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CLIMATE SMART GRAM PANCHAYAT ACTION PLAN

Ashoka Gram Panchayat

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

VASUDHA FOUNDATION
Green ways for a good earth!

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संदेश

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

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

मैं इस क्लाइमेट स्मार्ट कार्ययोजना निर्माण के लिये पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेश, तकनीकी सहयोगी वसुधा फाउंडेशन, नई दिल्ली, तथा स्थानीय सहयोगी संस्था गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी), गोरखपुर, उ०प्र० को धन्यवाद करती हूँ और आशा करती हूँ कि निर्मित कार्ययोजना ग्राम पंचायत को क्लाइमेट स्मार्ट ग्राम पंचायत बनने में सहयोगी होगी।

धन्यवाद !

(मोनिका रानी)

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संदेश

मैं क्लाइमेट स्मार्ट ग्राम पंचायत योजना विकसित करने में पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उत्तर प्रदेश, तकनीकी सहयोगी वसुधा फाउंडेशन, नई दिल्ली, स्थानीय सहयोगी संस्था गोरखपुर एनवायरमेंट एक्शन ग्रुप (जी.ई.ए.जी), गोरखपुर, उ०प्र० तथा पंचशील संस्था, बहराइच, उ०प्र० के समर्पित प्रयासों के लिये हार्दिक आभार व्यक्त करती 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 बढावा देकर हमारा लक्ष्य एक ऐसा मॉडल तैयार करना है जो न केवल हमारी पर्यावरण की रक्षा करे बल्कि समुदाय के समग्र कल्याण को भी बढ़ाये ।

यह कार्ययोजना हमारी ग्राम पंचायत में संवाद, सहयोग और क्रियान्वयन को प्रेरित करे। साथ मिलकर हम प्रभावी जलवायु नीतियों को लागू कर सकते है, स्थायी लक्ष्यों को अपना सकते हैं और एक ऐसे भविष्य का निर्माण कर सकते है जो न केवल पर्यावरणीय रूप से मज़बूत हो बल्कि सामाजिक रूप में भी न्यायसंगत हो।

एक बार फिर क्लाइमेट स्मार्ट कार्ययोजना 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 करते हैं ।

धन्यवाद !

(रम्या आर0)

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अशोका
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आभार

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

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

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

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

धन्यवाद !

रामराज
प्रधान
(ग्राम प्रधान)
ग्राम पंचायत-अशोका
ग्राम पंचायत अशोका

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Figures

1 Executive Summary

The Ashoka Gram Panchayat in the District of Bahraich comes under North-eastern Plains agro-climatic zone of Uttar Pradesh. The Climate Smart Gram Panchayat Action Plan of Ashoka 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 Ashoka is formulated in a manner that it can be easily and effectively integrated with the existing Gram Panchayat Development Plan (GPDP) of Ashoka GP.

The action plan[1] captures the key demographic and socio-economic aspects, key issues pertaining to the North-eastern plains 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 Ashoka 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 Ashoka.

The GP has four revenue villages and five hamlets and 625 households

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 Ashoka.
- *Identification of key issues:* An exhaustive list of key climatic, developmental & environmental issues was identified through responses received in Survey Questionnaire and HRVCA.
- *Carbon footprint estimation:* Carbon footprint was estimated for key activities* in Ashoka.
- *Proposed recommendations:* Recommendations were developed for Ashoka based on the environmental and climatic issues identified. These recommendations also take into account the prevailing agro-climatic characteristics of North-eastern Plains. Additionally, sector-wise adaptation needs & mitigation potential of Ashoka 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 and domestic wastewater.

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

with a total population[2] of 3,250 as reported during field surveys. The main economic activities include agriculture and non-farm wage labour. A baseline assessment shows that Ashoka GP has a carbon footprint of ~2,860 tCO_2e[3].

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

- Building climate resilience by enhancing green spaces, improving water management and adopting sustainable agriculture practices.
- Enhancing road and drainage infrastructure to minimise water- logging.
- Harnessing Renewable Energy (RE) and energy efficiency solutions such as solar rooftop installations, solar-powered pumps, and energy efficient fixtures in households and public utilities amongst others.
- Diversifying livelihoods and creating opportunities for green jobs.

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

The activities under these recommendations have been divided into 3 phases- Phase I (2024-27), Phase II (2027-30) and Phase III (2030-35). The phase-wise targets can be further distributed into annual targets as per the discretion of the Gram Panchayats. Moreover, the financing avenues for the suggested activities have been indicated along with phase-wise targets, potential costs, supporting Central and State schemes.

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

CSGPAP will supplement and complement the Ashoka 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 Ashoka 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.

