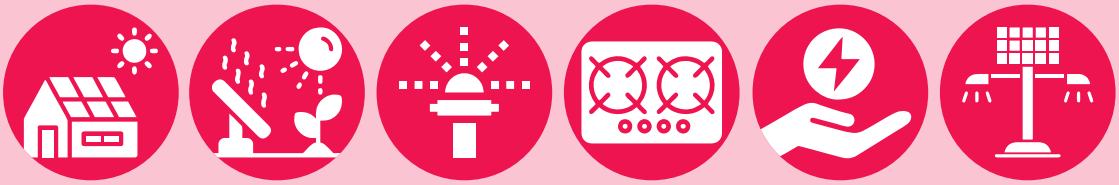
- MGNREGA can be tapped into for the construction of community-based composting facilities, waste collection and segregation pits; segregation and storage shed.
- The development of infrastructure and training and capacity building can be supported by initiatives under the Swachh Bharat (Gramin) Mission.

Other Sources of Finance

- CSR 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

- Bhujpura GP consumed approximately 1,33,541 units of electricity in 2022-23. While 90-95% of households in the GP have electricity connections, the power supply, as understood from the community members is not 24*7. The GP experiences up to 10 hours of power cuts on a daily basis[44].
- Due to the power cuts, there are 2 diesel generators operating in the GP[45] for power backup and they consume about ~5 kL of fuel annually.
- Additionally, there are 400 diesel pumps used for irrigation, which consume nearly 156 kL of fuel annually.
- Incandescent lamps, CFL (compact fluorescent) lights and other electrical fixture and appliances with low efficiency are in use in many homes and public utilities. Additionally, the GP has expressed a need for 280 solar street lights (80 high mast lights and 200 LED streetlights)[46].
- In Bhujpura, only 65-70% households use LPG for cooking, while cowdung and fuelwood is used for cooking in 150 households.[47] There is a need to transition to cleaner cooking solutions that will not only lead to a reduction in emissions but also yield co-benefits such as improved indoor air quality.
- With increasing temperature, thermal comfort levels in homes are reducing and there is need for sustainable space cooling.

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 Bhujpura. 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.

44 As shared by the community in field survey
45 As reported during field surveys
46 Based on inputs received from Gram Pradhan
47 As reported during field surveys

Solar Rooftop Installation

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Solar rooftops to be installed on all government buildings[48] Panchayat Bhawan, primary schools, and Anganwadi centre	1. All new construction can be installed with solar PV 2. Solar rooftop capacity installed on 186 (40 percent) pucca households	1. All new construction can be installed with solar PV 2. Solar rooftop photovoltaic set-up for 280 remaining houses (100 percent of existing pucca houses)
Target	1. Solar rooftop capacity installed on: a. Panchayat bhawan (~ 186 sq. m rooftop area): 10 kWp b. Primary school (~189 sq.m rooftop area): 10 kWp c. Anganwadi centre (225 sq.m rooftop area): 10 kWp d. Community hall (139 sq.m rooftop area): 10 kWp Total solar rooftop capacity installed: ~40 kWp Total annual electricity generated: 53,568 kWh per year (~147 units per day) GHG emissions avoided: approximately 44 tCO_2e per year *In light of much needed and ambitious targets of the recently launched PM Surya Ghar Yojana, households can also be part of if this phase of solar PV installation on rooftops*	Solar rooftop capacity installed on 347 (~40 percent) of pucca houses[49] Solar rooftop capacity installed: 1,041 kWp Total annual electricity generated: 13,94,107 kWh per year[50] (~3,819 units per day) GHG emissions avoided[51]: approximately 1,143 tCO_2e per year	Solar rooftop capacity installed on 521 (~100 percent) of pucca houses Solar rooftop capacity installed: 1,563 kWp Total annual electricity generated: ~ 20,93,170 kWh per year[52] (~ 5,735 units per day) GHG emissions avoided: approximately 1,716 tCO_2e per year

48 Solar rooftop installation in PRI buildings is capped at 10kWh
49 Average area of households considered to be 130 sq.m; 3 kWp rooftop installation estimated per household
50 This generation is ten times higher than the current electricity consumption in the GP
51 The emissions avoided will help move the GP towards carbon neutrality
52 This generation is fifteen times higher than the current electricity consumption in the GP

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Estimated cost	*Total cost: ₹20 lakhs (₹50,000 /kWp)*	*Total cost: ₹5,20,50,000* Indicative subsidy[53]: ~40 percent (State + CFA) Effective cost: ₹3,12,30,000	*Total cost: ₹7,18,50,000* Indicative subsidy: ~40 percent (State + CFA) Effective cost: ₹4,31,10,000

Agro-photovoltaic Installations

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Awareness generation amongst farmers, farmer groups, women's groups, etc.	Agro-photovoltaic installed on area portion of suitable agricultural land (under horticulture and legume crops)	Agro-photovoltaic installed on area portion of suitable agricultural land (under horticulture and legume crops)
Target	Organising awareness campaigns and orientation sessions to encourage uptake of agro-photovoltaic initiatives amongst farmers	Agro-photovoltaic installed on 2 ha Capacity installed: 500 kWp Electricity generated: 6,69,600 kWh per year (~ 1,835 units per day) GHG emissions avoided: 549 tCO_2e per year	Agro-photovoltaic installed on 2 ha Capacity installed: 500 kWp Electricity generated: 6,69,600 kWh per year (~ 1,835 units per day) GHG emissions avoided: 549 tCO_2e per year
Estimated cost	As per the requirement	*Total cost: ₹5 crores*[54]	*Total cost: ₹5 crores*

53 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.

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

Solar Pumps

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Replacing 80 (20 percent) existing diesel pump sets with solar pumps* **If solar pumps are not feasible then, energy efficient pumps (Kisan Urja Daksh Pumps by EESL) can be considered*	1. Replacing 200 (cumulative 50 percent) of the existing diesel pumps with solar pumps and solarization of 10 grid-connected electric pump 2. Encouraging purchase/ use of all new pump sets to be solar-powered	1. Replacing 120 remaining diesel pumps (100 percent coverage) 2. Encouraging purchase/ use of all new pump sets to be solar-powered
Target	Capacity installed: 440 kW Solar based electricity generated: 5,89,248 kWh per year (~1,614 units per day) Diesel consumption avoided: 31,200 liters/year Emissions avoided: 84 tCO_2e per year	Capacity installed: 1100 kW Solar based electricity generated: 14,73,120 kWh per year (~4,036 units per day) Diesel consumption avoided: 78,000 liters/year Emissions avoided: 210 tCO_2e per year	Capacity installed: 660 kW Solar based electricity generated: 8,83,872 kWh per year (~2,421 units per day) Diesel consumption avoided: 46,800 liters/year Emissions avoided: 126 tCO_2e per year
Estimated cost	*Total cost: ₹2,40,00,000 to ₹4,00,00,000 (₹3,00,000 to ₹5,00,000/7.5 HP Solar pump)* *Indicative subsidy: 60 percent (State +CFA)* *Effective cost: ₹96 lakhs to 1.6 crores*	*Total cost: ₹6,00,00,000 to ₹10,00,00,000 (₹3,00,000 to ₹5,00,000/7.5 HP Solar pump)* *Indicative subsidy: 60 percent (State +CFA)* *Effective cost: ₹2.4 crores to 4 crores*	*Total cost: ₹3,60,00,000 to ₹6,00,00,000 (₹3,00,000 to ₹5,00,000/7.5 HP Solar pump)* *Indicative subsidy: 60 percent (State +CFA)* *Effective cost: ₹1.44 crores to ₹2.4 crores*

Clean Cooking

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	*Scenario 1:* Household Biogas + LPG *Scenario 2:* Solar powered induction cookstoves + LPG *Scenario 3:* Solar powered induction cookstoves + Improved *chulhas* + LPG	*Scenario 1:* Household Biogas + LPG *Scenario 2:* Solar powered induction cookstoves + LPG *Scenario 3:* Solar powered induction cookstoves + Improved *chulhas* + LPG All new household constructions include improved *chulhas*/solar-powered cookstoves and/or household biogas plants	*Scenario 1:* Household Biogas + LPG *Scenario 2:* Solar powered induction cookstoves + LPG *Scenario 3:* Solar powered induction cookstoves + Improved *chulhas* + LPG All new household constructions include improved *chulhas*/solar-powered cookstoves and/or household biogas plants
Target	*Scenario 1:* 20 households use Biogas plants (footnote) + 926 households use LPG *Scenario 2:* 28 households use solar powered induction cookstoves (25 percent of households in the top income groups) + 918 households use LPG *Scenario 3:* 28 households use solar powered induction cookstoves (25 percent of households in the top income groups) + 37 households use improved *Chulha* (25 percent of households that currently use biomass) + 881 households use LPG This also includes the continued use of LPG in the GP	*Scenario 1:* Additional households use Biogas plants as per requirement (households having cattle) *Scenario 2:* 28 more households use solar powered induction cookstoves (Additional 25 percent of households in the top income groups) + 890 households use LPG *Scenario 3:* 28 more households use solar powered induction cookstoves (Additional 25 percent of households in the top income groups) + 37 more households use improved *chulha* (Additional 25 percent of households that currently use biomass) + 816 households use LPG This also includes the use of LPG in the GP in remaining households	*Scenario 1:* Additional households use Biogas plants as per requirement (households having cattle) *Scenario 2:* 57 more households use Solar powered induction cookstoves (Additional 50 percent of households in the top income groups) + 833 households use LPG *Scenario 3:* 57 more households use Solar powered induction cookstoves (100 percent of households in the top income groups) + 76 households using improved *chulhas* (100 percent of households that currently use biomass) + 683 households use LPG This also includes the continued use of LPG in the GP

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Estimated cost	*Scenario 1:* ₹10,00,000 for biogas plants (₹50,000 for 2 to 3 m^3 biogas plant) *Scenario 2:* ₹12,60,000 for solar induction cookstove *Scenario 3:* ₹13,71,000 = ₹12,60,000 for solar induction cookstove + ₹1,11,000 *Average cost across scenarios: ₹12,10,300*	*Scenario 1:* Cost as per requirement (₹50,000 for 2 to 3 m^3 biogas plant) *Scenario 2:* ₹12,60,000 for solar induction cookstove *Scenario 3:* ₹13,71,000 = ₹12,60,000 for solar induction cookstove + ₹1,11,000 *Average cost of scenario 2 & 3: ₹13,15,500*	*Scenario 1:* Cost as per requirement (₹50,000 for 2 to 3 m^3 biogas plant) *Scenario 2:* ₹25,65,000 for solar induction cookstove *Scenario 3:* ₹27,93,000 = ₹25,65,000 for solar induction cookstove + ₹2,28,000 *Average cost of scenarios 2 & 3: ₹26,79,000*

Energy Efficiency

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	1. All light fixtures and fans to be replaced with energy efficient fixtures in all government/ public/semi-public buildings (Primary Schools, Panchayat Bhawan, Anganwadi, Community Hall) 2. At least 1 incandescent/CFL bulb in all households to be replaced by LED bulb and 1 fluorescent tube lights to be replaced with LED tube light 3. Residents must also be encouraged to upgrade other household appliances to energy efficient appliances (4-5 star rated by BEE)	1. All incandescent bulbs in households to be replaced by LED bulbs and all fluorescent tube lights to be replaced with LED tube light 2. At least 1 conventional fan to be replaced with energy efficient fans 3. Residents must also be encouraged to upgrade other household appliances energy efficient appliances (4-5 star rated by BEE)	All fans in all households to be replaced with energy efficient fans

Target	1. All tube lights and fans (approx.20 LED tube lights and 14 fans) to be replaced in all government buildings 2. 946 LED bulb and 946 LED tube light installed (1 energy efficient bulb and tube light installed per household)	1. 1,892 LED bulb and 946 tube lights installed in all households (2 bulbs and 1 tube lights replaced per household) 2. 946 energy efficient fans installed in each household (1 fan replaced per household)	946 energy efficient fans installed in all households (1 fan replaced per household)
Estimated cost	Cost of LED bulbs: ₹66,220 Cost of LED tube lights: ₹2,12,520 Cost of energy efficient fans: ₹15,540 *Total cost: ₹2,94,280*	Cost of LED bulbs: ₹1,32,440 Cost of LED tube lights: ₹2,08,120 Cost of energy efficient fans: ₹10,50,060 *Total cost: ₹13,90,620*	Cost of energy efficient fans: ₹10,50,060 *Total cost: ₹10,50,060*

Solar Streetlights

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Install 140 solar LED streetlights along roads, public spaces and other key location	Install 140 solar LED streetlights along roads, public spaces and other key locations	Regular maintenance and addition of streetlights as required
Target	1. Installing 40 high-mast solar LED streetlights at key locations (primary school, Panchayat Bhawan, playground, gardens, water bodies, etc.) 2. Installing 100 solar LED streetlights along the roads and pathways	1. Installing 40 high-mast solar LED streetlights at key locatios[55] 2. Installing 100 solar LED streetlights along the roads and pathways	Regular maintenance and addition of streetlights as required

55 As per GP requirement

Estimated cost	Cost of high mast streetlights: ₹20,00,000 Cost of LED streetlights: ₹10,00,000 *Total cost: ₹30 lakhs*	Cost of high mast streetlights: ₹20,00,000 Cost of LED streetlights: ₹10,00,000 *Total cost: ₹30 lakhs*	As per requirement

Existing Schemes and Programmes

- The Uttar Pradesh Solar Energy Policy, 2022[56] provides:
  - » 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
  - » Provision for solar installations in institutions in RESCO[57] mode by themselves or in consultation with UPNEDA with consultancy fee of 3 percent cost of the plant
- Central Financial Assistance by MNRE through Grid Connected Solar Rooftop Programme
  - » CFA up to 40 percent will be given for RTS systems up to 3 kW capacity. For RTS systems of capacity above 3 kW and up to 10 kW, the CFA of 40 percent would be applicable only for the first 3 kW capacity and for capacity above 3 kW (up to 10 kW) the CFA would be limited to 20 percent.
  - » For Group Housing Societies/Residential Welfare Associations (GHS/RWA) CFA will be limited to 20 percent for installation of RTS plant for supply of power to common facilities. The capacity eligible for CFA for GHS/ RWA will be limited to 10 kWp per house and total not more than 500 kWp
  - » Solar rooftop installations for poor households can be undertaken under the PM-Surya Ghar: Muft Bijli Yojana[58]. 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:
  - » Component A of PM KUSUM Yojana, promotes setting up of 500 kW and larger solar power plants on agriculture land.
  - » Under Components B & C of the PM KUSUM scheme, the Centre and State government will provide a subsidy of 30 percent each per pump basis. Farmers will only need to pay an upfront cost of 10 percent and rest can be paid to the bank in instalments.
- Contribution of U.P. government to PM KUSUM Yojana:
  - » Under Component C-1: Solarisation of installed on-grid pumps with 60 percent subsidy to farmers (70 percent subsidy to the Scheduled Tribe, Vantangia and Musahar caste farmers); this is in addition to subsidy available from central government through MNRE'S PM KUSUM Scheme

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

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

58 https://pmsuryaghar.gov.in/

- » 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 Panchayats[59]:
  - » 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
  - » Atal Jyoti Yojana and MNRE Solar Streetlight Programme provide subsidies for installation of solar street lights with 12 Watt LEDs and 3 days battery back-up.
- GRAM UJALA scheme[60]:
  - » LED bulbs available at an affordable price of ₹10 per bulb
  - » 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
  - » Government assistance in the form of credit linked back ended subsidy of 35 percent of the project cost is available through 2 schemes
    - Department of Agriculture Cooperation and Farmers Welfare (DAC&FW) is implementing Mission for Integrated Development of Horticulture (MIDH)
    - National Horticulture Board (NHB) is implementing a scheme namely "Capital Investment Subsidy for Construction/Expansion/Modernisation of Cold Storages and Storages for Horticulture Products
  - » Under the Pradhan Mantri Kisan Sampada Yojana, the component on Integrated Cold Chain, Value Addition and Preservation Infrastructure provides financial assistance in the form of grant-in-aid at the rate of 35 percent can be obtained for creation of infrastructure facility along the entire supply chain[61] for facilitating distribution of non-horticulture, horticulture, dairy, meat and poultry. The scheme allows flexibility in project planning with special emphasis on creation of cold chain infrastructure at farm level.
- EESL plans to initiate market-based interventions for Solar based Induction cooking solutions by leveraging Carbon financing
- Leveraging funds through the 15th Finance Commission and schemes like GOBARDHAN (Galvanising Organic Bio-Agro Resources Dhan) scheme under Swachh Bharat Mission - Gramin (SBM-G).
  - » 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 plants[62].
- UP Bio-Energy Policy 2022[63] provides incentives for setting up CBG plants in addition to incentives available from Govt. of India under the GOBARDHAN scheme:
  - » The incentive of ₹75 lakh/tonne to the maximum of ₹20 Crore on setting up Compressed Biogas (CBG) Production Plant
  - » Exemption on development charges levied by development authorities
  - » Exemption of 100 percent Stamp duty and Electricity duty
- MNRE implemented the Waste to Energy (WTE) Programme under the umbrella of the National

59 Street Lighting National Programme by EESL. https://eeslindia.org/en/ourslnp/

60 Gram Ujala scheme distributes One Crore LED bulbs in rural areas (Feb 2023), PIB https://pib.gov.in/PressReleasePage.aspx?PRID=1897767

61 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

62 https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1883926

63 https://invest.up.gov.in/bio-energy-enterprises-promotion-programme-2022/

Bio-energy Programme:

- The programme supports the setting up of plants for the generation of Biogas from urban, industrial, and agricultural waste
- Financial assistance available for Biogas generation is ₹0.25 Crore per 12000 m^3/day[64]

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

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

6. Sustainable and Enhanced Mobility

Context and Issues

- Bhujpura has a total of 619 internal combustion engine (ICE) vehicles; 600 - two-wheelers, 5 cars, 5 jeeps, 2 autos, and 7 tractors[65].
- Additionally, there are 15 e-rickshaws and 15 e-vehicles in the GP.
- The total fuel consumption by the ICE vehicles is ~24 kilolitres (kL) of diesel and ~40 kL of petrol per annum. Overall, the fuel consumed in the transport sector has led to over 159 tCO_2e emissions[66].