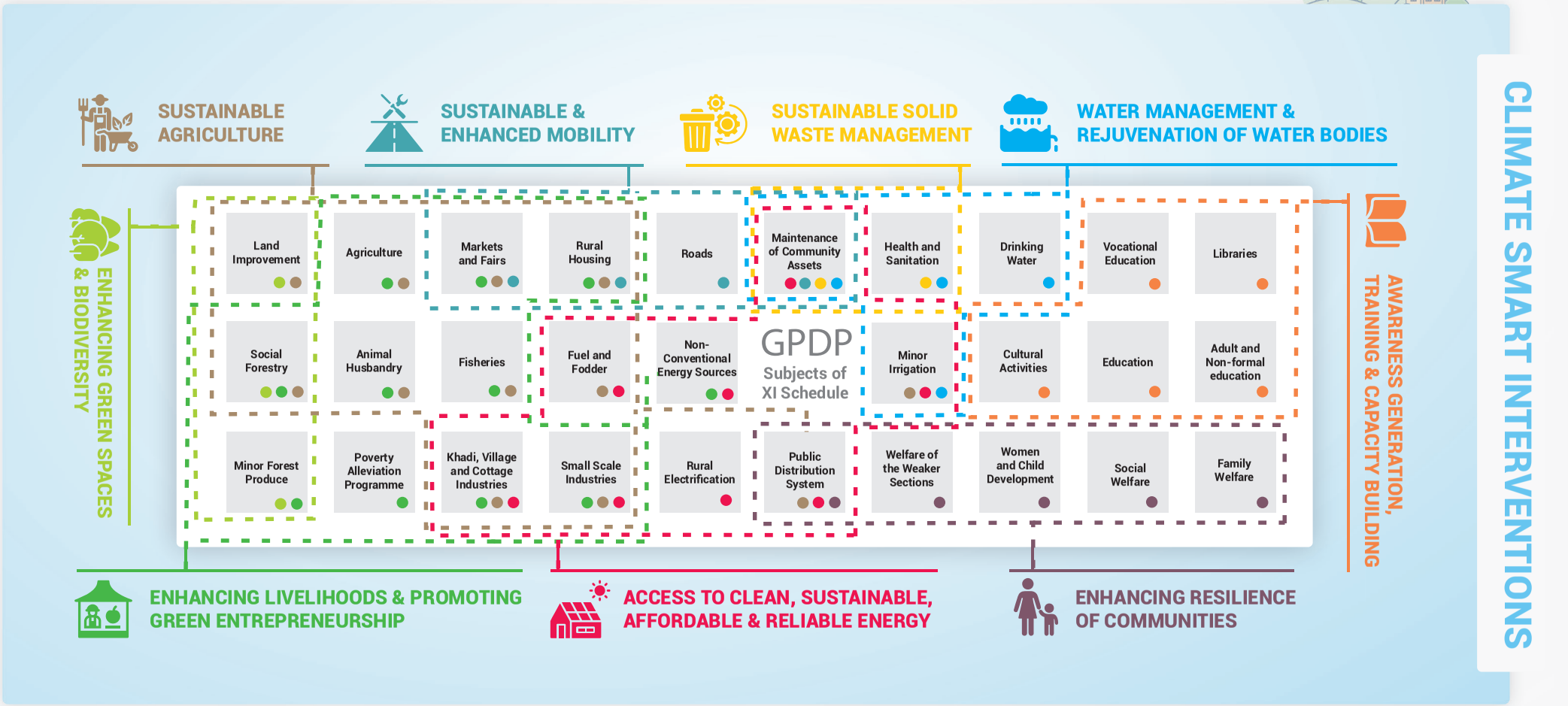
The total emissions avoided/mitigated through the implementation of this plan is estimated to be 3,064 tCO_2e per annum and the sequestration potential goes up to 71,700 tCO_2 over the next 20-25 years. The total cost estimated for the implementation of this plan across the three phases is approximately ₹34 crores (for 11 years), comprising of community investment, public finance, private finance and potential CSR funding. From this, 30-35 percent (approximately ₹10-11 crores) of the required funding can be availed from Central and State Schemes/Missions/Programmes, while the remaining cost can be secured from CSR and private funds. The Government of UP has adopted an innovative approach of 'Panchayat-Private-Partnership' to engage CSRs and mobilize private finance.