Therefore, there is significant scope for improving transport infrastructure and transitioning 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	Road construction work to enhance road connectivity	Regular maintenance of road infrastructure and repairs when necessary	Regular maintenance of road infrastructure and repairs when necessary
Target	Road construction of total length of 650 m[67]	Maintenance of existing road infrastructure	Maintenance of existing road infrastructure

65 As per inputs received during field surveys
66 Based on inputs received from community during field surveys
67 Refer to HRVCA for location details

Estimated cost	Road construction cost: ₹7,60,000 *Total cost: ₹7.6 lakhs*	As per requirement	As per requirement

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	1. Promote electric alternatives of diesel tractors and goods transport vehicles 2. Sensitising user groups (farmers/ logistic owners/ entrepreneurs) towards long term benefits of e-vehicles over ICE vehicles 3. Establishing facility to hire e-tractors and e-goods vehicles	Continue the sensitisation of various user groups towards long term benefits of e-vehicles over ICE vehicles as well as the schemes and programmes available for their benefit	Continue the sensitisation of various user groups towards long term benefits of e-vehicles over ICE vehicles as well as the schemes and programmes available for their benefit
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	Total cost of 5 e-tractors is ~ ₹30,00,000 Total cost of 5 e-commercial vehicles: ₹25,00,000 – ₹50,00,000 *Total cost: ₹55 lakhs – 80 lakhs*	As per requirement	As per requirement

Enhancing Intermediate Public Transport

Phase	I 2024-25 to 2026-27	II 2027-28 to 2029-30	III 2030-31 to 2034-35
Suggested Climate Smart Activities	Replacing autorickshaws in the GP with e-autorickshaws	Introducing more e-autorickshaws to improve last mile connectivity	More e-autorickshaws can be procured based on demand
Target	2 e-autorickshaws added to GP's IPT fleet	Additional e-autorickshaws procured if required	Additional e-autorickshaws procured if required
Estimated cost	Cost of one e-autorickshaws[68]: around ₹3,00,000 Available subsidy: up to ₹12,000 per vehicle Effective cost of 2 e-autorickshaws: ₹5,76,000 GHG emissions avoided: 3.6 tCO_2e[69]	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 percent registration fee and Road Tax exemption to buyers (during the Policy period)
  - » Purchase Subsidy as early bird incentives[70] to buyers (one time) through dealers over a period of 1 year – E-Goods Carriers: @10 percent of ex-factory cost up to ₹1,00,000 per vehicle; 2-Wheeler EV: @15 percent of ex-factory cost up to ₹5000 per vehicle; 3-Wheeler EV: @15 percent of ex-factory cost up to ₹12000 per vehicle
- Subsidies for e-rickshaws can also be availed under the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME II) Scheme.

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

69 GHG emissions avoided per auto estimated to be 1.80 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.

70 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.

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

Agriculture and wage labor (non-farm) are the mainstay of the GP and nearly 90 percent of the households are engaged in these activities. Both the sectors are fraught with livelihood insecurities, particularly due to the changing climate and the current unsustainable production practices. Thus, the livelihoods of a large fraction of the population are uncertain. Other key sources of income in the GP are animal husbandry and running local businesses/shops. In the past 5 years nearly 52 individuals have migrated out of the GP in search for better livelihood. 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:

Engage already Existing SHGs in Manufacture of Sustainable 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:
   - » Diversification of product range
   - » Marketing/selling of the products within & outside the GP

Target

Initial engagement of:

a. 100 women
b. 8 SHGs (currently involved in tailoring, poultry, community toilet maintenance activities)
c. Utilise locally available raw materials like bamboo grown in GP

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
   - » Composting & vermicomposting techniques
   - » Marketing & selling compost within & outside the GP

Target

Immediate target:

Compost/vermicompost generated from domestic waste (organic): 282 kg per day; 8,640 kg per month (as per current waste generation)

Long-term target:

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

Improving Operation of Existing Farmers Producer Organisation (FPO)

Suggested Climate Smart Activities

1. Mobilising mango farmers into FPO
2. Capacity building of mango farmers for:
   - » Promotion and adoption eco-friendly practices (Integrated Pest Management strategies and efficient water management techniques)
   - » Enhance mango quality
3. Enhancing post-harvest fruit management
4. Engaging women and SHGs to produce value added products:
   - » Setting up a mango pulp/juice making units under the PM Formalisation of Micro Food Processing Enterprise (PMFME)
   - » Promoting circular economy waste conversion program where peels and stones are upcycled (reused and recycled) to compost, pectin's and briquettes[71]
5. Enhancing market linkage of mango and mango products

Target

Immediate target:

1. Setting up collection center for primary processing of mango
2. Market linkage[72] for mango and mango value added products

Long-term target:

Scaling up FPO operation through efficient management and improving farmers income with sustainable practices

71 https://icar.org.in/sites/default/files/Circulars/Creating-Wealth-From-Agricultural-Waste.pdf

72 Linking mango farmers with wholesalers, food processing industries & customers, etc. for higher sale & profit

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 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 Bhujpura 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 (tonnes based on production of vegetables and fruits/ and/or milk products) (over 1,300 ton - mango output)

(~46 ha gross cropped area under mango and vegetable cultivation)

Cost: approx. ₹8,00,000 to ₹15,00,000

O&M of Various RE Installations (Solar and Biogas)

Suggested Climate Smart Activities

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

6 List of Additional Projects for Consideration

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

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

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

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

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

Case Example/Best Practice[73,74,75]:

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

2. Solar Passive Design and Passive Cooling

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

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

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

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

Reliable Energy" section

Case Example/Best Practice:

The Rajkumari Ratnavati Girl's School[76], rural Thar desert, Rajasthan: for more than 400 girls that live below the poverty line.

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

Solar Passive Complex, Punjab Energy Development Agency (PEDA), Chandigarh[77]

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

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

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

Case Example/Best Practice:

Hiwra lahe village, District - Washim, State- Maharashtra[78]

- 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 adap tive 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

76 https://www.avontuura.com/rajkumari-ratnavati-girls-school-diana-kellogg-architects/

77 https://peda.gov.in/solar-passive-complex

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

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 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[79,80]

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

Nirmal Gujarat Campaign[81]

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

5. Cool Roofs

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

Case Example/Best Practice:

Slum households in Jodhpur, Bhopal, Surat, and Ahmedabad[83]

- 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."

79 https://pscst.punjab.gov.in/en/climate-resilient-livestock-production-system
80 https://moef.gov.in/wp-content/uploads/2017/08/Punjab.pdf
81 https://jayshaktiengg.com/gujarat-government-launches-solar-scheme-for-farmers/
82 https://www.myscheme.gov.in/schemes/csssscspscc
83 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%[84] when incorporated with feedstock.
- These feed supplements as reported by the ICAR cost `6 per kg

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

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

This activity links to the section on "Sustainable Agriculture"

Case Example/Best Practice:

In the states of Andhra Pradesh, Rajasthan, Karnataka, and Bihar[85]

- 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.

84 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)

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

Case Example/Best Practice:

7 Gram Panchayats (GP) and the neighboring hamlets, Rangareddy and Nagaurkurnool districts, Telangana[86]

- 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)[87]

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.

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

87 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)[88]

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

11. Setting up Bio-Resource Centre (BRC)

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

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

Case Example/Best Practice:

In the state of Andhra Pradesh[89]

- 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

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

89 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[90]
a) Rejuvenation and conservation of water bodies  b) Enhancing drainage infrastructure  c) Rainwater harvesting (RwH) practices 	▪ 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 local biodiversity	**SDG 6: Clean Water and Sanitation** ▪ Target 6.1 ▪ Target 6.4 ▪ Target 6.5 **SDG 11: Sustainable Cities and Communities** ▪ Target 11.4 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 **SDG 15: Life on Land** ▪ Target 15.1 ▪ Target 15.5 

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

Sustainable Agriculture

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a) Drought Management for Agriculture 	▪ Food security through Eco-DRR[91] approach to increase resilience of crops from droughts, heat impacts, pests etc ▪ Increased agricultural productivity and profit ▪ Improved soil health ▪ Improved water quality due to reduced use of chemical inputs ▪ Improved crop planning and pest management ▪ Reduced losses and increased productivity of livestock during cold waves and heat waves ▪ Improved air quality and reduced emissions	**SDG 2: Zero Hunger** ▪ Target 2.3 ▪ Target 2.4 ▪ Target 2.a; Article 10.3.e **SDG 6: Clean Water and Sanitation** ▪ Target 6.4 ▪ Target 13.1 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 **SDG 13: Climate Action** ▪ Target 13.2 ▪ Target 13.3
b) Transition to Natural Farming 		
c) Sustainable livestock management 		

91 Eco-Disaster Risk Reduction

Enhancing Green Spaces and Biodiversity

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

Sustainable Solid Waste Management

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

Access to Clean, Sustainable, Affordable and Reliable Energy

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

Sustainable and Enhanced Mobility

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

Enhancing Livelihoods & Green Entrepreneurship

Suggested Climate Smart Activities	Adaptation Potential and Co-benefits	SDGs and Respective Targets Addressed
a. Engage Already Existing SHGs in Manufacturing of Sustainable Products 	▪ Reduction in water and land pollution ▪ Enhanced inputs for sustainable agriculture ▪ Good health and a relatively disease-free environment due to 100 percent waste management and reduction in occurrence of public health risks and epidemics ▪ Additional revenue generation ▪ Enhanced livelihood options ▪ Health benefits from access to medicinal plants ▪ Revenue generation from agroforestry, production of natural medicines, etc. ▪ Improved environment and habitat for biodiversity, enhancing ecosystem health ▪ Decline in local air pollution leading improved human and ecosystem health ▪ Enhanced last-mile connectivity of goods and services	**SDG 5: Achieve Gender Equality and Empower All Women and Girls** ▪ Target 5.5 **SDG 8: Decent Work and Economic Growth** ▪ Target 8.3 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 ▪ Target 12.4 ▪ Target 12.5 ▪ Target 12.8 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 ▪ Target 13.3
b. Composting & Selling of Organic Waste as Fertiliser 		
c. Improving operation of existing Farmers Producer Organisation (FPO) 		
d. Facility to hire e-goods carriers and e-tractors 		
e. Improving livelihoods through use of solar powered cold storage 		
f. O&M of various RE installations (solar and biogas) 		

8 Way Forward

The proposed recommendations on implementation will help to not only reduce Greenhouse Gas (GHG) emissions of Bhujpura but also to achieve energy, food and water security, thereby, making the Gram Panchayat climate smart, resilient and sustainable. It 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 Bhujpura 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, Bhujpura 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 Bhujpura becoming a model climate smart gram panchayat. The success of the present plan will possibly influence other Gram Panchayats to follow the process to make themselves smart, resilient and sustainable. To achieve this vision, it will be crucial to promote a sense of community ownership and behavioural change for adoption of a sustainable lifestyle, along the lines of LiFE Mission as envisioned by the Hon'ble Prime Minister Shri Narendra Modi.

9 Annexures

Annexure I: Background and Methodology

Background

The The state of Uttar Pradesh (UP) is making rapid strides towards climate action. Under the visionary and inspirational leadership of the Hon'ble Chief Minister, Shri Yogi Adityanath, the State has initiated a wide-range of climate actions across different levels of governance. One such initiative is to develop action plans for 'Climate Smart Gram Panchayats.' This concept was envisaged by the Chief Minister of Uttar Pradesh in June, 2022. To take this work ahead, a rapid multi-criteria assessment was conducted to identify climate friendly Gram Panchayats in 39 vulnerable districts[92] of UP. The selected Gram Panchayats were announced and several of these were felicitated during the 'Conference of Panchayats' (COP) held on 5th June, 2022.

The Climate Smart Gram Panchayat Action Plan[93] for Bhujpura 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.

92 39 highly vulnerable districts of UP were identified from the State Action Plan on Climate Change 2.0 of UP and the Scoping Assessment for Climate Change Adaptation Planning in Uttar Pradesh by DoEFCC, GoUP

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

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 and sectoral experts. The questionnaire covered various aspects such as demography, socio-economic indicators, climate variability, climate perception (past 5 years), energy, agriculture & livestock, land resources, sanitation, and health. The survey also aimed to understand the penetration of Central and State government schemes in the Gram Panchayat.
- Stakeholder consultation & Capacity building: Consultations and capacity building workshops were conducted for local NGO partners, Gram Pradhans, Panchayat Secretaries. The stakeholders were briefed about the objective and components of the Climate Smart Gram Panchayat Action Plan, the process of development of these action plans and their individual roles in the same.
- Additionally, NGO partners were also given a training on key climate change concepts, the surveying techniques to be adopted and the questionnaire developed for focus group discussions.
- Field survey: To ensure maximum participation from the community, a few rounds of Gram Sabha and focus group discussions were 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 Bhujpura 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 : भुजपुरा

विकासखण्ड : सिढ़पुरा

जनपद : कासगंज

I. गाँव की रुपरेखा

		विवरण	संख्या (सूचना का स्रोत– समुदाय के सदस्य)
1		राजस्व गाँव की संख्या	1 भुजपुरा
2		टोलों की संख्या	2 नगला भुजपुरा
3	a	कुल जनसंख्या	3525
	b	कुल पुरुषों की जनसंख्या	1884
	c	कुल महिलाओं की जनसंख्या	1641
	d	विकलांगजन की जनसंख्या	25
	e	कुल बच्चों की जनसंख्या	882
	f	वरिष्ठ नागरिक (60 वर्ष से अधिक आयु वर्ग)	326
4		कुल परिवार की संख्या	946 परिवार
	a	गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार की संख्या	400 बी0पी0एल, 61 अनतोदय=461
5		कुल भोगौलिक क्षेत्रफल	274.673 हे0
6	a	साक्षरता दर	92.5 %
7	a	पक्का घरों की संख्या	868
	b	कच्चा घरों की संख्या (मुख्य रूप से उपयोग की गई सामग्री का उल्लेख करें)	78 - फूस के घर 20 – प्लास्टिक 15 – मिट्टी वाली 43

II. सामाजिक आर्थिक

8	ग्राम पंचायत में केवल कृषि (प्रकार) पर आश्रित परिवार	कुल परिवारों की संख्या
	निजी भूमि/स्वयं की भूमि	373
	किराए की भूमि (हुण्डा)	186
	अनुबंध खेती	0
	दिहाड़ी मजदूर	146
	अन्य व्यवस्था (रेहन, अधिया आदि)	159
	अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में शामिल परिवार, उल्लेख करें)	82
9	**ग्राम पंचायत में आय के स्रोत**	**कुल परिवारों की संख्या**
	सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	11
	कुटीर उद्योग	5
	कृषि	509
	कला/हस्तकला	18
	पशुपालन	20
	व्यवसाय (स्थानीय दुकान)	37
	व्यवसाय/उद्यम	0
	दैनिक/दिहाड़ी मजदूर (अकृषिगत)	346
	अन्य	0

10		पलायन		ळां	नहीं
	a	क्या पिछले पांच वर्षों में आप के ग्राम पंचायत से ग्रामीणों ने पलायन किया है?		√☐	☐
	b	पलायन करने वाले स्थान	पिछले पांच वर्षों में पलायन करने वाले परिवार/ व्यक्तिगत की संख्या		कृषि भूमि निरन्तर कम होते जाने के कारण तथा आय का अन्य कोई स्त्रोत न होने के कारण गॉव से लोग अन्य शहरों में पलायन कर रहे हैं।
		अन्य गांव		0	
		निकट के शहर	37	37	आजीविका हेतु
		राज्य के प्रमुख शहर	15	15	आजीविका हेतु
		देश के प्रमुख महानगर		0	
	C			ळां	नहीं

		क्या पिछले पांच वर्षों में आप के ग्राम पंचायत में परिवार/व्यक्ति ने प्रवास किए है?	☐	✓☐
	d	पिछले पांच वर्षों में आपके ग्राम पंचायत में कितने परिवार प्रवास किए हैं? मुख्य कारण स्पष्ट करें।	0	

11		**महिलाओं की स्थिति**	
	a	महिला प्रमुख परिवारों की संख्या (आय का मुख्य स्रोत– महिला)	80
	b	खेती में कार्यरत महिला	कुल संख्या
		निजी भूमि/स्वयं की भूमि	8
		किराए की भूमि/हुण्डा	12
		अनुबंध खेती	0
		दिहाड़ी मजदूर	40
		अन्य व्यवस्था	5
		अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में संलग्न महिलाएं, उल्लेख करें)	15
	c	नौकरी/अन्य क्षेत्र में कार्यरत महिलाएं	कुल संख्या
		सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	7
		कुटीर उद्योग	2
		कृषि	8
		कला/हस्तकला	15
		पशुपालन	16
		व्यवसाय (स्थानीय दुकान)	2
		दैनिक/दिहाड़ी मजदूर (अकृषिगत)	30
		अन्य	0

स्वयं सहायता समूहों				
स्वयं सहायता समूह का नाम	सदस्यों की संख्या	अपनायी गई गतिविधियाँ	वार्षिक बचत (रु0)	बैंकों से जुड़ाव/अजुड़ाव
Kokila SHG	12	कोई गतिविधि नही	14400	हां
Sangathan SHG	11	कोई गतिविधि नही	14400	हां
Jay Ganesh SHG	10	कोई गतिविधि नही	14400	हां
Jay Bhole SHG	10	कोई गतिविधि नही	7200	हां
Atmraksha SHG	12	कोई गतिविधि नही	14400	हां
Hanuman SHG	10	कोई गतिविधि नही	14400	हां
Kanha SHG	10	कोई गतिविधि नही	7200	हां
Man Durga SHG	10	कोई गतिविधि नही	7200	हां

कृषक उत्पादक संगठन (एफ0पी0ओ0) NA					
एफ0पी0ओ0का 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
Nill	☐				
	☐				
	☐				
	☐				
	☐				

अन्य समुदाय आधारित संगठन/					
सामाजिक संगठन/ समितियों के नाम	क्या महिला प्रमुख संगठन/समिति हैं?	सदस्यों की संख्या	प्राप्त वार्षिक राजस्व/बचत	उत्पाद/सेवा	विपणन/लक्षित उपभोगकर्ता
Pradhan Jan Sewa Samiti	No☐	15	NA	0	0

		☐				
		☐				
		☐				

15		योजनाएं					
	a	योजना के नाम	पंजीकृत लाभार्थी की संख्या	लाभ प्राप्त लाभार्थियों की संख्या	विगत वर्ष ग्राम पंचायत में प्राप्त कुल भगतान (रू0)	अन्य कोई बकाया (रू0)	की गई गतिविधियाँ/कार्य
		म्नरेगा	**875**	**795**	**3100000**	NA	**कच्चा कार्य व पक्का कार्य**
		प्रधानमंत्री गरीब कल्याण अन्न योजना/एन.एफ.एस.ए.	**554**	**554**			**राशन वितरण**
		प्रधानमंत्री उज्जवला योजना	**554**	**504**			**गैस चूल्हा वितरण**
		प्रधानमंत्री कृषि सिंचाई योजना	**15**	**15**			**पाइप वितरण**
		प्रधान मंत्री कुसुम योजना	**NA**				
	b	**अन्य योजनाएं**					
		ग्राम उज्जवला योजना	NA				
		ऊर्जा दक्षता योजना	NA				
		प्रधानमंत्री रोजगार सृजन कार्यक्रम	NA				
		प्रधानमंत्री आवास योजना	**61**	0	0	0	0
		सार्वजनिक वितरण प्रणाली (पी0डी0एस0)	**554**	523			**राशन वितरण**
		कम्प्यूटर प्रषिक्षण कार्यक्रम	NA				
		उत्तर प्रदेष कौशल विकास मिषन	NA				
		राष्ट्रीय कौषल विकास योजना (RKVY)	NA				
		मौसम आधारित फसल बीमा	NA				
		प्रधानमंत्री फसल बीमा योजना (PMFBY)	NA				