2 Census 2011 data notes: Total Population- 2,936

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

Ashoka

Ashoka Gram Panchayat at a Glance

Location	Chitaura Block, Bahraich District
Total Area	447.31 ha
Composition	4 Revenue Villages 5 Hamlets
Total Population[4]	3,250
No. of Males	1,750
No. of Females	1,500
Total Households[5]	625
Panchayat Infrastructure	4 (Panchayat Bhawan, 2 Primary Schools, Anganwadi)
Primary Economic Activity	Agriculture
Land-Use	Agriculture Land[6] - 189.35 ha Common Land - 0.8 ha Other land - 257.16 ha (settlements, water bodies etc)

Water Resources

15 Ponds

Agro-climatic Zone[7]

- North-eastern Plains
- Climatic conditions: humid sub-tropical with high rainfall
- Maximum Temperature: 44.2 °C
- Minimum Temperature: 4.9 °C
- Average Annual Rainfall: 1240 mm
- Soil: Sandy loam/Alluvial and calcareous soil
- Vulnerability: prone to floods

Composite Vulnerability Index (CVI) of District[8]

Low

Sectoral Vulnerability of District

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

4 Census 2011 data notes: Total Population- 2,936; Male- 1,543; Female- 1,393
5 466 pucca houses and 159 (mud, thatch, tin) kaccha houses
6 Data received after multiple rounds of discussion with the GP
7 UP Department of Agriculture
8 Uttar Pradesh SAPCC 2.0

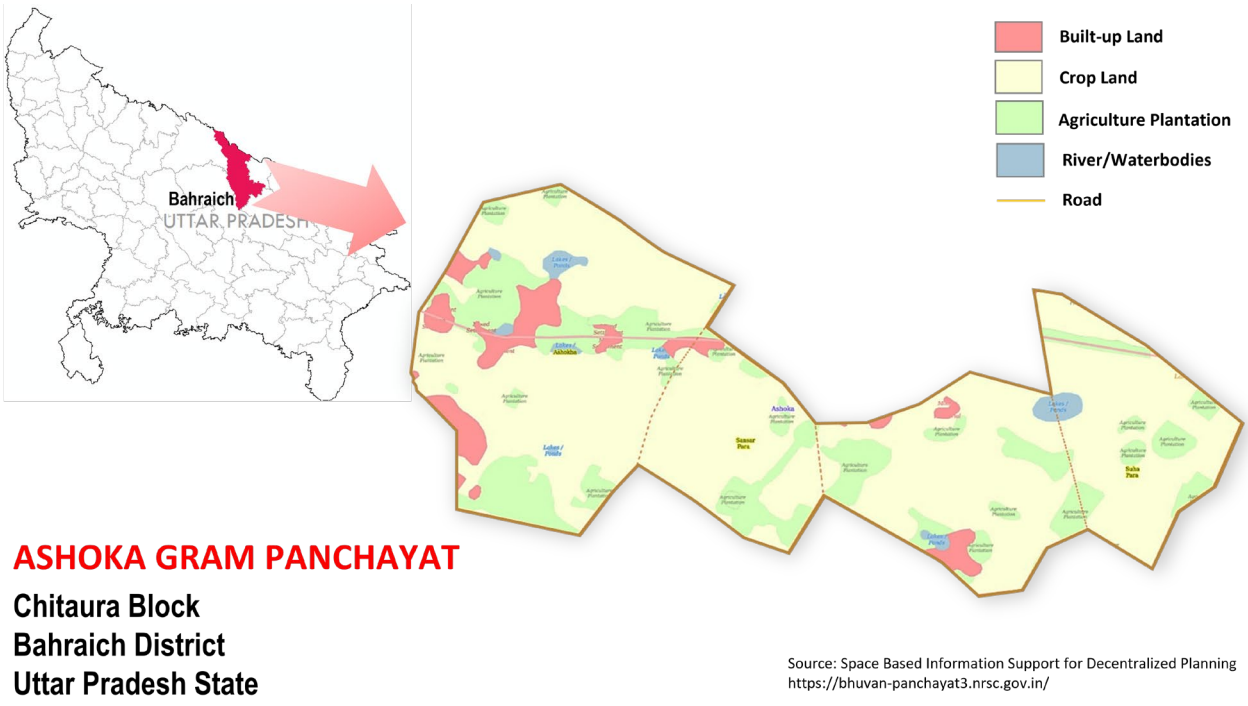


Figure 1: Land-use map of Ashoka Gram Panchayat, Bahraich District

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 annual average maximum and minimum temperature in the region (Bahraich district) between 1990 and 2019 (see Figure 2). During the same timeframe, annual rainfall increased slightly which most likely implies more intense rainfall in fewer days (see Figure 3). However, the IMD data does not capture granular temperature variability at the Panchayat level and further, there are days for which data was not available.

A recent report by World Meteorological Organization, indicates that Asia as a whole has warmed faster than the global land and ocean average between 1991 to 2023 and there has been an evident surge in warm days across large parts of South Asia in the decade of 2010-2020[10]. Similar findings are also confirmed by IPCC[11], and MoES, Government of India[12] .

Further, the perception of communities on weather changes informed from the field survey and focus group discussion indicates that across the decade of 2010-2020, the GP has witnessed an increase in the number of summer days by an average of 35 days and decrease in the number of winter days by approximately 20 days. Further, they also indicated that the number of rainy days has also decreased by roughly 15 days[13].

9 Daily temperature (maximum and minimum) data and daily rainfall data taken from Bahraich station; Annual average maximum and minimum temperature data for the year 1992, 2012, 2013, and 2014 is not available; Annual rainfall data for the year 1992 and 2017 is not available.

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

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

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

13 Data from Field Survey conducted for preparation of the Plan

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.

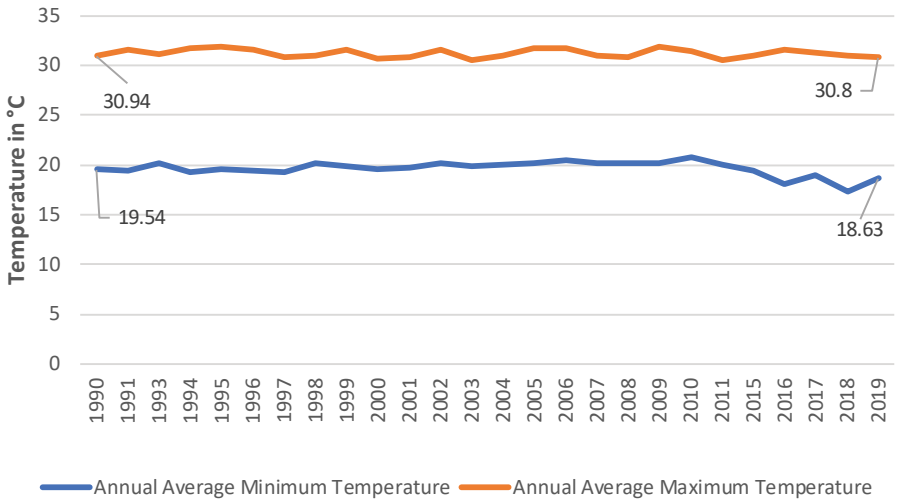


Figure 2: Annual average maximum and minimum temperature in Ashoka, 1990- 2019

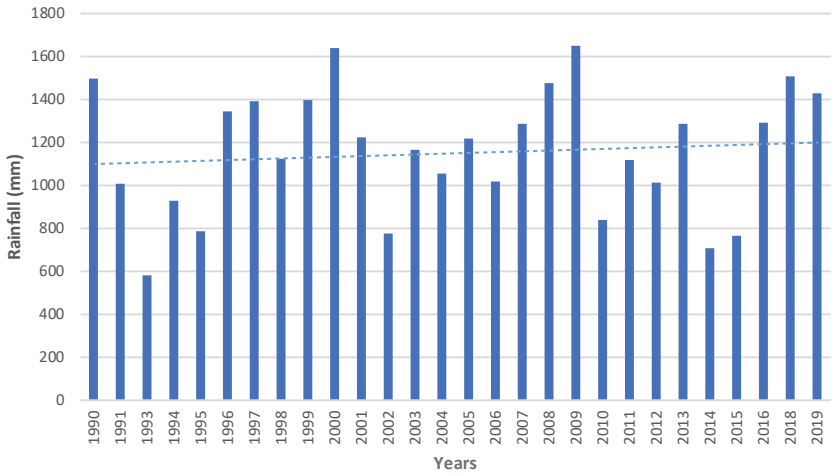


Figure 3: Annual rainfall (mm) in Ashoka, 1990-2019

Key Economic Activities

Agriculture is the key source of income in the GP. Nearly 48 percent of households are dependent on agriculture for their livelihood. This is followed by engagement in non-farm wage-labour. Some households are involved in animal husbandry and running businesses such as local shops (see Figure 4).

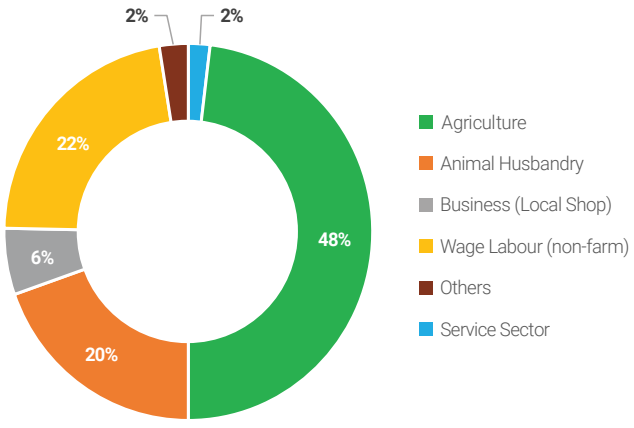


Figure 4: Household level primary source of income in Ashoka

Household level income estimates obtained from the focus-group discussion reveal that 53 percent of the households earn less than ₹50,000 per annum and only small fraction of 3 percent earn more than ₹5,00,000 per annum (see Figure 5). At the time of survey, 150 households were categorised as Below Poverty Line (BPL) i.e. 24 percent of the total households in Ashoka. The ration card data reveals that nearly 92 percent households avail benefits from the public distribution scheme and hold ration cards, of these 150 households hold *Antyodaya* cards[14] (see Figure 6).