		मृदा स्वास्थ्य कार्ड	**50**	30			
		किसान क्रेडिट कार्ड	**137**	137			
		स्वच्छ भारत मिषन	**450**	450			
		सौर सिंचाई पम्प योजना	NA				
		नई/नवीन भारतीय बायोगैस व कार्बनिक खाद कार्यक्रम	NA				
		विकेन्द्रित अनाज क्रय केन्द्र योजना	NA				
		गोवर्धन योजना	NA				
		जल पुनर्भरण योजना	NA				
		रेनवाटर हार्वेस्टिंग	1	1			पंचायत भवन
		समन्वित वाटरशेड विकास कार्यक्रम	NA				
		अन्य वाटरशेड विकास योजनाएं	NA				
		अन्य (एक जिला–एक उत्पाद, मेक इन इण्डिया, अन्य)	NA				
		उद्यमितता सहायतित योजनाएं आदि	NA				

16	**सक्रिय बैंक खाता धारकों की संख्या**	**120**
17	**ई–बैंकिंग/डिजीटल भुगतान एप/यू.पी.आई आदि से भुगतान करने वाले खाताधारकों की संख्या**	**70**

18	**निकट कृषि बाजार/क्रय केन्द्र/सरकारी केंद्र**	**क्या ग्राम पंचायत द्वारा बाजार/कय केन्द्र का उपयोग होता है**		**यदि नही, तो बाजार/ केन्द्र का उपयोग क्यों नही किया जाता**	**उत्पादित फसल (कु0)**	**बिक्री हुई फसल (कु0)**	**ग्राम पंचायत से दूरी (यदि ग्राम पंचायत से दूर है) (कि0मी0)**
		हां	**न्हीं**				

~~1~~	कापरेटिव सहकारिता समिति, सिढ़पुरा	√□	□		6000 कु0 गेहूं	1500 कु0	8 कि0मी0
		□	□				
		□	□				

19		शिक्षा (केवल ग्राम पंचायत में)				
		प्रकार/ स्तर	उपलब्ध छत का क्षेत्रफल (वर्ग मी0)	कुल नामांकित विद्यार्थियों की संख्या	विगत वर्ष में कुल ड्राप आऊट विद्यार्थियों की संख्या	ड्राप आऊट के मुख्य कारण (स्वास्थ्य (1), पहुँच/उपलब्धता–(2), आर्थिक समस्या–(3), अन्य–(4) उल्लेख करें)
	a	प्राथमिक विद्यालय	477.33	128	0	
	b	जू0 हाई स्कूल	530.33	105	0	
	c	हाई स्कूल	NA			
	d	अन्य संस्थान	NA			

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	कासगंज ऐटा रोड	1	15 KM.	2

III. भूमि संसाधनों संबंधित सूचनाएं/जानकारी

22		वन भूमि का विवरण	
	A	वन का क्षेत्र	1 **हे0**
	B	वन विभाग द्वारा अधिसूचित क्षेत्र	1 **हे0**
	C	सार्वजनिक उपयोग हेतु उपलब्ध वन क्षेत्र	1 **एकड़**
	D	कितने क्षेत्र पर अतिक्रमण है?	0.5 **एकड़**
	E	विगत पांच वर्षों में कोई वन उन्मूलन/वन कटाई की गतिविधियां	**नहीं**
	F	अनुमानित वन उन्मूलन/वन कटाई का क्षेत्रफल (एकड़)	05

23		अन्य भूमि का वर्गीकरण			
	A	ग्राम पंचायत के पास ग्राम सभा की कितनी भूमि उपलब्ध है?	2.5 हे0		
	B	कितनी भूमि पर अतिक्रमण है? (एकड़)	1.5 हे0		
	C	ग्राम पंचायत में खनन गतिविधियां	हां □	नहीं □√	आच्छादित क्षेत्रफल
		खनन के प्रकार बालू खनन 1, खनिज खनन–(उल्लेख करें) 2, अन्य (उल्लेख करें) 3	NA		
		अतिरिक्त सूचनाएं			

24		जल निकाय क्षेत्र		
		विवरण	हां	नहीं
	A	क्या आप के ग्राम पंचायत में जल निकाय क्षेत्र है?	√□	□
	B	ग्राम पंचायत में कुल जल निकाय क्षेत्रों की संख्या	2	
	C	क्या जल निकाय क्षेत्र में अतिक्रमण है?	□	√□
	D	जल निकाय क्षेत्र में अतिक्रमण कब से है?	0	
	E	क्या जल निकाय क्षेत्र के आस–पास के भूमि पर अतिक्रमण किया गया है?	NA	

25		जल आपूर्ति	
	a	**ग्राम पंचायत में घरों हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल–(2) भूमिगत जल–(3) तालाब/झील–(4) अन्य– (5)	3
	b	**क्या उपरोक्त जल आपूर्ति के स्रोत मौसमी या बारहमासी है?**	**बारहमासी**

	c	**घरों में जल आपूर्ति कैसे होती है?** पाइप जलापूर्ति (1) ग्राम पंचायत में सामान्य संग्रह केन्द्र (2) पानी टंकी (3) महिलाओं/बच्चों द्वारा दूर से लाया गया (4) हैण्डपम्प (5) ऊँचा सतही जलाशय (6) कूंआ (7) अन्य (8), उल्लेखित करें। अगर 4 है, तो कितनी दूर से लाया जा रहा है?	5
	d	कितने घरों में जलापूर्ति पाइप से है?	0
	e	क्या पानी का बहाव/प्रवाह दर कम, अधिक या संतोषजनक है?	0
	f	पइप जलापूर्ति की नियमितता 24× 7 घण्टे (1) काफी नियमित (2) अनियमित (3)	0
	g	**ग्राम पंचायत में कृषि सिंचाई हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल (2) भूमिगत जल – (नलकूप (3 A), कूआ (3 B) तालाब/झील (4) पानी टैंक (5) नदी (6) अन्य (7)	1 3 A 4
	h	**क्या उपरोक्त जल आपूर्ति स्त्रोत मौसमी या बारहमासी है?**	बारहमासी
	i	क्या जलापूर्ति का बहाव/प्रवाह दर कम/अधिक या संतोषजनक है?	...

	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?	बढ़ी हाँ NA

IV. जलवायु की धारणा

तापमान व वर्षा में प्रमुख परिवर्तन/बदलाव					
26					
	a	गर्मी के माह में देखा गया	तापमान बढ़ा, वर्षा में कमी		
	b	गर्मी के तापमान में देखे गए बदलाव (पिछले पांच वर्षों में)	गर्म दिनों में वृद्धि	गर्म दिनों में कमी	गर्म दिनों में कोई परिवर्तन नहीं
			✓ ☐	☐	☐
	c	दिनों की संख्या	60 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
			☐	√☐	☐
	c	दिनों की संख्या		30 दिन	
	d	अन्य सूचनाएं (सर्दी माह में कोई परिवर्तन)			
28					
	a	मानसून माह में महसूस किया गया			
	b	मानसून ऋतु की वर्षा में कोई परिवर्तन देखा गया (विगत पांच वर्षों में)	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	√☐	☐
	c	दिनों की संख्या		60 दिन	
	d	अन्य सूचनाएं (मानसून माह में कोई परिवर्तन)			
29					
	a	क्या गैर मानसून ऋतु की वर्षा में परिवर्तन हुआ है? (विगत पांच वर्षों में)	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	√☐	☐
	b	ग्रीष्म ऋतु की वर्षा में देखे गये परिवर्तन	वर्षा दिनों में वृद्धि	वर्षा दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			√☐	☐	☐
	c	दिनों की संख्या	7 दिन		
	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

			☐√	☐	☐
	e	दिनों की संख्या	5 दिन		
	f	अन्य सूचनाए / जानकारी			

चरम मौसम की घटनाएं							
30	**सूखा**						
	a	सूखे की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			✓ ☐	✓ ☐	✓ ☐	✓ ☐	✓ ☐
	b	किस माह में सूखा देखा गया	Sep.	Aug.	Sep.	Sep.	July
	c	सूखे का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता, कुएं खोदा आदि)	घरेलू स्तर पर प्रबन्धन निजी हैण्डपम्प के बोरिंग को गहरा कराकर।			कृषि स्तर पर प्रबन्धन निजी नलकूप बनबाकर पम्पसेट से भूमिगत जल निकासी की व्यवस्था।	
	d	सूखे की आवृत्ति : सूखे की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			√☐	☐	☐		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2	0				
31	**बाढ़**						
		बाढ़ की घटना केवल जलजमाव होता है। नहर के पानी के कारण जलजमाव ही बाढ़ का रूप धारण कर लेता है।	प्रथम वर्ष (2022) ☐	द्वितीय वर्ष (2021) ☐	तृतीय वर्ष (2020) ☐	चतुर्थ वर्ष (2019) ☐	पंचम वर्ष (2018) ☐
	b	किस माह में बाढ़ देखा गया	0	0	0	0	0
	c	बाढ़ का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन 0			कृषि स्तर पर प्रबन्धन 0	
	d	बाढ़ की आवृत्ति : बाढ़ की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	√☐		

	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2	0				
32		**भूस्खलन**					
	a	भूस्खलन की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	☐	☐	☐	☐
	b	किस माह में भूस्खलन देखी गई	0	0	0	0	0
	c	भूस्खलन का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन 0			कृषि स्तर पर प्रबन्धन 0	
	d	भूस्खलन की आवृत्ति : भूस्खलन की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	☐√		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2					
33		**ओलावृष्टि**					
	a	ओलावृष्टि की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	☐	✓ ☐	✓ ☐	✓ ☐
	b	किस माह में ओलावृष्टि हुई			Feb.	Jan.	Aug.
	c	ओलावृष्टि का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि) 0	घरेलू स्तर पर प्रबन्धन पशुओं को अंदर छाया में बांध लेते है।			कृषि स्तर पर प्रबन्धन कोई प्रबंधन नहीं करते है।	
	d	ओलावृष्टि की आवृत्ति : ओलावृष्टि की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐√	☐		

34		फसलों के कीट/बीमारी					
	a	कीट/बीमारी की घटनाक्रम	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	☐	☐	☐	☐
	b	किस माह में कीट/बीमारी को देखा गया?	July	May/Jun	Jun	Jun	July
	c	किस प्रकार के कीट/बीमारी को देखा गया?	सूडी (कैटरपिलर) व रसचूसक टिड्डा	सूडी (कैटरपिलर) व रसचूसक टिड्डा	सूडी (कैटरपिलर) व रसचूसक टिड्डा	सूडी (कैटरपिलर) व रसचूसक टिड्डा	सूडी (कैटरपिलर) व रसचूसक टिड्डा
	d	कीट/बीमारी का प्रबन्धन कैसे किया गया? (सरकारी सहायता, निजी सहायता आदि)	निजी सहायता– किसान कीटनाशक दवा का प्रयोग स्वयं खरीदकर करते है				
	e	कीट/बीमारी की आवृत्ति : कीट बीमारी का घटनाक्रम (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	☐√		
		अतिरिक्त जानकारी/सूचनाएं					

35	ग्राम पंचायत में आपदा की तैयारी				
		ग्राम पंचायत स्तर पर क्या आपदा प्रबन्धन/तैयारी के उपाय उपलब्ध है?		क्या ग्रामीणों तक इसकी पहुँच/उपलब्धता है?	
	आपदा तैयारी के उपाय	हां	नहीं	हां	नहीं
	ग्राम आपदा प्रबन्धन योजना	☐	√☐	☐	√☐
	ग्राम आपदा प्रबन्धन समिति	☐	√☐	☐	√☐
	पूर्व चेतावनी प्रणाली/मौसमी चेतावनी प्रणाली/कृषि चेतावनी प्रणाली	☐	√☐	☐	√☐
	आपातकाल अनाज बैंक	☐	√☐	☐	√☐
	अन्य	☐	☐	☐	☐

36		अनाज भण्डारण	
	a	ग्राम पंचायत के आपातकालिन खाद्य/अनाज बैंक में किस प्रकार का भोजन भण्डारित किया जाता है?	
		अनाज (विवरण दें)	0

		तेल	0
		चीनी	0
		अन्य खाद्य पदार्थ – उल्लेख करें	0
	b	क्या ग्राम पंचायत में शीतगृह है, अगर है तो उसकी क्षमता क्या है?	0

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

	कृषि एवं संबंधित गतिविधियों पर प्रभाव (विगत पांच वर्षों में)					
38	फसल हानि					
a	घटना का वर्ष	हानि की ऋतु/मौसम खरीफ (1) रबी (2) जायद/अन्य ऋतु (3)	फसल का नाम	हानि के कारण रोग, चरम, घटनाक्रम– गर्मी, ठण्ड, वर्षा, ओलावृष्टि, मिट्टी आदि	अनुमानित हानि की मात्रा (कुन्तल)	परिणाम स्वरुप आय में हानि (औसत रु0)
	प्रथम वर्ष (2022)	खरीफ (1) रबी (2)	मूंग, मक्का, आम, धान, अरहर	रोग–झुलसा, खैरा	300 1200 150 1500 20	15,00000 6000000 450000 2100000 120000
	द्वितीय वर्ष (2021)	खरीफ (1)	धान,	रोग–झुलसा, सूड़ी	500	725000
	तृतीय वर्ष (2020)	खरीफ (1)	धान, अरबी	वर्षा	600 20	810000 4000

		चतुर्थ वर्ष (2019)		गेंहू	रोग–झुलसा,	300	4200000
		पंचवां वर्ष (2018)					
	b	क्या आप फसल बीमा के बारे में जानते हैं?	हां	नहीं			
			☐	☐√			
		अतिरिक्त जानकारी (फसल बीमा के लाभार्थी– बड़े किसान, लघु एवं सीमान्त किसान आदि) फसल बीमा लाभार्थी का संतुष्टि स्तर क्या है?					

39		फसल पद्धति में बदलाव				
	a	सामान्य फसल	खरीफ धान, अरबी	रबी गेंहूँ, मटर, तम्बाकू, 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, जुलाई	नहीं	-----	-------
		अरहर	मई	नहीं	मई	नहीं
		गेहूँ, मटर	अक्टूबर, नवम्बर	1 वर्ष पहले से ऐसा देखा जा रहा है	नवम्वर, दिसम्बर	धान की फसल समय से न कट पाना।
		तम्बाकू	दिसम्बर	नहीं	दिसम्बर	नहीं
		लहसुन	नवम्बर	नहीं	नवम्बर	नहीं
		चाकोरी	दिसम्बर, जनवरी	नहीं	दिसम्बर,जनवरी	नहीं
		सरसो, लाही, घूईयां, आलू	अक्टूबर, नवम्बर	हॉ	नवम्वर,दिसम्बर	निचले स्थानों पर जलजमाव
	c	अन्य सूचना / जानकारी (विलुप्त फसल / प्रजाति आदि उल्लेख करें)	मसूर, चना			

40		सिंचाई प्रणाली / पद्धति में परिवर्तन				
	a	फसल का नाम	वर्तमान में सिंचाई पद्धति का उपयोग फव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)	वर्तमान में उपयोग किए गए पानी की मात्रा (रुपया / एकड़)	पूर्व में सिंचाई विधि / पद्धति का उपयोग फव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)	पूर्व में उपयोग किए गए पानी की मात्रा (रुपया / एकड़)
		गेहूं, मटर, सरसो, आलू, लहसुन, तम्बाकू	नहर 3 निजी नलकूप 6	नहर फ्री 1500 / हे0	नहर, 3 वर्षा आधारित, 4	नहर फ्री

	b	ग्राम पंचायत में सिंचाई हेतु पम्पों की संख्या	डीजल आधारित	विद्युत आधारित	सौर पम्प	पारम्परिक सिंचाई विधियां	
			400	10	0		नहर
	c	अन्य सूचनाएं/जानकारी अगर कोई है					
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 पशुपालन			
	b	डेयरी पर प्रभाव	पशु हानि गाय (1) भैंस (2) अन्य (3)	पशु हानि की संख्या (प्रत्येक पशु को उल्लेख करें)	हानि के कारण (रोग, आयु, दुर्घटना आदि)	हानि का मौसम	उत्पादकता में कोई परिवर्तन देखा गया? वृद्वि (1) कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	0				
		द्वितीय वर्ष (2021)	भैंस	2	बिजली **गिरना**	जुलाई	कमी
		तृतीय वर्ष (2020)	भैंस	5	रोग	सर्दी 2 वर्षा 3	कमी
		चतुर्थ वर्ष (2019)	भैंस	10	रोग	वर्षा	कमी
		पंचम वर्ष (2018))	0	0			
		अन्य जानकारी/सूचनाएं					
	c	मुर्गी पालन पर प्रभाव	पक्षी हानि मुर्गी (1) बत्तख (2)	पक्षी हानि की संख्या	हानि के कारण	हानि के मौसम/ऋतु	उत्पादकता में कोई परिवर्तन पाया गया है?