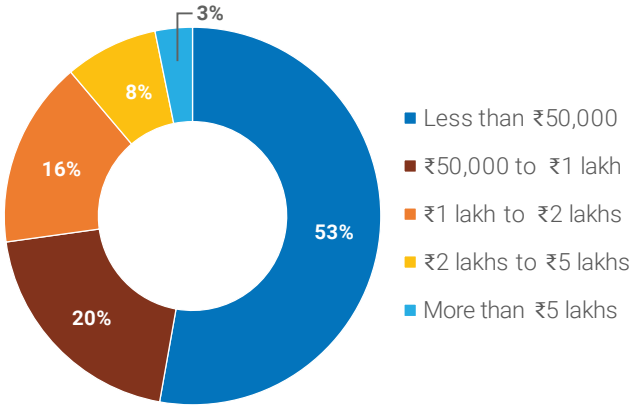


Figure 5: Household level income estimates in Ashoka

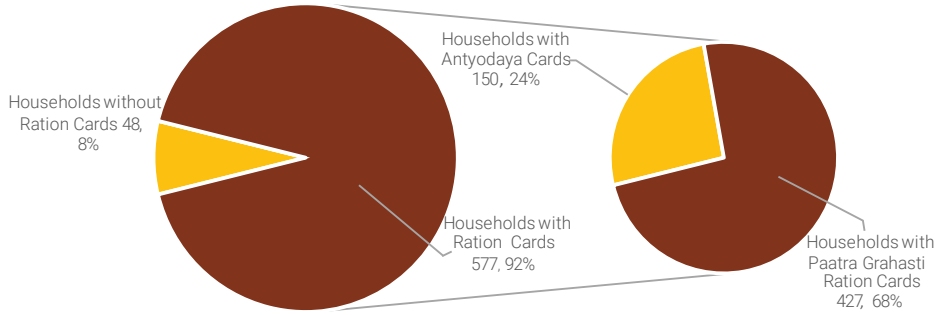


Figure 6: Households with ration cards in Ashoka

Women's Employment

Around 54 women in the GP are involved in economic activities, and 10 households[15] are headed by women. Women in Ashoka are mostly involved in animal husbandry (see Figure 7). Some women are also involved in agriculture and other activities such as banking, teaching and running local businesses like tailoring. The field survey also indicates that there is an active network of Self-Help Groups (SHGs) in Ashoka. There are 17 SHGs which are mostly involved in activities such as goat rearing and sewing/ tailoring.

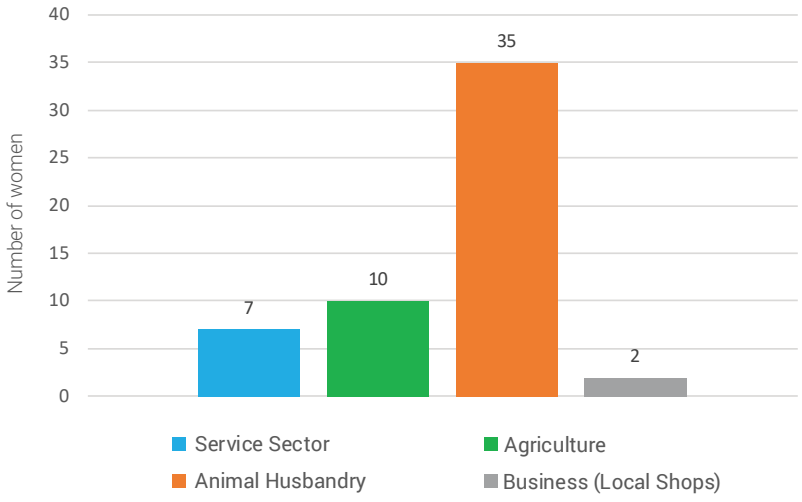


Figure 7: Number of women engaged in various economic activities in Ashoka

14 National Food Security Portal

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

Agriculture and Animal Husbandry

In Ashoka GP nearly 48 percent of households that depend on agriculture for income[16] (see Figure 4) are engaged in various ways, as shown in Figure 8.

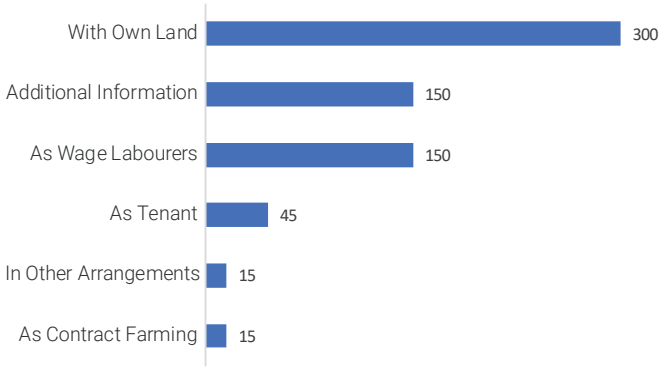


Figure 8: Agriculture only dependent households in Ashoka

The net sown area in Ashoka is around 189 ha while the gross cropped area is 302 ha[17]. The major kharif crops are paddy, maize, and sugarcane. Major rabi crops are wheat and mustard. Additionally, banana and vegetables (potato, chili, tomato, etc.) are also grown.

Figure 9 gives the crop-wise distribution of the gross cropped area in the GP. While most agriculture is rain-fed, other sources of irrigation include pumps sets. The GP is mostly reliant on diesel pump for irrigation.

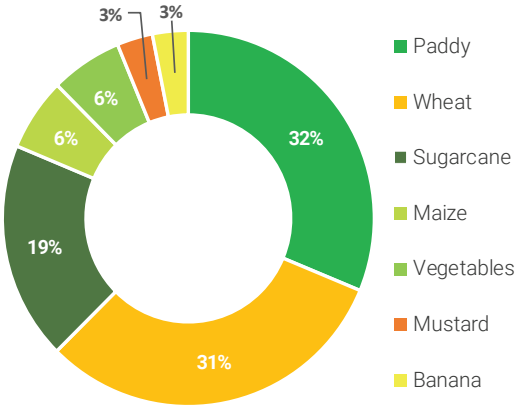


Figure 9: Crop-wise distribution of gross cropped area in Ashoka

Nearly 20 percent of households in this GP are engaged in dairy and poultry farming. As shown in Figure 10 the total livestock population is 2000 (100 cows, 800 buffalos, 1000 goats, 100 pigs) and there are 1000 poultry birds. Additionally, fisheries is also practiced in 4 ponds in Ashoka.

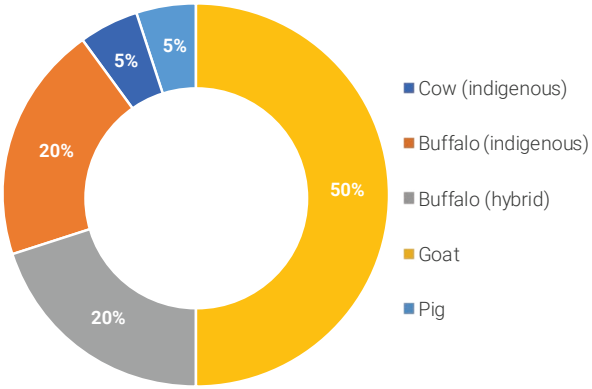


Figure 10: Distribution of livestock in Ashoka

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

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

Natural Resources

Ashoka has a demarcated forest land of 0.5 ha. There are 15 ponds. Of the 0.8 ha of common land, a significant portion is encroached (~50 percent), as per the field survey. Plantation activities are carried out in Ashoka usually in the month of July in the form of agro-forestry, currently, these plantations cover a total of 1.5 ha. The plantations have been implemented through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Palm, *ashok*, and flowering trees are mostly grown in these plantations with an average survival rate of 80 percent[18].

18 As per inputs received from the field survey /community

Amenities in Ashoka

Electricity & LPG

- Electricity Access: 100% Households
- LPG Coverage: 85-90% Households

Water

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

Waste

- Open Defecation Free (ODF) Status: Achieved
- Household Toilet Coverage: ~71%

Mobility and Market Access[20]

- Connectivity to National Highway (NH-730): 0.5 km
- Railway Station: 9 km
- Bus Station: 10 km
- Agriculture Market: 1 km
- Ration Shop within the GP
- Post Office: 1 km
- Bank: 8 km

Educational Institutions

- 2 Government Primary Schools

Health Institutions

- 1 Anganwadi Centre
- 1 Veterinary Hospital

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, Ashoka GP emitted approximately 2,860 tonnes of carbon dioxide equivalent (tCO_2e) from a wide range of activities (see Figure 11).