			अन्य (3)	(प्रत्येक पक्षी का उल्लेख करें)			वृद्धि (1) कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	0				
		द्वितीय वर्ष (2021)	0				
		तृतीय वर्ष (2020)	0				
		चतुर्थ वर्ष (2019)	0				
		पंचम वर्ष (2018))	0				
		अन्य जानकारी / सूचनाएं					
	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)	0				
		द्वितीय वर्ष (2021)	0				

V. कृषि व पशुपालन

42	a	प्रमुख उगाई जाने वाले फसलें व सम्बन्धित सूचनाएं/जानकारी											
					उर्वरक उपयोग			कीटनाशक उपयोग			खरपतवारनाशी		
		फसल (अनाज, तिलहन, दलहन, उद्यान एवं फूल आदि)	ऋतु / मौसम	उपज (कु0)	उर्वरक के प्रकार	औसत प्रयुक्त मात्रा (किग्रा0 / एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये उर्वरकों की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नही है (3)	कीटनाशकों के प्रकार	औसत प्रयुक्त मात्रा (किग्रा / एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये कीटनाशकों की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नहीं है (3)	खरपतवार नाशीं के प्रकार	औसत प्रयुक्त मात्रा (किग्रा / एकड़)	क्या विगत पांच वर्षों में उपयोग किये गये खरपतवार की मात्रा में वृद्धि (1) कमी (2) परिवर्तन नहीं है (3)
		तिलहन दलहन गेंहू	Oct Sep Oct	7.68कुंतल प्रति एकड 4.56कुंतल प्रति एकड 23.20कुंतल प्रति एकड	Urea DAP Zink Potash Phosphorus	60 kg. 50 Kg. 15 Kg. 30 kg 40 kg	1	मिथाइल डाइक्लोर क्रोरिना रोकेट लारा बेन्जोनाईट	300-500 Ml	1	अल्ट्राजिन किट लाडिस मेड़ा 71	500 ML to 600 ML	1
	b	क्या ग्राम पंचायत में फसल अवशेष जलायें जाते हैं	हां ☐	नहीं ☐	जलाये गये खेतो का कुल क्षेत्रफल (एकड़)	क्या यह फसल अवशेष पूर्व में जलाये जाते थे	अगर नही तो, कब से जलाना आरम्भ किया	क्या फसल अवशेष प्रबन्धन की योजनाओं को जानते/जागरूक है?					

				√		हाँ	सन् 2020 से पहले जलाई जाते थे	हाँ

43	जैविक खेती सम्बन्धित गतिविधियां	नहीं			
	फसल	क्षेत्रफल	प्रति फसल आय (रू0/कुन्तल)	बिक्री हेतु बाजार	तृतीय पक्ष द्वारा प्रमाणित/सत्यापित
	Nill				

44	अन्य स्थाई खेती सम्बन्धी गतिविधियां (जैसे शून्य/जीरो बजट प्राकृतिक खेती)	नहीं		
	फसल	स्थाई गतिविधियां (शून्य जुताई, मल्चिंग, फसल चक्र, अर्न्तःफसलें, वर्मी कम्पोस्ट, कम्पोस्ट, मिश्रित फसले, प्राकृतिक कीट प्रबन्धन, जैव पदार्थ में वृद्धि आदि)	क्षेत्रफल (एकड़)	प्रति फसल प्राप्त आय (रूपया)
	Nill			

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
	अमरूद	2 डिसमिल	नाला के किनारे	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	जामुन	2 डिसमिल	तालाब के किनारे	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	आम	2 डिसमिल	नाला के किनारे	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	पीपल 10	-	तालाब के किनारे, गांव	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	नीम 15	-	गांव, तालाब	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	पाकड़ 10	-	स्कूल	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA

	अर्जुन 10	-	स्कूल	मनरेगा (4)	(2)	-	12/7/22		No	NA	NA
	अशोक 10	-	स्कूल, पंचायत घर	मनरेगा (4)	(2)		12/7/22		No	NA	NA

46	अपनाये गये स्थायी पशुधन प्रबन्धन तकनीक			
	पशुधन के प्रकार	ग्राम पंचायत में कुल संख्या (लगभग)	अपनाई गई गतिविधियां (चारा में परिवर्तन, पोषण पूरक अर्थात् पशुआहार, खुले में चराई आदि)	प्राप्त/उत्पादित आय प्रति पशुधन (प्रतिमाह /बेचते पर)
	गाय (देशी नस्ल)	40	पशुआहार, खुले में चराई	5000
	गाय (संकर नस्ल)	10	पशुआहार, खुले में चराई	6000
	भैंस (देशी नस्ल)	250	पशुआहार, खुले में चराई	8000
	भैंस (संकर नस्ल)	70	पशुआहार, खुले में चराई	10000
	बकरी	300	खुले में चराई	2400
	सुअर	20	खुले में चराई	2500
	मुर्गी	0		0
	मत्स्य	0		0
	अन्य	0		0

VI. स्वच्छता एवं स्वास्थ्य

47		जल की गुणवत्ता (पेयजल या नल जल से आपूर्ति परिवार)						
	a	आपूर्ति किये जाने वाले पानी की गुणवत्ता कैसी है?	उपयुक्त	अनुपयुक्त				
			□√	□				
	b	जल का स्वाद कैसा लगता है?	तीक्ष्ण	नमकीन	सामान्य			
			□	□	□√			
	c	आपूर्ति होने वाले जल में सामान्यतः दूषित पदार्थ क्या हैं?	नमकीन	गन्दा	मटमैला	बालू/कीचड़	गन्ध	साफ
			□	□	□	□	□	√
	d	जल को शुद्व 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)
			√	□	□	□	□	□

48		ठोस अपशिष्ट उत्पादन/अपशिष्ट प्रबन्धन						
	a	अपने घर में प्रतिदिन उत्पन्न होने वाला अपशिष्ट पदार्थ/कचरा	2 किलो					
	b	आपके ग्राम पंचायत में अपशिष्ट पदार्थ/कचरा कैसे इकट्ठा करते है?	कचरा गाडी (ठिलिया)के माध्यम सें					
	c	कचरा संग्रह कितनी बार होता है?	□प्रतिदिन	✓□ साप्ताहिक	□ वैकल्पिक दिन			
			ळां	नहीं				
	d	क्या आपके क्षेत्र में कोई स्थान है, जहां कचरा इकट्ठा डाला जा सकता है? यदि हां तो कृपया आपकी ग्राम पंचायत से कितनी दूरी पर है या किस स्थान पर है?	✓□	□	ग्राम पंचायत से दूरी/ग्राम पंचायत में अवस्थिति		500 मी	
	e	क्या आपके ग्राम पंचायत क्षेत्र में सामान्य कूड़ेदान रखे गये हैं?	□	√				
	f	क्या आप कचरे को सूखे और गीले कचरे की श्रेणी में बांटते हैं?	□	√				
	g	आप गृह स्तर पर कचरे का उपचार कैसे करते हैं?	पुनःचक्रमण	कम्पोटिंग	वर्मी कम्पोस्ट	अपशिष्ट	जलाना	अन्य (उल्लेखित करें)
			□	□	√		√	कुछ लोग कूड़ा जला देते है।

49		खुले में शौच मुक्त स्थिति			
	a	क्या आपका गांव खुले में शौच मुक्त घोषित है?	√□ हां	□ नहीं	
	b	स्वयं के शौचालय वाले परिवारों की संख्या	□	□	100 परिवार
	c	सामुदायिक शौचालय/इज्जत घर की संख्या	□1	□	प्रमुख स्थान – पंचायत घर के पास
	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?	□	□	□	□	√□
	b	उत्पन्न अपशिष्ट जल की मात्रा (अनुमानित लीटर प्रतिदिन)	70 ली0 प्रति घर प्रति दिन	0	0	1000 L	
	c	गांव में किया गया अपशिष्ट जल उपचार, यदि कोई है तो–	नहीं				
	d	अपशिष्ट जल पुनःचक्रण या पुनः उपयोग की गतिविधि, यदि कोई हैं तो–	0				

51		स्वास्थ्य देखभाल की सुविधा			
		स्वास्थ्य केन्द्र की उपलब्धता	हां	नहीं	उपलब्ध छत का क्षेत्रफल (वर्गमीटर)
	a	प्राथमिक स्वास्थ्य केन्द्र	□	□	
	b	सामुदायिक स्वास्थ्य केन्द्र	□	□	
	c	उपस्वास्थ्य केन्द्र	□	□	
	d	आंगनवाड़ी	√□	□	224
	e	आशा	□	□	
	f	स्वाथ्य कैम्प/मेला	□	□	
	g	डिजीटल स्वास्थ्य देखभाल	□	□	

52		रोग/बीमारी							
		विगत वर्ष निम्नवत् बीमारी/रोग से कितने लोग प्रभावित हुंए हैं?	प्रभावित कुल व्यक्तियों की संख्या	प्रभावित आयु समूह			सामान्य उपचार का विकल्प			
				प्रभावित बच्चों की संख्या	प्रभावित व्यवस्कों की संख्या	प्रभावित वरिष्ठ नागरिकों की संख्या	स्थानीय स्वास्थ्य देखभाल सुविधाएं (उल्लेख करें)	घरेलू देखभाल	घर–घर जाने वाला	अन्य (उल्लेख ा करें)
	a	वेक्टर–जनित रोग (मलेरिया, डेंगू, चिकेनगुनिया आदि)	30	5	20	5	No	□	□	प्रा0 अस्पत ाल
	b	जल–जनित रोग (हैजा/डायरिया/टाईफाई ड/ हैपेटाइटिस आदि)	20	15	5	0	No	□	□	प्रा0 अस्पत ाल
	c	श्वास सम्बन्धी रोग जो वायु प्रदूषण से होते हैं (इनडोर एण्ड आउटडोर)	60	30	10	20	No	□	□	प्रा0 अस्पत ाल
	d	कुपोषण	10	10			No	□	□	ANM

VII. उर्जा

53			
	a	आपके ग्राम पंचायत में कुल कितने घर विद्युतकृत हैं	288
	b	ग्राम पंचायत में निम्नलिखित अनुमानित विद्युत उपकरणों की संख्या	285
		ए0सी0	5
		एयर कुलर	200
		रेफ्रिजेटर / फ्रीज	80

54		विद्युत कटौती की आवृत्ति	
	a	दिन में कुछ बार	√□
		दिन में एक बार	□
		विद्युत कटौती नही	□
	b	प्रतिदिन कितने घण्टे गुल रहती है?	10 घंटे
		यदि प्रतिदिन नही तो सप्ताह में कितने घण्टे बिजली गुल होती है?	-----

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

56	पावर बैकअप का मतलब विद्युत कटौती के दौरान उपयोग	संख्या
	डीजल चलित जेनरेटर	2
	सौर उर्जा	0
	इमरजेंसी लाईट	सभी लोग
	इन्टवटर्स	200
	अन्य साधन (उल्लेख करें)	मोमबत्ती, दीपक

57		नवीकरणीय/अक्षय ऊर्जा के स्रोत		
	a	क्या गांव में निम्नलिखित में से कोई स्थापना है?	इंस्टालेशन (स्थापना) की संख्या	कुल स्थापित क्षमता (किलोवाट)
		घर की छतों पर सौर उर्जा स्थापना	0	
		विद्यालय की छत पर सौर उर्जा स्थापना	0	
		चिकित्सालय की छत पर सौर उर्जा स्थापना	0	
		ग्राम पंचायत भवन पर सौर उर्जा स्थापना	2	1/2 किलोवाट
		अन्य सौर उर्जा स्थापना	0	
		सौर स्ट्रीट लाईट	0	
		बायोगैस	0	
		विकेन्द्रित नवीनीकरण उर्जा/मिनी ग्रीड	0	
	b	क्या आप सौर उर्जा स्थापना के लिए उपलब्ध अनुदान के बारे में जानते हैं (कुछ योजनाओं/कार्यक्रमों का उल्लेख करें)	0	

58	भोजन बनाने हेतु प्रयुक्त ईंधन	परिवारों की संख्या	प्रति परिवार प्रयुक्त औसत मात्रा (किग्रा/महीना)
	पारम्परिक जलौनी (उपले/जलौनी लकड़ी)	150	300 किलो
	बायोगैस	0	0
	एलपीजी गैस	450	10 किलो
	विद्युत	0	0
	सौर उर्जा	0	0
	अन्य (कोयला, मिट्टी का तेल, चारकोल आदि)	0	0
59	वाहन की संख्या		

		वाहन के प्रकार	ग्राम पंचायत में वाहन संख्या (अनुमानित)	प्रयुक्त ईधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
	a	जीप	5	डीजल, पेट्रोल, गैस	20 किमी
	b	कार	5	डीजल, पेट्रोल, गैस	20 किमी
	c	दो पहिया वाहन	600	पेट्रोल	10 किमी
	d	विद्युत चालित वाहन	15	विद्युत	30 किमी
	e	आटो	2	डीजल	60 किमी
	f	ई–रिक्शा	15	विद्युत	30 किमी
	g	अन्य			

60		कृषि यंत्र	ग्राम पंचायत में कृषि यंत्रों/मशीनों की सख्या	प्रयुक्त ईधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
	a	टैक्ट्रर	7	डीजल	50
	b	कम्बाईन हारवेस्टर	0	...	...
	c	अन्य (कृपया उल्लेख करें)	बैलगाड़ी 4	चारा	..

61		ग्राम पंचायत में अवस्थित पेट्रोल पम्प (अगर कोई है) – नहीं										
		ईधन के प्रकार	प्रतिदिन की बिक्री	पम्प से आपूर्ति वाले गांव की संख्या	कितने प्रकार के वाहन एक दिन/महीना में पेट्रोल पम्प से ईधन लेते हैं? (समय/ अवधि का उल्लेख करें)							
					टैक्ट्रर	कृषि यंत्र	जीप	कार	दो पहिया वाहन	आटो	ई–रिक्शा	अन्य
	a		Nill									
	b											

62	औद्योगिक इकाई – नहीं

		उद्योग के प्रकार	संख्या	उर्जा के स्रोतः ग्रिड विद्युत (1), डीजल जेनरेटर (2), नवीनीकरण/अक्षय उर्जा (3)	उर्जा की खपत प्रति माह विद्युत का उपयोग (किलोवाट) ईधन उपयोग (लीटर प्रतिदिन)

Annexure III: HRVCA Report

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना

वर्ष– 2021-22

ग्राम पंचायत– भुजपुरा

विकासखण्ड–सिढ़पुरा जनपद–कासगंज(उ.प्र.)

ग्रामस्वराज्य मिशन आश्रम
ग्राम व पो०-गंगबहादुरगंज(बरसेरिया घाट)
जिला-लखीमपुर खीरी(उ.प्र.)-२६१५०५
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ग्राम पंचायत भुजपुरा

भुजपुरा गांव जनपद मुख्यालय कासगंज से 40 किलोमीटर की दूरी पर बसा है तथा गांव से विकास भवन की दूरी लगभग 43 किलोमीटर है। गांव से बाहर आवागमन हेतु सिढ़पुरा से धुमरी रोड तथा अलीगंज ऐटा हाइवे रोड (यमुना एक्सप्रेस वे) मुख्य सड़क मार्ग 40 किलोमीटर की दूरी पर है।गांव के 7 किलोमीटर की दूरी पर काली नदी तथा 40 किलोमीटर की दूरी पर गंगा नदी है। भुजपुरा ग्राम पंचायत में मुख्य गांव भुजपुरा के साथ एक और टोला नगला भुजपुरा लगता है। ग्राम पंचायत की आबादी लगभग 3525 है। जिसमें 1884 पुरूष और 1641 महिला निवास करती है। गांव में 25 दिव्यांगजन भी हैं। गांव में जहां 882 बच्चे हैं, वहीं 60 वर्ष के अधिक आयु वर्ग के 326 वरिष्ठ नागरिक भी हैं। गांव में कुल 946 परिवार है। जिसमें 461 परिवार गरीबी रेखा से नीचे जीवनयापन करने वाले परिवार हैं। 868 घर पक्के के है तथा 78 घर कच्चे बने हुए हैं। उन 78 घरों में 20 घर फूस के, 15 घर पन्नी के तथा 43 घर मिट्टी लकड़ी के बने हैं। भुजपुराग्राम पंचायत लगभग 274.673 हेक्टेयर है जिसमें लगभग 239.739 हेक्टेयर में कृषि कार्य होता है। गांव की साक्षरता दर लगभग 92.5 प्रतिशत है।

गांव में एक प्राइमरी स्कूल है जिसमें दो अध्यापक है। आंगनबाड़ी केन्द्र भी स्कूल के परिसर में ही संचालित होता है। गांव का पंचायत भवन है, जिसमें अधिकांश बड़ी व छोटी ग्रामस्तरीय बैठके आयोजित किये जा सकते हैं। पंचायत भवन की बाउण्ड्रीवाल की रूपरेखा स्लोगन के साथ परिपूर्ण है। गांव का प्राथमिक विद्यालय भी स्लोगन, रंगाई पुताई व फूलवारी से परिपूर्ण है। उसके बाद गांव के बाहर उत्तर दिशा में अंग्रेजो के जमाने का एक किला का खण्डहर और कूआं देखा गया जिसमें 20 फीट पानी उपलब्ध है। गांव के लोगों का कहना है कि कुआं अंग्रेजो ने बनवाया था। कुएं का पानी कम नहीं होता है। गांव का जलस्तर 20 फीट पर है। गांव में 50 प्रतिशत लोगों के यहाँ मोटरपम्प भी लगे हैं। ग्राम पंचायत में एक खेल मैदान बना हैं, बारात घर का निर्माण कार्य प्रगति पर है। गांव में बिजली के हर खम्भे पर तिरंगा बनवाया गया है। साथ ही पूरे गांव के हर एक खम्भे पर लाउडस्पीकर के साथ सी. सी.टी.वी. कैमरे की व्यवस्था की गई है। गांव में एक स्टेट बैंक ऑफ इण्डिया का सहज जनसेवा केन्द्र है, जिसमें गांव वालों को काफी सुविधा है। इस ग्राम पंचायत में कुल दो गांव–भुजपुरा और नगला है। इसलिए नगला भुजपुरा नाम है।

खतरा,जोखिम,नाजुकता एवं क्षमता विश्लेषण

ग्राम पंचायत भुजपुरा में सर्दी का मौसम नवम्बर से लेकर जनवरी तक होता है। गर्मी का मौसम शेष 8 माह तक रहता है। जिसमें कभी –कभी वर्षा भी होती है, ओले भी पड जाते है, तूफान भी आ जाता है, जिसमें पेड़ो की क्षति भी हो जाती है। पिछले 10 वर्षो की बात करें तो 2 से 3 माह तक वर्षा होती थी। भुजपुरा गॉव के लोगो ने बताया की हमारे नगला भुजपुरा में कहीं से आने–जाने की रास्ता नहीं था तथा गांव तक कोई सामान वाहन द्वारा नहीं पहुँच सकता था रास्ते के अभाव में लोग पैदल ही अपना सामान ले जाते थे सन् 2016 में ग्राम प्रधान गिरीश चन्द्र जी ने आरसीसी मुख्यमार्ग बनवाया तब से गॉव तक पहुँच हो सकी हैं।

इस गांव की मुख्य फसलें गेंहू, मक्का, सरसों, धान, तम्बाकू, चकोरी, बाजरा, आलू, अरहर, मसूर, चना, मटर, प्याज, लहसून, मूंग, फसलें होती है। इसमें चकोरी कॉफी बनाने के काम आती है और कॉफी अच्छी कीमत पर बिक्री होती है और अच्छा पैसा देती है।

ग्राम पंचायत भुजपुरा में सर्दी के मौसम में एकाएक बहुत सर्दी बढ़ जाती है। परन्तु पिछले 10 वर्षो में अपेक्षाकृत सर्दियों के दिनों में कमी आई है। पाले के प्रकोप से सत्यपाल व प्रेमपाल की एक–एक एकड़ आलू की फसल का नुकसान हुआ। अधिक ठंढ़ पड़ने से दुग्ध अत्पादन में भी कमी आई।