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

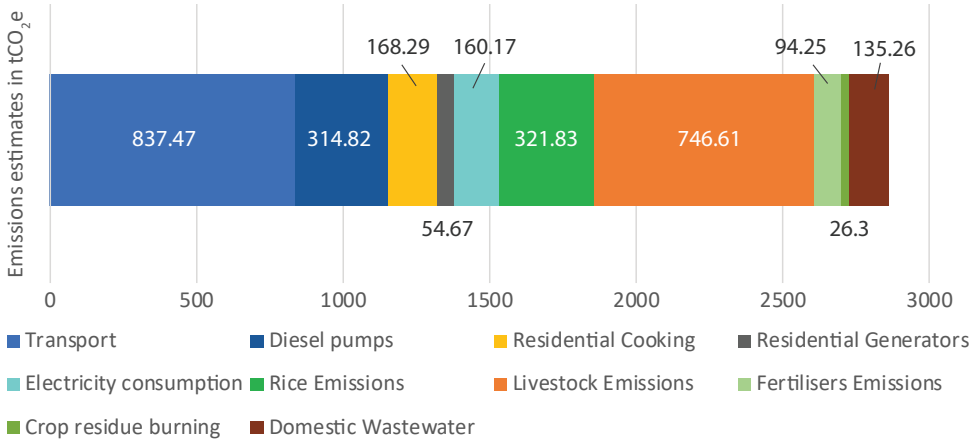


Figure 11: Carbon footprint of various activities in Ashoka in 2022

The energy sector accounted for 53.7 percent of the total emissions. Within the sector, the transport category was the key emitter (~837 tCO_2e), this was followed by diesel pump sets (~315 tCO_2e), residential cooking (~168 tCO_2e), electricity consumption (~160 tCO_2e) and residential generators (~55 tCO_2e). Emissions from the agriculture sector accounted for 41.6 per cent of the total emissions of Ashoka GP, with emissions from livestock (~747 tCO_2e) and rice cultivation (~322 tCO_2e) being the leading causes of GHG emissions. The waste sector accounted for 4.7 percent of the total emissions.

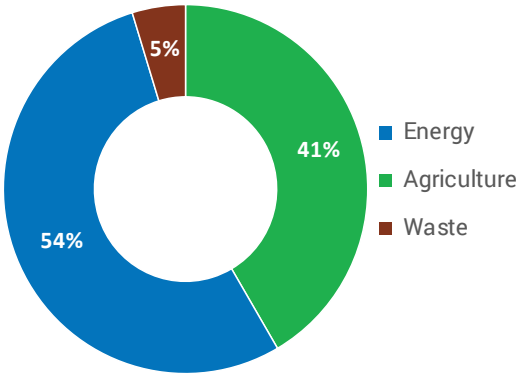


Figure 12: Share of sectors in carbon footprint of Ashoka in 2022

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

Broad Issues:

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

5 Proposed Recommendations

Each thematic issue consists of several interventions, with focus on both mitigation and adaptation, 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 2026-27); Phase-II (2027-28 to 2029-30); and Phase-III (2030-31 to 2034-35).

Targets under each phase can be further distributed into annual targets (year-on-year targets) ensuring effective and monitored implementation. The template for developing year-on-year targets can be referred from the document 'Standard Operating Procedure (SOP) for Development of Climate Smart Gram Panchayat Action Plan'. The SOP is a step-by-step approach to be used by Gram Pradhans, community member 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 or private sources. Hence, they are not included in the main 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[23] and Issues

- Ashoka GP primarily relies on groundwater as the primary source of water for both agricultural and domestic needs in the GP. There have been frequent incidences of droughts in the months of May to August between 2018 to 2022. Therefore, there is a need to enhance watershed management in Ashoka.
- There are 15 ponds in Ashoka, most of which are poorly maintained and filled with silt, debris, and waste and therefore they need to be cleaned and rejuvenated.
- All the households in the GP have piped water connections and receive an adequate supply of water.
- Waterlogging is a key concern in Ashoka, particularly in the monsoon season – July to October. It is exacerbated by inefficient and poorly maintained drainage infrastructure.

Dependence on groundwater and frequent incidences of droughts in the past five years highlight the urgent need for watershed management to conserve water and replenish groundwater resources. The following recommendations are proposed to reduce vulnerability, build resilience and improve water security in Ashoka.

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

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 6 out of 15 ponds 2. Deepening of Kakarhi pond to improve water storage 3. Tree plantation around ponds with tree guards. 4. Capacity building of the existing Village Water and Sanitation Committee (VWSC) to enhance awareness among various key community groups to improve water use efficiency and water conservation	1. Additional tree plantation around ponds 2. Regular maintenance of 15 ponds[24] 3. Capacity building of the community and other stakeholder	Regular maintenance of 15 ponds
Target	1. 6 ponds cleaned and desilted 2. Deepening of 1 pond 3. Plantation of 1000 trees with tree guards (around water bodies)	Additional 1000 trees planted around ponds with tree guards	Maintenance and management of all ponds
Estimated Cost	1. Cleaning of ponds: ₹30,00,000 2. Deepening pond: ₹6,00,000 3. Plantation around water bodies: covered in section 'Enhancing Green Spaces and Biodiversity' ₹12,70,000 *Total cost: ₹36 lakhs*	1. Maintenance of ponds: ₹56,25,000 2. Plantation around water bodies: covered in section 'Enhancing Green Spaces and Biodiversity' ₹12,70,000 *Total cost: ₹56.25 lakhs*	Maintenance of ponds: ₹56,25,000 *Total cost: ₹56.25 lakhs*