5–7 वर्ष पूर्व गर्मी का मौसम पहले 15 मार्च से लेकर 15 जून तक रहता था। मई–जून में लू भी चलती है। अब गर्मियों में तापमान 48 से 52 डिग्री सेल्सियस तक चला जाता है, जिससे बाहर का आवागमन प्रभावित होता है। लू के मौसम में डायरिया, खसरा, बुखार आदि बीमारियाँ बढ़ जाती है, जिससे बच्चे स्कूल नहीं जा पाते और शिक्षा भी प्रभावित होती है।

पहले वर्षा लगभग 100 दिनों की होती थी, अब वर्षा के दिनों में कमी आई है। वर्षा के दिनों की संख्या मात्र 40–50 दिनों की रह गई है। ठीक से अच्छी वर्षा ना होने के कारण फसलों पर प्रभाव पड़ता है, जैसे धान, मक्का आदि के उत्पादन में कमी आ जाती है।

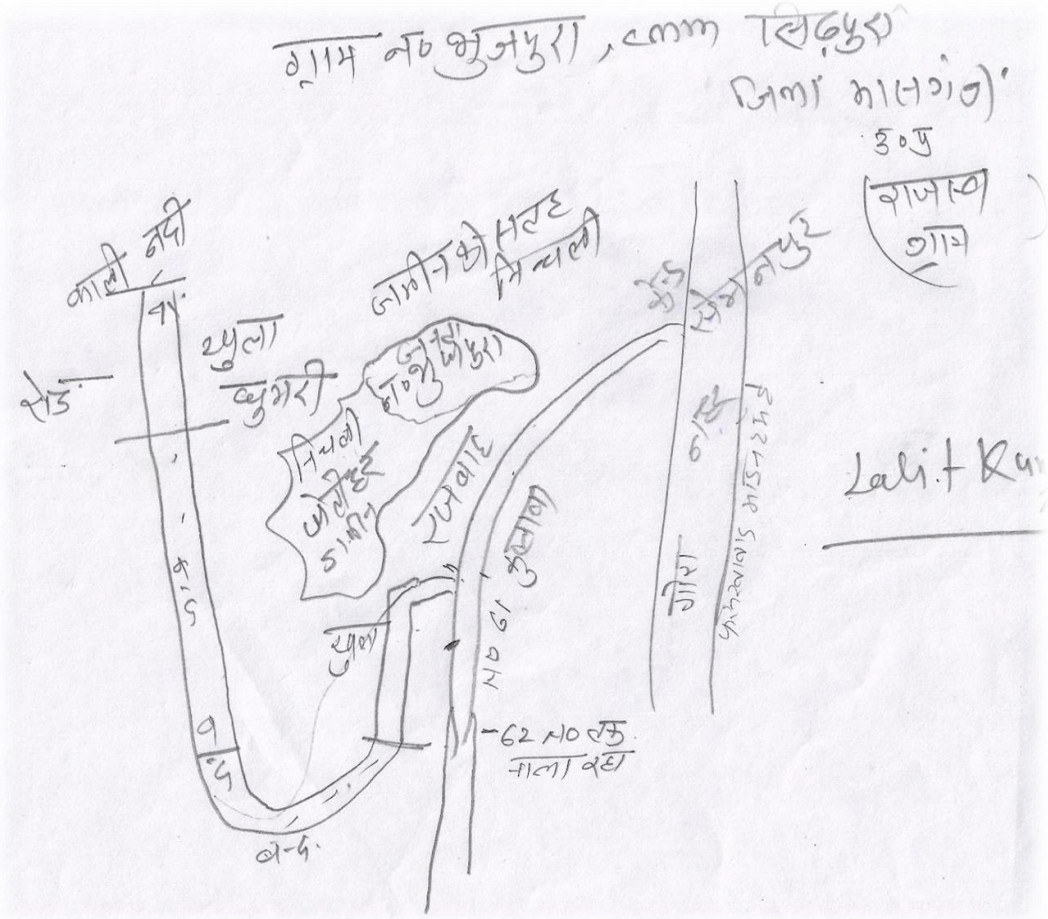
वर्षात् के दिनों में खुजली, फोड़ा, फुन्सी, मलेरिया जैसी बीमारियाँ बढ़ जाती है। वर्षा के दिनों में जानवरों को गलाघोटू बीमारी हो जाती है जिससे जानवरों की मृत्यु हो जाती है।

1. गांव को प्रभावित करने वाली आपदाओं की पहचान करना एवं उनका प्राथमीकीकरण

भुजपुरा गांव के लोगों के साथ आपदाओं पर विस्तार से विचार–विमर्श किया गया। समुदाय एवं गांव की दिनचर्या, आजीविका, शिक्षा, स्वास्थ्य, पेयजल, स्वच्छता, आदि गतिविधियां बाढ़ व सूखा दोनों से प्रभावित होती है। गांव व समुदाय को प्रभावित करने वाले आपदाओं एवं समस्याओं का प्राथमिकीकरण भी किया गया। इस गांव की मुख्य आपदा बरसात के समय में जल जमाव है। परिणामस्वरूप खेती, आजीविका, स्वास्थ्य, पेयजल, स्वच्छता आदि में जोखिम की सम्भावना बढ़ जाती है।

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

गोरा नहर व सेमनपुर से निकला हुआ रजवाहा, ग्राम पंचायत भुजपुरा के नाला कुलावा नम्बर 61 से लेकर काली नदी में जाकर मिलताहैं। यह नाला प्रारम्भ और अंत, दोनो जगह से खुला है। हर वित्तीय वर्ष में इसकी सफाई होती है। लेकिन यह नाला बीच में 1.5 किलो मीटर तक जाम अर्थात बन्द पड़ा है। परिणाम स्वरूप खेत की सिंचाई के समय नहर का पानी ओवरफलों करके सैकड़ों एकड़ जमीन में फैल जाता है जो एक बाढ का रूप ले लेता है और चारों ओर की फसलें नष्ट हो जाती है। बरसात के दिनों में यह और भी भयंकर रूप ले लेता है, क्योंकि खेती में पानी की आवश्यकता कम होती हैं और यह पानी आकर सीधे गॉव में प्रवेश कर जाता है। जिससे लगभग 2 माह तक जमाव की स्थिति बनी रहती है और जन जीवन प्रभावित होता हैं।



आपदा का इतिहास एंव क्षति

हाल फिलहाल में गांव में पिछले 10 वर्षो से कोई बड़ी आपदा नहीं आई है। किन्तु, लगभग 8 वर्षों से गांव में सूखे की स्थिति बनी रहती है जिससे फसल उत्पादन प्रभावित होता है। कोलाबा नम्बर 61 से आनेवाला पानी नगला भुजपुरा से धुमरी रोड की पुलिया तक नाला ना होने के कारण गांव में विशेषकर बरसात में बाढ़ आ जाती है जिससे गांव 2 माह तक प्रभावित हो जाता है। भुजपुरा गांव आम के बाग है और पूरा गांव इससे घिरा हुआ है। गर्मी के दिनों में अधिक आँधी तूफान व ओला–वृष्टि अधिक होने और वर्षा कम होने से फलदार वक्षों व फसल का हर साल काफी नुकसान होता है। अच्छी बात यह रही कि गांव के लोगों के अनुसार कोविड काल में भी गांव में एक भी लोग कोरोना से प्रभावित नहीं हुए।

समुदाय के साथ उन आपदाओं के बारे में विस्तृत रूप से चर्चा किया गया, जिसकी क्षति गॉव को व्यापक रूप से प्रभावित करती हैं। इसका प्रभाव वंचित समुदाय को एवं उनके संसाधनों की व्यवस्था को बिगाड देता हैं। वर्ष 2020 में बहुत तेज ऑधी तूफान आया,जिससे पूरा गॉव प्रभवित हुआ। लगभग 50 आम के पेड टूट कर नष्ट हो गये। पिछले 5 वर्षो ने लगभग पूरे गॉव को प्रभावित किया है। अत्यधिक तापमान बढने से डायरिया,बुखार,खसरा जैसी बिमारियॉ पड जाती हैं। लू एवं शीतलहर भी इस ग्राम पंचायत को प्रभावित करता हैं।

विस्तृत विवरण हेतु संलग्नक संख्या– 04 देखें।

आपदा का नाम	जन0	फर0	मार्च	अप्रैल	मई	जून	जुलाई	अगस्त	सित0	अक्टू0	नव0	दिस0
जलजमाव												
सूखा												
लू												
शीतलहर												
ऑधी तूफान												
ओला पत्थर												

2–जलवायु परिवर्तन जनित आपदाओं के जोखिम/खतरों का मानचित्रण एवं आंकलनः

उपरोक्त आपदाओं के आधार पर होने वाले नुकसान, सम्भावित जोखिम समुदाय एवं संसाधनों पर पड़ने वाले अनुमानित प्रभाव एवं उनसे प्रभावित समुदाय संसाधन आदि की विस्तृत जानकारी प्राप्त की गई। यह जानकारी समुदाय के सभी वर्गों महिला, पुरूष, दलित एवं वंचित समुदाय की सक्रिय भागीदारी से प्राप्त की गई।

अपदाओं का ग्राम पंचायत भुजपुरा के पर्यावरण बुनियादी एवं आधारभूत संरचना के साथ ही मानव जीवन आजीविका एवं स्वास्थ्य आदि पर नकरारात्मक प्रभाव पर रहा है। जल जमाव, कृषि रोग, आपदाओं का भुजपुरा ग्राम पंचायत के सम्दर्भ में इनके विभिन्न प्रकार के जोखिम के सम्भावना बनती है। इससे गांव के लोगों ने बताया है कि जोखिम से उन्हें प्रति वर्ष जो नुकसान सहना पड़ता है, वह इस प्रकार है–

खतरा एवं जोखिम विश्लेषण से प्राप्त सूचनाएंः

क्र. सं.	आसन्न आपदा / खतरे	सम्भावित जोखिम का क्षेत्र	सम्भावित जोखिम प्रभावित क्षेत्र			
			जोखिम	आबादी	घर	संसाधन
1	जल जमाव	पेयजल	पेयजल का दूषित होना	आधा भुजपुरा	240घर	13 उथले निजी हैण्डपम्प का जल स्तर दूषित
		स्वच्छता	गन्दे घूरे को पानी बहा ले जाकर आधे गॉव को प्रभावित करता है।	आधा भुजपुरा	240घर	खडंजा इण्टर लॉकिंग
		स्वास्थ्य	डायरियादस्त, फोड़ा फुन्सी	जलजमाव वाले क्षेत्र के लोग	20घर	20 लोग प्रभावित
		शिक्षा	आवागमन वाधित व फोडाफुन्सी निकलने से बच्चो की उपस्थित में	पूरा गॉव	450घर	सडक,विद्यालय भवन एवं परिसर में सीपेज

		कृषि	खरीफ की फसल का नुकसान, धान, मक्का, फसल की बुआई में बिलम्ब और सूड़ी का प्रकोप	पूरा गांव	.....	20 एकड़ खेत में जल जमाव
		उद्यान/सब्जी उत्पादन	पेड–पौधे एवं सब्जी फसल खराब हो जाना।	आधा गांव	18 खेती हर घर	20 एकड़ खेत में जल जमाव
		पशुपालन	पशुउत्पाद का कम होना		....	गाय,भैंस,एवं बकरीपालन
		आजीविका	स्थानीय स्तर पर मजदूरी न मिलना।	665जॉबकार्ड	–	–
		जल निकाय	जल निकायों में गंदा पानी भरना	आधा गांव	...	20 एकड़ जल निकायों में गंदा पानी भरना
2	सूखा	पेयजल	जलस्तर का नीचे जाना पेयजल की कमी।	पूरा गॉव	466घर	7इण्डिया मार्का हैण्डपम्प,एवं 20 सामान्य प्राइवेट नल का जलस्तर नीचें चला जाता है।
		कृषि	उपज का प्रभवित होना	पूरा गॉव	.....	
		उद्यान/सब्जी उत्पादन	सिंचाई लागत एवं श्रम अधिक	पूरा गॉव	.....	600 पेड–पौधे 5 एकड सब्जी
		पशुपालन	जानवरो को चारा का संकट		.....	
3	लू	स्वास्थ्य	मानव और पषुओ को लू लगना	पूरा गॉव	.....	
		शिक्षा	बच्चों का स्वास्थ्य प्रभावित	आधा गॉव	400 बच्चें	डायरिया,बुखार,आॅखो का लाल होना ।
4	शीतल हर	स्वास्थ्य	मानव एवं जानवरो को ठण्ड लगना ।	पूरा गांव	....	शीतलहर के प्रकोप से मानव स्वास्थ्य हानि
		कृषि	शीतलहर से फसलों को नुकसान	पूरा गांव	.....	गेंहू, सरसों व दलहनी फसलों पर प्रभाव
		पशुपालन	पशु क्षति खेत में फसल का नुकसान	पूरा गाव	25 पशुपालक घर	प्रत्येक वर्ष बरसात में 10 से 15 बकरी व भैंसों की मृत्यु।
5	ओला वृष्टिं	मानव स्वास्थ्य एवं	छोटे बच्चें, वृद्वजन, महिलाओ के गिरने, चोट	78 घर	.....	कच्चे घरों का क्षतिग्रस्त होना,

गॉव की स्थिति, नाजुक स्थान

भुजपुरा गॉव के समुदाय के लोगों के साथ भ्रमण करने के पश्चात् गॉव की स्थिति में गॉव की गलियॉ व नालियॉ सही रूप रेखा से व्यवस्थित तरीके से बनाई गई है। गॉव की चारों तरफ वाउंडरी लाइन पर स्वास्थ्य,स्वच्छता,पानी आदि के स्लोगन भी लिखे है। गॉव के सामुदायिक स्वास्थ्य उपकेन्द्र,प्राइमरी विद्यालय, पंचायत भवन, महिला सामुदायिक भवन,स्टेट बैंक ऑफ इण्डिया की शाखा के साथ जनसेवा केन्द्र भी है। गॉव में एक बकरी पालन केन्द्र भी हैं। गॉव की साफ सफाई के लिए सफाईकर्मी रोज गॉव में आता हैं। जिससे गॉव की गलियॉ व नालियॉ साफ सुथरी रहती हैं। गॉव के सभी लोगो के पास शौचालय भी हैं,गॉव के अधिकॉश लोग शौचालय का ही प्रयोग करते हैं।गॉव मे एक बारात घर का निर्माण कार्य भी चल रहा हैं।

आजीविका के साधनों पर आपदा का प्रभावः

इस क्षेत्र में आजीविका का मुख्य स्रोत कृषि व उससे जुड़े पशुपालन व कृषिगत मजदूरी आदि है। इससे जुड़ी अन्य जानकारी संलग्न की जा रही है।

विस्तृत विवरण हेतु संलग्नक संख्या– 05 देखें।

3. नाजुकता विश्लेषणः

आपदाओं का बार–बार सामना करने से उससे प्रभावित समुदाय सामाजिक, आर्थिक रूप से कमजोर हो जाता है। समुदाय व गांव को आपदा की दृष्टि से सुरक्षित बनाने की दिशा में नाजुक स्थल, नाजुक समुदाय, नाजुक संसाधन आदि को जानना अति आवष्यक था। इसे जानने के लिए पुनः समुदाय आशाबहू, आंगनबाड़ी कार्यकर्ती आदि की मदद से नाजुक वर्ग, जाति, लिंग, उम्र, आय के आधार पर गांव में नाजुक स्थल आपदा के कारण प्रभावित होने वाले ग्राम पंचायत में स्थित संसाधनों एवं उनकी संख्याओं के बारे में जानकारी प्राप्त की।

- जल जमाव–

  जलवायु परिवर्तन और आपदा के प्रभाव स्वरूप भुजपुरा ग्राम पंचायत में जल जमाव मुख्य समस्या है। जो कि नाले से आने वाले पानी से पैदा होती है। लगभग 20 एकड़ जमीन को प्रभावित करती है। वर्षा के दौरान यहां पानी पूरे गांव को प्रभावित करता है।

  - कासगंज से सिढ़पुरा होते हुए भुजपुरा की पूरी सड़क जर्जर है। इस पर आने जाने में काफी असुविधा का सामना करना पड़ता है।

  समुदाय पर जल जमाव का प्रभाव

  - जल जमाव से भुजपुरा गांव के 20 घर प्रभावित होत हैं। घरों के दीवारों में शीलन आ जाती है।
  - इस ग्राम पंचायत में 2 तालाब हैं, जिनके नाम–हथगड़ा व जगनइया है। गांव में जलनिकासी नाली द्वारा दोनों तालाबों में होता है, जिससे फसलों सिंचाई की जाती जाती हैं।

- सूखा–सामुदायिक के साथ चर्चा से यह तथ्य निकल कर आया कि सूखा गॉव की दूसरी बडी आपदा है।विगत 6–7 वर्षो से बरसात के मौसम में जून में बारिश हुई ही

नहीं और जुलाई माह में एक–दो दिन में ही अधिक वर्षा हो गई फिर कई दिनों तक बारिश नहीं हुई। इससे सूखा जैसी स्थिति बन जा रही है।

❖ लू–लू तीसरे नम्बर पर गॉव को प्रभावित करने वाली आपदा है।समुदाय के साथ चर्चासे यह निकल कर आया कि गर्मियों के दिनों में 15 मई से 15 जून तक तापमान अत्यधिक बढ जाता है व गर्म हवाएं चलने लगती हैं।

इससे समुदाय के स्वास्थ्य पर इसका नकारात्मक प्रभाव पडता हैं। मानव एवं पशुओं को लू लगने से उनका स्वास्थ्य खराब हो जाता है। विशेषकर बच्चों एवं बुजुर्गो पर इसका विशेष प्रभाव पडता है। बच्चों की शिक्षा एवं स्वास्थ्य सेवाएं प्रभावित होती है,पशुओं को चारा एवं पेयजल हेतु पानी की समस्या होती हैं।

❖ शीत लहर–शीतलहर गॉव को प्रभावित करने वाली चौथे नम्बर की आपदा है। सर्दियों के मौसम में 15 दिसम्बर से 15 जनवरी तक शीतलहर का प्रभाव रहता है। शीतलहर मानव एवं पशुओं के स्वास्थ्य के साथ कृषि को भी प्रभावित करता हैं।

गाय–भैंसों के दूध उत्पादन में कमी आ जाती है। शीतलहर के कारण कृषिकार्य, मजदूरी आदि आजीविका प्रभावित होती है।

उपरोक्त के अतिरिक्त समुदाय की व्यवहारगत एवं ढ़ाँचागत संरचना में कमियां है, जो कि निम्नवत है–

- ✓ गांव में समुदाय आधारित संस्थाओं की कमी है। युवा मंडल दल, धार्मिक मंडल दल, कृषि केन्द्र, किसान संगठन, सामुदायिक अनाज बैंक आदि सामाजिक संगठन की कमी है। इस कारण आपदा के समय समुदाय को सरकारी एवं बाहरी सहायता नहीं मिल पाती और सारी व्यवस्था स्वयं से करनी पड़ती है।
- ✓ गांव में अधिकांश मुख्य फसलें गेंहू, सरसों, धान, मक्का, तम्बाकू, चकोरी, अरहर, मटर, लहसून, अरबी, आलू, मूँग, मसूर, चना आदि फसले पैदा की जाती है।
- ✓ कृषिगत गतिविधियों में उर्वरक, कीटनाशक, खरपतवार नाशक का अत्यधिक प्रयोग किया जाता है।
- ✓ गांव में गाय, भैंस, पशुपालन होने के बाबजूद भी गोबर का प्रयोग जैविक खाद बनाने के लिए नहीं करते, बल्कि कन्डे बनाकर जलाने के रूप में प्रयोग करते हैं।
- ✓ कृषि परामर्श एवं मौसम पूर्वानुमान चेतावनी तंत्र के अभाव है। जिसके कारण समयपूर्ण सूचना एवं जानकारी नहीं मिलती है।
- ✓ ग्रामस्तर पर लघु/सूक्ष्म उद्योग नहीं है।

4. क्षमता विश्लेषणः

आपदाओं के संदर्भ में गांव को क्लाईमेट स्मार्ट बनाने की दृष्टि से गांव स्वयं में कितना सक्षम है इसकी जानकारी हेतु समुदाय के साथ मिलकर समग्र ग्राम पंचायत का क्षमता आंकलन किया गया।

ग्राम पंचायत भुजपुरा–कासगंज यमुना एक्सप्रेस वे राष्ट्रीय मार्ग से 40 किलोमीटर दूर है। कासगंज नया जिला होने कारण भुजपुरा ग्राम पंचायत में विकास के कार्य प्रगति पर है। इस

गांव में ग्रामीणों की सुविधा के लिए सामुदायिक शौचालय जिसका समय सुबह 4 बजे से 9 बजे तक तथा शाम के 4 बजे से 9 बजे तक रखा गया है। बच्चों के शिक्षा हेतु प्राथमिक विद्यालय व एक निजी विद्यालय है। ग्राम पंचायत भुजपुरा में अधिकांशतः लगभग 92 प्रतिशत घर पक्के हैं। 45 इण्डिया मार्का हैण्डपम्प भी पेयजल हेतु गांव में उपलब्ध हैं। गांम पंचायत में छोटे बड़े दो पोखरे हैं। संगठन के तौर पर यहां 8 महिलाओं की स्वयं सहायता समूह कार्यरत है। जिसमें सभी का बैंक से लिंक है तथा 3 का सी.सी.एल. हो चुका है। ग्राम पंचायत भुजपुरा में कृषि सिंचाई हेतु लगभग 400 डीजल पम्पसेट है व 10 विद्युत नलकूप है। शेष सिंचाई नहर से होती है। मनरेगा के तहत अमरूद, जामून, आम, पीपल, नीम, पाकड़, अर्जुन, अशोक के वृक्ष लगवाये गये हैं।

सामाजिक रूपरेखा

ग्राम पंचायत भुजपुरा में दो गॉव है, भुजपुरा और नगला। भुजपुरा और नगला दोनो गॉवों में भ्रमण करने के उपरान्त समाजिक रूपरेखा का आंकलन किया।दोनों गॉवोंमें ठाकुर,ब्राम्हण,मुस्लिम,कोरी,धोबी,जाटव,काछी,भंगी,बनिया,कहार,गडरिया,बौद्ध,तेली,नाई,सुनार,धानुक आदि जातियों के लोग रहते है।गॉव के आस–पास दो तालाब है।

जगनइया तालाब गॉव की पूरव तरफ और **हथगड़ा** तालाब गॉव के पश्चिम में है।गॉव के उत्तर दिशा में अंग्रेजों का कुॅआ भी है। जिसमें 20 फिट पर पानी का लेवल रहता है। जिससें गॉव के चारों ओर हरियाली देखने को मिलती हैं।गॉव के उत्तर दिशा में कुॅआ के पास अंग्रेजो का किला भी हैं। गॉव के बीच में एक पुरानी व विशाल इमारत भी हैं, जिसके सभी सदस्यों की मृत्यु हो गई है। उन्हीं के परिवार के कुछ लोग वहॉ बैठक करनेजातेहै।

सामाजिक एवं आर्थिक आधार पर नाजुक समुदाय, जनसंख्या आदि का विवरण :

ग्राम पंचायत भुजपुरा में तीन विधवा महिला हैं जो नाले के पानी से अधिक प्रभावित है जिसमें –

- स्वर्गीय किशोरी लाल की पत्नी कमला की आधा एकड़ जमीन का गेंहू नष्ट हो गया, उसके पास खाने का एक भी दाना नही हैं। मुन्नालाल की पत्नी राजवती का 0.3 एकड का गेंहूँ नष्ट हुआ। बुधपाल की पत्नी सुनिता का डेढ एकड़ का गेंहूँ नष्ट हुआ। ये लोग पिछड़ी जाति के है।

- इस गॉव में कुल घरों की संख्या 946 हैं। पक्के घरों की संख्या 868 है। फूस के घरों की संख्या 20,पिन्नी के घरों की संख्या 15, मिटटी व लकड़ी के घर 43 है।

विकलांग लोगो की संख्या 25 हैं। कुल बच्चे 882 है तथा 60 वर्ष के लोगों की संख्या 326 हैं।

शिक्षा के क्षेत्र में – लड़कों की अपेक्षा लड़कियों को कम पढ़ाना, उनकी पूरी शिक्षा ना करवाना, खानपान में भेदभाव करना आदि शामिल है।

सुविधा संसाधन मानचित्र से लिए गए आकड़े एवं तथ्य

विशेषकर संसाधनो के सन्दर्भ में किए गए क्षमता आंकलन को तीन भागों में विभक्त किया गया,जिसमें गॉव में उपलब्ध भौतिक एवं पर्यावर्णीय संसाधनो को सामाजिक मानचित्रण एवं सुविधा मानचित्र पर अंकित किया गया, जबकि मानव संसाधन के बारे में समुदाय के साथ चर्चा कर सूचनाए प्राप्त की गयीं।

भौतिक संसधानो की उपलब्धता एवं गांव से दूरी

क्रम	विवरण	संख्या	सम्पर्क व्यक्ति का नाम एवं संख्या	गॉव से दूरी
1	प्राथमिक विद्यालय	1	पुष्पेन्द्र सिंह सास्वत 7337671947	150 मी.
2	पूर्व माध्यमिक विद्यालय(प्राइवेट))	0	नजिया 9105541058	300 मी.
3	निजी इंगलिश मीडियम विद्यालय	1		400 मी.
4	पंचायत भवन	1	गिरीश चन्द9758639790	100 मी.
5	सरकारी राशन कार्ड की दुकान	1		350 मी.
6	थाना	1		4 किमी.
7	क्चहरी	1		20किमी.
8	जिला चिकित्सालय	1		20किमी.
9	एम्बूलेंस व्यवस्था	1	102/108	4 किमी.
10	विकास खण्ड कार्यालय	1		4 किमी.
11	प्राथमिक स्वास्थ्य केन्द्र	1		5 किमी.
12	तहसील	1		19 किमी.
13	आपदा विभाग	1		35 किमी.
14	पोस्ट ऑफिस	1		0
15	बिजली विभाग	1		4 किमी
16	डिग्री कॉलेज	1		4 किमी
17	फायर स्टेशन	1		4.5 किमी

18	बिजली घर	1		4.5 किमी
19	बस स्टेशन	1		4 किमी
20	रेलवे स्टेशन	1		16 किमी
21	खाद बीज दवा केन्द्र	1		4 किमी
22	बाजार	1		4किमी
23	बैंक	1		4 किमी

क्रम	मानव संसाधन	सं.	नाम	मोबाइल नम्बर	छूरी
1	ग्राम प्रधान	1	गिरीश चन्द्र	9758639790	0
2	शिक्षक	5	नितिनउपाध्यय,सुषील कुमार, सुनील कुमार,पुष्पेन्द्र	9411057701,9012765430 9012765430,7737671947	0,2किमी,6किमी,4किमी
3	शिक्षिका	1	नजिया	9105541058	4किमी
4	आंगनवाडी	3	बबिता,राधा,मधुवाला	7500370541,6397304595 9758352745	0
5	आशा बहु	2	अनीता,भारती	9761879578,7505625326	0
6	एएनएम	1	सीमा कुमारी	9148888457	4किमी
7	तैराक	5	आकाश, सौरभ, सतीश, विमल कुमार, धीरेन्द्र कुमार	.....	0,0,500मी.,500मी.
8	झोलाझाप डॉक्टर	3	ठाकुरदास, अजयकुमार, मनीराम	.....	500,500,500
9	भूतपूर्व सैनिक	2	श्यामसिंह, धर्मपाल	.....	500,0
10	पंचायत मित्र	1	ब्रजेश कुमार	.....	500

प्राकृतिक संसाधन उपलब्धता संख्या एवं दूरी

क्रम	संसाधन / पर्यावरणीय संसाधन	संख्या	विवरण नाम सम्पर्क संख्या	दूरी

1	तालाब	2	गडका, हथकडा,	
2	कुँआ	8		
3	नाला	1		
4	बाग	58		
5	नदी	0		
6	कृषिगत क्षेत्र	239.739 हे0		
7	खुला क्षेत्र	0		

वित्तीय संसाधनः

उपरोक्त के अतिरिक्त गांव के पास वित्तीय संसाधन भी उपलब्ध है। इस ग्राम पंचायत में उपलब्ध होने वाले सम्भावित वित्तीय संसाधनों का विवरण निम्नानुसार है–

क्रम	मद	वर्ष 2022–23 रू0
1	15वां वित्त आयोग	113.38 लाख/– रू0
2	स्वयं के राजस्व का स्त्रोत(ओ0एस0आर)	13500/– रू0

क्लाइमेट स्मार्ट ग्राम पंचायत भुजपुरा की कार्य योजना का निर्माण

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना बनाने हेतु सभी अभ्यासों को करने के उपरान्त सेक्टरवार जानकारी प्राप्त करने के लिए समूह चर्चा की गयी। इस चर्चा के दौरान ही सभी 5 सेक्टरों के अन्तर्गत आने वाली विभिन्न बिन्दुओं की ग्राम पंचायत में वर्तमान स्थिति, उससे सम्बन्धित समस्याएं,उन समस्याओं के निराकण हेतु विशिष्ट कार्ययोजना के बारे में जानकारी प्राप्त की गयी। उपरोक्त सूचनाओं, तथ्यों एवं ग्रामिणों से चर्चा व विचार–विमर्ष के बाद ,जलवायु परिवर्तन एवं आपदा जोखिम न्यूनीकरण अवधारणा के तहत क्लाइमेट स्मार्ट 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।


पंचायत भवन/सचिवालय
ग्राम पंचायत भुजपुरा वि.स. सिदपुरा जयपुर कामलंज

सेक्टरवार स्मार्ट ग्राम पंचायत भुजपुरा की कार्य योजना तालिका

क्रम	कार्य का क्षेत्र	कार्य का नाम	कार्य का विवरण	परिसम्पत्ति का स्थान	अनुमानित धनराषि	अवधि	योजना का परिव्यय
1	सेक्टर–1 मानव विकास एवं सामाजिक सुरक्षा साफ–सफाई एवं स्वच्छता	हैण्डपम्प रिबोर	पेयजल की उपलब्धता हेतु हैण्डपम्पों को रिवोर कराना	भुजपुरा–2 नगला–2	90,000	3 माह	15 वां वित्त आयोग
2		हैण्डपम्प मरम्मत कार्य	पेयजल की उपलब्धता हेतु हैण्डपम्पों का मरम्मत कार्य करवाना	सभी नल	1,30,000	4 माह	15 वां वित्त आयोग/
3		पेयजल गुणवत्ता हेतु जांच की मशीन व किट	ग्राम पंचायत के हैण्डपम्पों से शुद्धपेयजल की प्राप्ति हेतु पानी जाँच की व्यवस्था बनाना	पंचायत भवन	2,00,000	1 वर्ष	15 वां वित्त आयोग
4		तालाब जीर्णोद्धार व संरक्षण	2 तालाबों का संरक्षण कार्य–सफाई, गहरी खुदाई, पौध रोपण, बॉउण्ड्री निर्माण, बैठने के लिए सीमेन्टेड बेन्च आदि का निर्माण कार्य	गडका, हथकडा,	5,00,000	2 वर्ष	15 वां वित्त आयोग
5		कूड़ा पात्र रखवाना	सार्वजनिक स्थल व चौराहों पर 18 कूड़ेदान	पूरा गांव	3,50,000	1 वर्ष	15 वां वित्त आयोग
6		कूँआ जिर्णोधार	कचड़े से पटे 8 कूँओं की सफाई एवं उपरी सतह का मरम्मत कार्य	भुजपुरा – 5 नगला भुजपुरा –3	3,80,000	1 वर्ष	15 वां वित्त आयोग/ मनरेगा
7		व्यक्तिगत शौचालय निर्माण	25 व्यक्ति का शौचालय	पूरा गांव	3,00,000	6 माह	15 वां वित्त आयोग
8		नाला सफाई, मरम्मत एवं निर्माण	2 किलोमीटर नाला की सिल्ट,गन्दगी, सफाई, मरम्मती एवं निर्माण कार्य	नगला भुजपुरा से धुमरी रोड की पुलिया तक	3,00,000	6 माह	15 वां वित्त आयोग

9		नाली पुलिया निर्माण व मरम्मत कार्य एवं क्रास जाल	(क) नाली निर्माण	1.) राधेष्याम के घर से रामकिषोर के बाग तक लगभग 1 किलोमीटर	7,64,000	2 वर्ष	15 वां वित्त आयोग
			(ख) नाली निर्माण	2.) रमेश के घर से मखमूल के घर तक 500 मीटर	3,75,000	2 वर्ष	15 वां वित्त आयोग
			(ग) पुलिया निर्माण कार्य	3.) गांव में 15 स्थानों पर पुलिया निर्माण कार्य	4,00,000	1 वर्ष	15 वां वित्त आयोग
			(घ) लोहे के क्रास जाल	4.) पूरे गांव में नालियों के ऊपर लोहे के क्रास जाल	2,00,000	1 वर्ष	15 वां वित्त आयोग
10	सेक्टर–2 बुनियादी / आधारभूत संरचना एवं पर्यावरण	अन्येष्ठि स्थल निर्माण कार्य	खुले में एक बरामदा, कमरा, पेयजल एवं शौचालय की व्यवस्था	अंग्रेजो के पुराने किले के पास	25,00,000	2 वर्ष	15 वां वित्त आयोग
11		खेल मैदान निर्माण कार्य	दो कमरा, बेन्च, पानी एवं शौचालय की व्यवस्था व खेलकूद सम्बनधित सामान की व्यवस्था	पंचायत घर के पास	50,00,000	2 वर्ष	15 वां वित्त आयोग
12		प्रधानमंत्री आवास निर्माण	20 प्रधानमंत्री आवास निर्माण	पूरा गांव	28,00,000	2 वर्ष	15 वां वित्त आयोग

13		सड़क निर्माण/आर.सी.सी./ इण्टरलॉकिंग कार्य	50 मीटर सड़क निर्माण	रामवीर के घर से अनोखे के घर तक	3,15,000	6 माह	15 वां वित्त आयोग
14		सड़क निर्माण	600 मीटर सड़क निर्माण	महेश के घर नरेश के घर तक	4,45,000	6 माह	15 वां वित्त आयोग
15	सेक्टर–3 आजीविका, कृषि, पशुपालन	व्यक्तिगत बाग बगीचा निर्माण कार्य	समूह की महिलाओं के माध्यम से 500 पेड़ (आंवला, आम, अमरूद, करौंदा, जामुन आदि) लगवाना	ग्राम पंचायत की भूमि पर जैसे तालाब का किनारा, नाला किनारे	1,00,000	6 माह	म्नरेगा
16		स्थाई पशु आश्रय स्थल	20 व्यक्तिगत पशु आश्रय स्थल का निर्माण	पूरा गांव	40,00,000	1 वर्ष	15 वां वित्त आयोग
17		किसानों हेतु जागरूकता कार्यक्रम (प्रतिवर्ष 3 बार– रबि, खरीफ, जायद फसलों के समयानुसार)	तकनीकी कार्यषाला, आय में बृद्धि के सुझावों का प्रचार–प्रसार, जैविक खेती, मृदा संरक्षण एवं पशुपालन आदि	पूरा गांव	60,000	5 वर्ष	कृषि एवं पशुपालन विभाग
18		वन संरक्षण, स्वच्छता एवं पेयजल हेतु जागरूकता	बैठक, नारा लेखन, दीवार लेखन, रैली आदि	पूरा	50,000	1 वर्ष	कृषि एवं पशुपालन विभाग (ओ. एस.आर.)

क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना के निरूपण की सहभागी प्रक्रिया

वातावरण निर्माण

ग्राम पंचायत भुजपुरा की आगमी वित्तिय वर्षो हेतु **क्लाइमेट स्मार्ट ग्राम पंचायत विकास योजना के निरूपण हेतु** ग्राम पंचायत के समग्र जन की सहभागिता सुनिश्चित करने की दृष्टि से ग्राम प्रधान श्री गिरीश चन्द्र द्वारा दिनांक 11 मार्च, 2023 को पूरे ग्राम सभा में लाउडस्पीकर द्धारा सूचना की गयी कि दिनांक 13.03. 2023 को पंचायत भवन, भुजपुरा में खुली बैठक आयोजित की गई है।

खुली बैठक

ग्राम पंचायत भुजपुरा के लिए क्लाइमेट स्मार्ट ग्राम पंचायत कार्ययोजना निरूपण हेतु हितभागियों की ग्राम सभा की खुली बैठक पूर्व निर्धारित सूचना के अनुसार दिनांक 13.03.2023 को पंचायत भवन में खुली बैठक का आयोजन किया गया। इस खुली बैठक में ग्राम प्रधान, उप ग्राम प्रधान,पंचायत सदस्य, स्वयं सहायता समूह के सदस्य, आंगनवाडी कार्यकत्री, आशाबहू, ग्रामीण किसान महिलाएं एवं पुरूष के साथ अन्य बुजुर्ग ग्रामवासी एवं बच्चे उपस्थित हुए। इस बैठक की अध्यक्षता ग्राम प्रधान श्री गिरीश चन्द्र ने किया।

बैठक के प्रारम्भ में सभी का स्वागत व परिचय ग्राम पंचायत सचिव श्रीमतीकुसुमलताद्वारा किया गया।बैठक के उद्देश्य पर प्रकाश डाला एवं बताया कि जलवायु परिवर्तन का असर पूरा विश्व झेल रहा है। इसका पूरा प्रभाव हमारेग्रामपंचायत एवं ग्रामवासियों पर पड़ भी हो रहा है।

ग्राम पंचायत समितियों का विवरण–

प्रषासनिक समिति	निर्माण कार्य समिति	स्वास्थ्य एवं कल्याण समिति
सभापति– गिरीष चन्द्र	सभापति–षिवनन्दन	सभापति–भारती
सदस्य	सदस्य	सदस्य
म्मता	म्मता	पुष्पा
लक्ष्मी	लक्ष्मी	सुनिता
्रदीप	्रदीप	म्मता
सत्यपाल	सत्यपाल	गंगोत्री
शिवनन्दन	श्रामजीत	गोविन्द
श्रामजीत	नफीस	जहिद

पेयजल,स्वच्छता एवं जल प्रबंधन समिति	नियोजन एवं विकास समित	षिक्षा समित
सभापति–प्रदीप	सभापति–गिरीष चन्द्र	सभापति– गिरीष चन्द्र
सदस्य	सदस्य	सदस्य
पुष्पा	ममता	ममता
सुनिता	गंगोत्री	रामजीत
शिवनन्दन	शिवनन्दन	प्रदीप
नफीस	्रदीप	नफीस
लक्ष्मी	सत्यपाल	लक्ष्मी
रामजीत	रामजीत	सत्यपाल

क्रमांक	पंचायत सदस्य का नाम	मोबाइल नम्बर
1	श्री गिरीष चन्द्र,ग्राम प्रधान	9758639790
2	श्री मति ममता, वार्ड सदस्य	8858662034
3	श्री मति लक्ष्मी, वार्ड सदस्य	8433406774
4	श्री प्रदीप, वार्ड सदस्य	8449387932
5	श्री सत्यपाल, वार्ड सदस्य	8958742702
6	श्री शिवनन्दन, वार्ड सदस्य	6396204136
7	श्री रामजीत, वार्ड सदस्य	7655753170
8	श्री मति पुष्पा, वार्ड सदस्य	9880662201
9	श्री मति सुनिता, वार्ड सदस्य	9193023457
10	नफीस, वार्ड सदस्य	8218930195
11	श्री मति भारती, वार्ड सदस्य	9756740028
12	गंगा श्री, वार्ड सदस्य	9927915218
13	श्री गोविन्द, वार्ड सदस्य	6399083371
14	जहिद	8851948450

ट्रांजेक्ट वाक (ग्राम भ्रमण)

समग्र ग्राम पंचायत के जलवायुगत आपदा एवं जोखिम को समझने की दृष्टि से खुली बैठक में उपस्थित ग्रामप्रधान प्रतिनिधि, 8 स्वयं सहायता समूह की महिलायें एवं समुदाय के सभी लोगों ने ग्राम पंचायत भुजपुरा का गृह भ्रमण किया। इसकी शुरूआत ग्राम प्रधान के कार्यालय से शुरू कर गांव के सभी वार्ड मेम्बरों से मिलते हुए आशाबहू, आंगनबाड़ी कार्यकर्ती से मिलकर बातचीत की। इसके पश्चात पूरब में जगनइया ताल का निरीक्षण किया गया। उसके बाद पूरे गांव का भ्रमण करते हुए गांव के पश्चिम हथगड़ा तालाब पर गये। लोगों ने बताया कि यहाँ अंग्रेजो का किला व उन्हीं के द्वारा निर्मित एक भव्य कूँआ भी देखने को मिला।

ट्रांजेक्ट वाक के दौरान अवलोकन की गयी स्थितियॉ

बसाहट	2 टोले हैं भुजपुरा गांव जनपद मुख्यालय कासगंज से 40 किलोमीटर की दूरी पर बसा है तथा गांव से विकास भवन की दूरी लगभग 43 किलोमीटर है। गांव से बाहर आवागमन हेतु सिढ़पुरा से धुमरी रोड तथा अलीगंज ऐटा हाइवे रोड (यमुना एक्सप्रेस वे) मुख्य सड़क मार्ग 40 किलोमीटर की दूरी पर है। गांव के 7 किलोमीटर की दूरी पर काली नदी तथा 40 किलोमीटर की दूरी पर गंगा नदी है। भुजपुरा ग्राम पंचायत में मुख्य गांव भुजपुरा के साथ एक और टोला नगला भुजपुरा लगता है। ग्राम पंचायत की आबादी लगभग 3525 है। जिसमें 1884 पुरूष और 1641 महिला निवास करती है। गांव 25 दिव्यांगजन भी हैं। गांव में जहां 882 बच्चे हैं, वहीं 60 वर्ष के अधिक आयु वर्ग के वरिष्ठ नागरिक भी 326 हैं। गांव में कुल 946 परिवार है। जिसमें 461 परिवार गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार हैं। 868 घर पक्के के है तथा 78 घर कच्चे बने हुए हैं। उन 78 घरों में 20 घर फूस के, 15 घर पन्नी के तथा 43 घर मिट्टी लकड़ी के बने हैं। भुजपुरा ग्राम पंचायत लगभग 274.673 हेक्टेयर भूमि में वसा है जिसमें लगभग 239.739 हेक्टेयर में कृषि कार्य होता है। 45 इण्डिया मार्का नल है। इसके अलाबा गांव में गाय, भैंस, बकरी, सुअर, भेड़ आदि पशु हैं।
ताल–तलैया	गांव में 2 तालाब हैं। एक जगनइया तालाब है, जो 2 एकड़ का है। दूसरा हथगड़ा तालाब है, जो ढ़ाई एकड़ का है।
नाला	ग्राम पंचायत के उत्तर दिशा में 1 नाला पूरब पश्चिम की ओर निकलता है। कुछ दबंग लोगों ने डेढ़ किलोमीटर काटकर खेत बना लिये हैं। इस नाले की सफाई व पुनर्निर्माण की आवश्यकता है।

हरितक्षेत्र बाग–बगीचा	ग्राम पंचायत के भ्रमण में बहुत ही अच्छी हरियाली देखने को मिली। इस गांव में –

क्र.	बगीचे के मालिक का नाम	आम के पेड़ की संख्या
1	किशोरी लाल	70
2	श्रामदास	65
3	श्राजाराम	50
4	राम गोपाल	55
5	पनसिंह	78
6	करन सिंह	75
7	लाला राम	90
8	बैचे लाल	52
9	दौलत राम	62
10	श्याम बिहारी	65
11	ळरिओम	67
12	इशु	92
13	टजीत	100
14	छलवीर	103
15	टमित	101
16	मुकेष	106
17	सुरेन्द्र	75
18	म्नोज	76
19	लटूरी	77
20	सतेन्द्र	80
21	दुशासन	90
22	रामचन्द्र	92
23	गीतम	70
24	सत्यपाल	72
25	वीर बहादुर	72
26	बिन्टू	66
27	सुभाष	135
28	धर्मवीर	50
29	जुगेन्द्र	52
30	शिवरतन	56
31	शिलेन्द्र	60
32	स्ंदीप	61

		33	टोमवीर	70	
		34	विजेन्द्र	72	
		35	रविन्द्र	73	
		36	उर्मिला	80	
		37	थ्वनोद	66	
		38	सुभाष	61	
		39	गिरीष चन्द्र	63	
		40	हरिभान	70	
		41	राज किशोर	65	
		42	राजेश	64	
		43	प्वन	66	
		44	राकेश	60	
		45	सचिन	57	
		46	नरेशपाल	50	
		47	मुशर्रफ	53	
		48	नेकशी बेगम	58	
		49	मो0 राज	60	
		50	म्कीम	52	
		51	त्सलीम	106	
		52	बृजवासी	170	
		53	सतीश	150	
		54	व्दराम	152	
		55	भूरेपाल	90	
		56	राधेपाल	79	
		57	टोड़ीराम	80	
		58	व्रेमपाल	50	
भौतिक संसाधन	पंचायत भवन के पश्चिम में बच्चे व बुजुर्ग को खेलने व टहलने के लिए पार्क बना है। गांव के बीचोबीच बारात घर का निर्माण कार्य भी चल रहा है। आंगनबाड़ी भवन में एक कमरा व बरामदा है। कमरे व बरामदे में टायल्स लगे हुए हैं। आंगनबाड़ी का शौचालय, बच्चों के खेलने के लिए खिलौने, पढ़ने के लिए अक्षर उपलब्ध है। प्राथमिक विद्यालय का भी जीर्णोद्धार किया गया – जिसमें 2 कमरे व बरामदा है। जिसकी लिपाई–पुताई , टायल्स, मेज, कुर्सी की व्यवस्था कराई गई है। यहां एएनएम के बैठने के लिए केन्द्र है। इसमें 4 कमरे, बरामदा व डिलीवरी कक्ष, गेस्ट रूम, एएनएम ऑफिस, रसोई घर, क्लीनिक रूम, इण्डियामार्का				

	हैण्डपम्प है। लेकिन अच्छी सुरक्षा व्यवस्था नहीं होने के कारण जड़जर अवस्था में और उपयोग में नहीं आ रहा हैं।

सामाजिक मानचित्रण

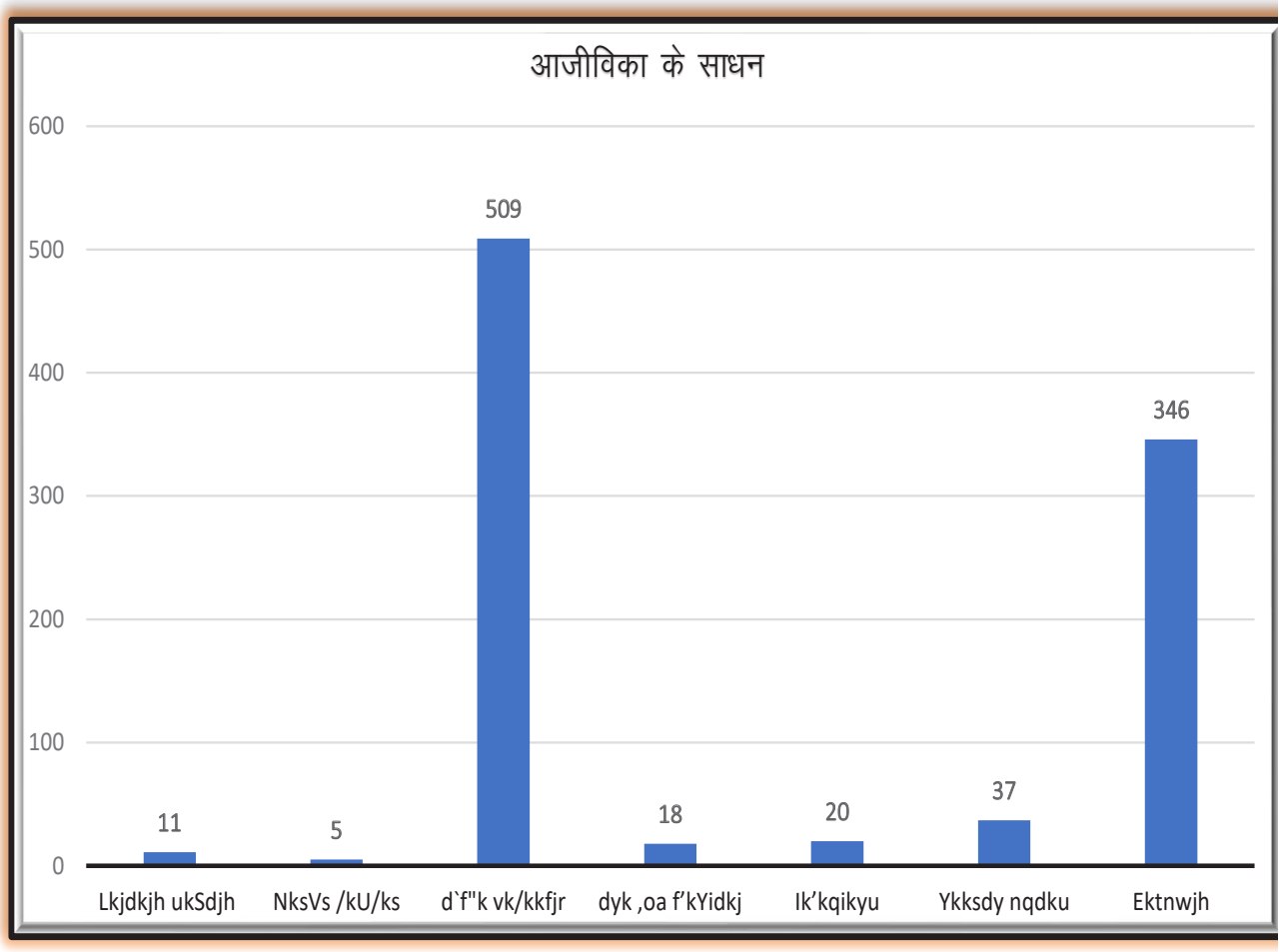
सभी मजरों के भ्रमण के उपरांत ग्राम पंचायत में उपस्थित खेलकूद मैदान के परिषर में ग्रामवासियों के उपस्थिति में सामाजिक मानचित्रण तैयार किया गया,जिसके आधार पर प्राप्त सूचनाएं निम्न तालिका में प्रदर्षित हैं–

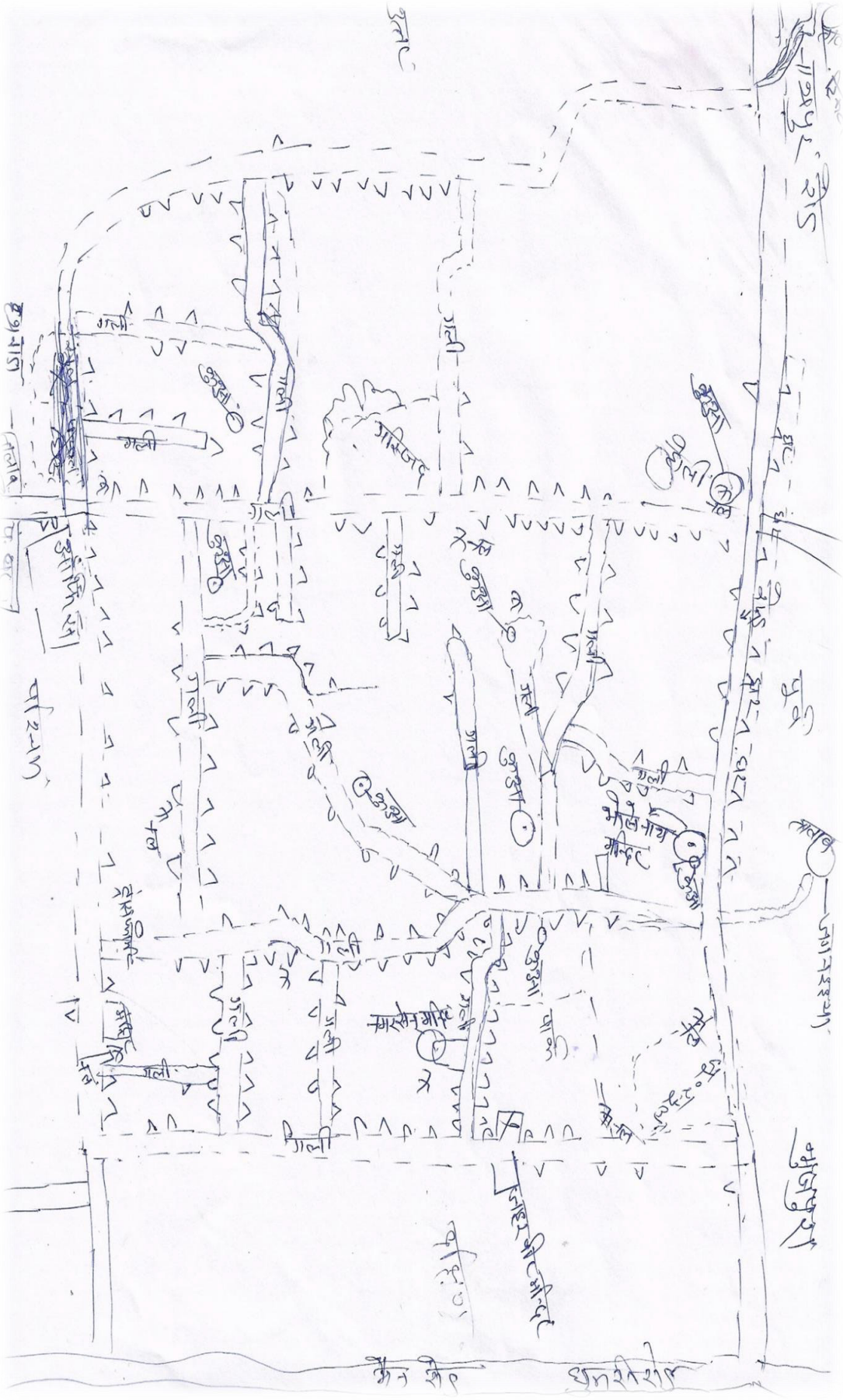
विवरण	संख्या	गुणात्मक विवरण
ग्राम पंचायत की चौहदी का क्षेत्रफल	274.673 हे0	ग्राम पंचायत सहित
कुल टोलों की संख्या	2	नगला भुजपुरा
कुल घरों की संख्या	946	नगला भुजपुरा
कुल पक्के घरों की संख्या	868	प्रत्येक मकान पक्के छत वाले हैं।
कुल कच्चें घरों की संख्या	78	फूस के घर 20,प्लास्टिक 15,मिट्टी लकडी 43
आर्थिक रूप से कमजोर परिवारों की संख्या	461	400 बी0पी0एल, 61 अनतोदय=461
विकलांग जनों की संख्या	25	.....

जातिगत–श्रेणीगत विवरण

सामान्य जाति के घरों की संख्या	330
पिछडी जाति के घरों की संख्या	380
अनुसूचित जाति के घरों की संख्या	236
कुल घरों की संख्या	946

आजीविका के साधन	व्यक्ति की संख्या
सरकारी नौकरी	11
छोटे धन्धे	5
कृषि आधारित	509
कला एवं शिल्पकार	18
पशुपालन	20
लोकल दुकान	37
मजदूरी	346





आपदाओं का ऐतिहासिक समय रेखा एवं घटनाक्रम

ग्राम पंचायत भुजपुरा का ऐतिहासिक समय रेखा आपदाओं एवं उसके प्रभाव को जानने के बाद समुदाय के साथ यह भी जानने का प्रयास किया कि ये आपदाएं इस ग्राम पंचायत को कब–कब प्रभावित कर रही हैं । इस क्रम में इन आपदाओं का ऐतिहासिक समयरेखा जानने का प्रयास किया गया,जिसमें समुदाय ने माना कि जलजमाव एक ऐसी आपदा ,जो लगाातार समुदाय को प्रभावित कर रही हैं।

अधिक ठंड पड़ने की वजह से अनवार खॉ की 3–3 बकरियों की मृत्यु हो गई।

दुग्ध उत्पादन में भी कमी आई।

10 वर्ष पहले गर्मी का मौसम अप्रैल से जुलाई तक रहता था। अप्रैल मई जून तक गर्म हवा चलती थी जिससे जनजीवन अस्त व्यस्त होता है।

लू के मौसम में बुखार व खसरा जैसी बीमारियों से लोग प्रभावित होते हैं। 10 वर्ष पहले 4 माह की बरसात का समय हुआ करता था। आज मुस्किल से वर्षा का समय 2 माह बचा है। अच्छी बर्षा न होने के कारण गांव में सड़को पर गन्दा पानी भरने से गांव के लोगों को खुजली बुखार मलेरिया जैसी बीमारियां होती है। वर्षा के समय में जानवरों को गलाघोटू की बीमारियां होने से जानवरों की मृत्यु हो जाती है।

क्रम	वर्ष	आपदा–खतरा	घटनाओ का कारण	मृतकों की संख्या	प्रभावित लोगो की संख्या	आर्थिक क्षति	न्यूनीकरण हेतु किया गया कार्य
1.	2000	सूखा	बारिष कम हुई	–	500	50 हे0 खेत प्रभावित	2015–2016 में पंचायत के तालाबों की खुदाई व पेयजल हेतु हैण्डपम्प रिवोर व मरम्मत कार्य।
2.	2011	आंधी तूफान	पेड पौधो छतिग्रस्त	–	–	120 पेड	कोई कार्य नहीं।
3.	2010	टोला	मौसम खराब	–	200	100 एकड की फसल पूरी तरह बरबाद हो गई।	कोई कार्य नहीं।
4.	2015	जलजमाव	जल निकासी का अभाव, नालों पर अतिक्रमण	–	–	फसल बेकार हो जाती हैं।	कोई कार्य नही

आजीविका के साधनों पर आपदाओं का प्रभाव

संलग्नक–05

क्रमांक	टाजीविका के प्रकार	परिवार की संख्या	आपदा	आपदा का प्रभाव			क्या प्रभाव पडता है
				अधिक	मध्यम	कम	
1	कृषि	946	जलजमाव				• लगभग 20 एकड फसल नष्ट हो जाती है। • धान व रबी की फसल उत्पादन प्रभावित होती है। कीट व बीमारियों का प्रकोप बढ़ जाता है।
			सूखा				सिचाई अधिक लगती है,फसलेझुलस जाती है।
			शीतलहर				•सरसों में माहू का प्रकोप बढ जाता हैं। फसलो की बढवार प्रभावित हो जाती है।
2	मजदूरी	146	जलजमाव				•आने जाने में परेशानी,रोजगार प्रभावित •खेतीहर मजदूरो को मजदूरी नही मिल पाती।
			सूखा				•फसले प्रभावित होती है। •भूमिगत जल निकालने मे अधिक व्यय होता है। •जनजीवन प्रभावित होता हैं।
3	पशुपालन (गाय, भैंस, बकरीपालन, मुर्गीपालन आदि)	20	जलजमाव				•अच्छा चारा नही मिल पाना। •फसलो मे पानी भर जाने के कारण चारा नही मिल पाना। •पशुओं मे बिमारी बढ जाना।
			सूखा				•दूध की कमी हो जाना। •पशुओं को नहलाने में परेशानी हो जाना। •अधिक तापमान होने के कारण चारा में कमी।
			शीतलहर				•दूध की कमी हो जाना। •पशुओ का स्वास्थ्य खराब होना। •पशुओं की मत्यु हो जाना।

4	स्वयं का व्यवसाय (छोटी दुकान आदि)	2	जलजमाव				•सामान लाने ले जाने में असुविधा। •कच्चा माल खराब हो जाना।
			सूखा				•सामान मंहगाा हो जाना।
			शीतलहर				•सामान लाने ले जाने में सुविधा।

रिपोर्ट टीम का नाम

1. उदयरतन, 2. रामनारायण, 3. अल्का, 4. विश्वम्भर नाथ
2. स ंस्था का नाम –ग्राम स्वराज्य मिषन आश्रम, जंगबहादुरगंज, लखीमपुर खीरी (उ.प्र.)।

Annexure IV: Estimating Targets and Costs

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Enhancing green spaces and biodiversity				
1	Plantation activities	**Phase 1:** Similar to current level of plantation activities that the GP does (to be asked during consultation with the Pradhan) **Phase 2:** Increase plantation targets by 500-1000 based on availability of land **Phase 3:** Further increase target by 500-1000 based on availability of land	Tree plantation (preparation, sapling, labour, etc.)[94] = **Rs. 70 per tree** (saplings are also available at no cost from DoEFCC, GoUP) Tree Guards (metal)[95] = **Rs. 1,200 per unit** Maintenance of plantations: **1.5 lakh/ha**	
2	Arogya van	For a GP with area less than **300-400 ha**, one *Arogya van* can be suggested with **0.1 ha** area can be suggested. For a GP with area of around **1000 ha**, one *Arogya van* can be suggested with an area of **0.2- 0.5 ha** based on availability of land		Sequestration potential estimated based on teak species - 5.6 to 10 tCO_2e sequestered per tree
3	Agro-forestry	(Can be subjective and agro-forestry activities can be started from **Phase 1**) **Phase 2:** 40 % of total agricultural land; with +100 trees planted per hectare **Phase 3:** Remaining agricultural land; with + 100 trees planted per hectare	Cost of agroforestry[96] = **Rs 40,000/ hectare**[97]	Plantation density for agro forestry is considered 100 trees/ha

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

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable Agriculture				
1	Micro irrigation- drip and sprinkler irrigation	**Phase 1:** 30% of total agricultural land to be covered **Phase 2:** 70% of total agricultural land to be covered **Phase 3:** 100% of total agricultural land to be covered	Rs 1 lakh per hectare	
2	Construction of bunds	**Phase 1:** 50% of total agricultural land to be covered **Phase 2:** 100% of total agricultural land to be covered **Phase 3**: Maintenance of bunds - Bunding is done on periphery of agricultural fields - Farmers in GP have land holdings of various sizes **Assumption**: all fields are square	**1m of bunding[98]= Rs 150**	
3	Construction of farm ponds	**Phase 1**: 5-10 ponds **Phase 2**: 15- 20 ponds Phase: More if required + Maintenance of ponds Capacity of 1 farm pond= 300 m^3 Depends on number of large farms in GP + requirement of ponds (based on conversation with Pradhan)	Construction of 1 farm pond[99]= **Rs 90,000**	

98 Cost as per inputs received from GPs in HRVCA

99 Cost as per inputs received from GPs in HRVCA

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

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

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Management & rejuvenation of water bodies				
1	Maintenance of Water Bodies (Cost not to be double counted if these plantations are a part of the overall green space enhancement initiative as mentioned above)	**Phase I:** Construction of pond retention wall Reboring of handpumps; Tree plantation with tree guard **Phase II:** Additional 100 tree plantations (along with tree guards) around water bodies + continued maintenance of water bodies **Phase III:** Continued maintenance of water bodies	Approximate cost : 1. Retention wall around 1 pond = ₹10 lakhs 2. Reboring of 20 handpumps: 12 lakhs 3. Tree plantation with tree guard = ₹1,200 per unit 4. Maintenance Cost: a. 1 Pond/water body = ₹3,75,000 b. 1 Retention Pond = ₹50,000 c. Tree with tree guard = ₹20 per unit	
2	Enhancing Drainage and Sewage Infrastructure	**Phase I:** Cleaning & desilting of existing drains + enhancing drainage infrastructure (construction of new drains) **Phase II & III:** Continued activities carried out in Phase I	Refer mostly to the costs provided in the HRVCA	

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
3	Rainwater harvesting (RwH) structures	**Phase I:** Installation of rainwater harvesting structures (RwH) in all PRI buildings + recharge pits (as recommended in HRVCA) **Phase II:** Installation of RwH structures in residential buildings above a plot size of 1500 sq. ft. + Additional recharge pits + Incorporating RwH system in all new buildings **Phase III:** Installation of RwH structures in residential buildings 1000 sq.ft.+ Incorporating RwH system in all new buildings	Cost of 1 rainwater harvesting structure with 10 m^3 capacity = **₹35,000** Cost of 1 recharge pit = **₹35,000**	
4	Improving Sanitation Infrastructure	Phase I: Construction of community toilets and construction of soak pits Phase II & III: Maintenance of existing infrastructure	Cost as per HRVCA	

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable and Enhanced Mobility				
1	Enhancing existing road infrastructure	**Phase 1**: Road elevation works + Road Rcc/ Interlocking works **Phase 2** & 3: Continued maintenance of roads	Cost per km of road upgradation/ repair[101]: **Rs 50,00,000 per km**	
2	Enhancing Intermediate Public Transport (IPT)	E-autorickshaws as per inputs on requirement of GP	Cost of 1 e-autorickshaw: **~ Rs. 3,00,000** Available subsidy: up to **Rs. 12,000 per vehicle**	
3	Facility to hire e-tractors & e-goods vehicles	**Phase 1**: Promote electric alternatives of diesel tractors and goods transport vehicles + sensitising farmers about long-term benefits of e-vehicles **Phase 2 & 3**: Continued sensitisation	Cost of 1 e-tractor= **Rs 6,00,000** Cost of 1 commercial e-vehicle= Rs 5 to 10 lakhs	

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

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Sustainable Solid Waste Management				
1	Establishing a waste management system	**Phase 1**: a. Coverage of 100% households under GP's door-to-door waste collection system b. Provision for Electric Garbage Vans to collect 100% of existing waste generated c. Installation of waste bins d. Building partnership with other stakeholders (SHGs, local scrap dealers, local businesses, and MSMEs)	Total waste generated = Primary data, if not available, take average per capita waste generated in the GP as approximately **80 g per day**; biodegradable/ organic waste- 58% non-biodegradable /inorganic waste - 42% No. of e-garbage Vans required[102] = Total waste generated / capacity of each van (310 kg) No. of waste bins = from HRVCA or can be estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)	

102 Cost as per market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
		Phase 2: a. Installation of additional waste bins b. Provision for additional Electric Garbage Vans c. Maintenance of existing facilities/ infrastructure d. Scaling up partnership	Additional waste bins = from HRVCA or estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)	
		Phase 3: a. Maintenance works b. Scaling up partnership	COST[103]: 1. 1 Electric Garbage Van = Rs. 95,000 to 1,00,000 2. 1 waste bins/ containers[104] = Rs. 15,000 3. Plastic shredder unit[105] = Rs. 50,000 per unit	
2	Improved Sanitation Management	**Phase I:** Enhancing household toilet coverage **Phase II & III:** Increasing toilet coverage and maintenance of existing infrastructure	Cost of 1 twin pit toilet =₹12,000	

103 Cost as per market rates
104 Cost as per SBM guidelines and inputs in HRVCA reports
105 Cost as per market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
3	Sustainable Management of Organic Waste	**Phase I:** a. Setting up compost & vermi-compost pits through community involvement b. Partnership model between panchayat, community members and farmer groups for: 1. Production & sale of compost 2. Sale of agricultural waste	Total biodegradable/ organic waste generated = Primary data Organic waste from houses, commercial shops, PRI buildings, public buildings and open spaces, etc. = xxx kg per day (as per primary data) Potential compost quantity (kg per day) which can be generated[106] = xxx kg/day of organic waste / 2 Periodic composting of __ kg per year of agricultural waste (as per primary data)	
		Phase II and III: a. Maintenance and increasing compost pits capacity b. Scaling up partnership	Cost : 20 Compost Pits cost reference: = ₹4,00,000	

106 https://www.biocycle.net /connection-CO_2-math-for-compost-benefits /#:~:text=In%20the% 20process%20of %20making %20compost %20the%2 0microbes,food%20waste%20turns%20into%2050%20kg%20of%20compost

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
4	Ban on single-use-plastics	**Phase 1**: a. Complete ban on Single Use Plastics b. Awareness, training, and capacity-building programs c. Leveraging RACE Campaign and LiFE Mission d. Partnership model between panchayat, women and SHGs	Engagement of 100 women in manufacturing	
		Phase 2: a. Continued Awareness, training, and capacity-building programs b. Increased engagement from this GP & nearby villages of women, SHGs, MSMEs & individual entrepreneurs	Additional 200 women	
		Phase 3: a. Continued Awareness, training, and capacity-building programs b. Increased engagement from this GP & nearby villages of women, SHGs, MSMEs & individual entrepreneurs	Additional 300 women	

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
Access to clean, sustainable, affordable and reliable energy				
1	Solar rooftops	**Phase 1:** PRI buildings (Panchayat Bhawan, schools, anganwadi, PHC, CHC, CSC etc) Assumption- 70% of rooftop area is available for solar rooftop installation	Use MNRE solar rooftop portal to calculate solar potential.[107] Annual clean electricity generated (in kWh) = installed capacity (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) (calculate this for each PRI building and add up for total) Installed capacity- from the above website Total installed capacity= Panchayat Bhawan+ School 1+ School 2.... + any other PRI buildings Cost per kWh= **Rs 50,000** No. of units of clean electricity generated per day= Electricity generated/ 365	Annual electricity generated (kWh)* 0.82/ 1000= ____ tonnes of CO<

107 https://solarrooftop.gov.in/rooftop_calculator

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
		Phase 2 & 3: Households Assumption- 70% of rooftop area is available for solar rooftop installation Installed capacity taken to be 3 kWp **Phase 2**: 40% of total pucca houses to install **Phase 3**: 100% of total pucca houses to install	Average Installed capacity per Household= 3 kWp Total capacity installed at Household level= No. of Household * 3 kWp Annual clean electricity generated (in kWh)=Total capacity installed at Household level (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) Cost per kWh= Rs 50,000[108] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	

108 Cost as per MNRE and current market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
2	Agro-photovoltaic	**Phase 2**: 25 % of suitable agricultural area **Phase 3**: 50% of suitable agricultural area Suitable agri area- area under legumes & vegetables (keep the value under 10 ha)	250 kWp installed per hectare Total capacity installed = Area (ha) * 250 kWp Annual clean electricity generated (in kWh)=Total capacity installed (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) Cost per kWh= **Rs 1 lakh**[109] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	

109 Cost as per market rate of installation

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
3	Solar pumps	**Phase 1**: 20% of diesel pumps replaced **Phase 2**: 50% of diesel pumps replaced **Phase 3**: 100% of diesel pumps replaced	Installed capacity = 5.5 kWh per pump Total installed capacity= No.of pumps replaced * 5.5 kWh Annual clean electricity generated= Total installed capacity (kWh) *310 (days)*24 (hrs)*0.18 (CUF) No. of units of clean electricity generated per day= Annual Electricity generated/ 365 Cost per pump = Rs 3 to 5 lakhs[110]	Diesel consumption avoided= 390 litres/ per/ year Total diesel consumption avoided per year= No.of pumps replaced * 390 Emissions avoided= 1.05 tonnes CO_2e per pump per year
4	Clean cooking	**Phase 1**: 25% of households having cattle to install biogas + 25% of households in the top income groups to have solar induction cookstoves + 50% of households that currently use biomass to have improved *chulhas* **Phase 2**: 50% of households having cattle to install biogas + 50% of households in the top income groups to have solar induction cookstoves + 100% of households that currently use biomass to have improved *chulhas* **Phase 3**: 100% of households having cattle to install biogas + 100% of households in the top income groups to have solar induction cookstoves	Cost for 1 biogas plant= **Rs 50,000** for 2 to 3 m^3 biogas plant Cost for 1 for double burner solar cookstove without battery= **Rs 45,000** Cost for 1 improved *Chulhas*= **Rs 3,000**[111]	

110 Cost as per market rates and PMKSY guidelines
111 Costs as per market rates

Sl. No.	Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/ formula for estimating quantitative target	Sequestration potential/ emissions avoided
5	Energy efficiency (EE)	**Phase 1**: All PRI buildings to replace all fixtures and fans with energy efficient fixtures and fans + All Household to replace 1 incandescent/CFL bulb with LED bulb or 1 fluorescent tube lights with LED tube light **Phase 2**: All incandescent/CFL bulbs replaced with with LED bulb & all fluorescent tube lights replaced with LED tube light + 1 conventional fan replaced with EE fan in all Household **Phase 3**: All fans in all Household to be replaced with EE fans	Cost of 1 LED bulb= **Rs 70** Cost of 1 LED tubelight= **Rs 220** Cost of 1 EE fan= **Rs 1,110**[112]	
6	Solar streetlights	Based on inputs from Pradhan High-mast solar street light- 1 (or more as per requirement) for each PRI building, pond/lake, green space/parks/ playground/ gardens/ arogya van	Cost of 1 high-mast= **Rs 50,000** Cost of 1 solar LED street light= **Rs 10,000**[113]	
Enhancing livelihoods and green entrepreneurship				
1	Construction & renting out of solar-powered cold storage	Setting up of cold storage	Capacity : 1 unit = **5 - 10** metric tonnes based on production of vegetables and fruits/ and/ or milk and milk products Cost: **Rs 8-15** lakh per unit	

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

Annexure V: Relevant SDGs & Targets

SDG 2: Zero Hunger

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

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

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

SDG 3: Good Health and Well being

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

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

SDG 6: Clean Water and Sanitation

Target 6.1: Achieve universal and equitable access to drinking water

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

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

Target 6.5: Implement integrated water resources management at all levels

Target 6.8: Support and strengthen the participation of local communities

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

SDG 7: Affordable & Clean Energy

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

Target 7.2: Increase share of renewable energy in energy mix

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

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

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

SDG 8: Decent Work and Economic Growth

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

SDG 9: Industries, Innovation and Infrastructure

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

SDG 11: Sustainable Cities and Communities

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

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

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

SDG 12: Ensure Sustainable Consumption and Production Patterns

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

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

minimize their adverse impacts on human health and the environment

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

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

SDG 13: Climate Action

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

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

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

SDG 15: Life on Land

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

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

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

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

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

Annexure VI: Suitable species for plantation activities

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

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

NOTES

NOTES

GORAKHPUR ENVIRONMENTAL ACTION GROUP

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Green ways for a good earth!