24 Located in different hamlets: Ashoka Khas- 6 ponds; Sasarpara- 2 ponds; Temaria- 3 ponds; Sohapara – 3 ponds; Gaura – 1 pond (estimated area of one pond is over 1.6 ha)

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 to prevent waterlogging	Phase I activities continue	Phase I activities continue
Target	Construction of drains in 2 locations[25] of total length around 1 km	Regular maintenance of drains in the GP	Regular maintenance of drains in the GP
Estimated Cost	Construction of 1 km of drains: ₹23,00,000 *Total cost: ₹23 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 government/ Panchayati Raj Institution (PRI) buildings, Primary School and Community Hall 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

25 Refer to HRVCA for details of locations

Target	1. RwH in all government buildings- Installation of recharge pit of storage capacity 10 m^3. 2. 4 recharge pits dug[26]	1. 50 pucca households to install RwH structures with an average storage capacity of 10 m^3. Larger houses in the GP to be targeted first 2. Digging more recharge pits as per requirements	110 pucca households to install RwH structures with an average storage capacity of 10 m^3
Estimated Cost	1. RwH: ₹1,40,000 for 4 units 2. Recharge pits: ₹1,40,000 for 4 units *Total cost: ₹2.8 lakhs*	1. RwH: ₹17,50,000 for 50 units 2. Recharge pits: Cost as per requirement *Total cost: ₹17.5 lakhs*	RwH: ₹38,50,000 for 110 units *Total cost: ₹38.5 lakhs*

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

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

26 Installation of recharge pits at PRI buildings

2 Sustainable Agriculture

Context and Issues

- The total area under agriculture in Ashoka is ~189 ha and the gross cropped area is nearly 302 ha.
- 48 percent of the households in the GP depend on agriculture practices and 20% households depend on animal husbandry practices as a source of income.
- The major crops grown are wheat (~95 ha), paddy (~95 ha), sugarcane (~57 ha), maize (~19 ha), mustard (~9 ha), banana (~9 ha) and vegetables (~19 ha), across kharif and rabi seasons.
- The GP has experienced 5 droughts annually between 2018 to 2022, typically during July-August, leading to crop failures and fodder shortage[27].
- The sowing time for paddy has shifted from June 3rd week to July due to more intense summers and droughts. In the case of wheat, the sowing time has shifted from November – 1st week to December end due to delayed rainfall[28].
- In the years 2021 and 2022, crop losses have been caused to erratic rainfall, intense summer season as well as diseases. The losses amount to around 7,200 quintals of produce or around Rs 1.4 crore (corroborated by prevailing MSP of the respective years).
- Farmers use ~46 tonnes of urea and other nitrogenous fertilizers per year which leads to GHG emissions of ~94 tonnes CO_2e per year. The farmers also rely on other chemical inputs such as pesticides and weedicides. Natural farming is not practiced in Ashoka.
- Agricultural water demand has increased as reported in the field surveys, stressing on the need for water conservation and improved irrigation techniques.

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

27 Based on inputs from community during field surveys
28 As reported by GP community 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. Promote artificial recharge by building farm ponds where feasible 6. Setting up of automatic/ mini weather stations at strategic locations in the agricultural area monitoring station 7. 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

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Target	1. 95 ha to have bunds with trees (50% of total agricultural area) 2. Micro irrigation practices introduced in 57 ha (30% of total agricultural land) 3. Construction of 5-10 farm ponds of 300 m^3 capacity each as feasible 4. Setting up 1 mini weather monitoring station at a suitable location in the GP	1. All agriculture land 189.35 ha (100% of agricultural land) to have bunds with trees 2. Micro irrigation practices introduced in 93 ha (cumulative 70% of total agricultural land) 3. Construction of 15-20 farm ponds as feasible 4. Periodic maintenance of weather monitoring station	1. Micro irrigation practices introduced in 189.35 ha (100%) of agricultural land 2. Maintenance of bunds and farm ponds 3. Periodic maintenance of weather monitoring station
Estimated Cost	1. Bunds: Around ₹1,46,250 2. Micro irrigation: ₹57,00,000 3. Farm ponds: ₹4,50,000 to ₹9,00,000 4. Cost of 1 mini weather station: ₹1,50,000 *Total cost: ₹64.46 lakhs to ₹68.96 lakhs*	1. Bunds: Around ₹1,45,650 2. Micro irrigation: ₹93,00,000 3. Farm ponds: ₹13,50,000 to ₹18,00,000 *Total cost: ₹1.07 crores to ₹1.12 crores*	Micro irrigation: ₹39,35,000 *Total cost: ₹39.35 lakhs*

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 natural fertilizer, bio-pesticides and bio-weedicides. » Training and demonstration » Development of nursery and local seed bank » Organic/natural farming certification process to initiated » Market linkages to be explored 2. Promotion and adoption of practices such as mixed cropping, crop rotation, mulching, zero tillage	1. Continuing the transition of agricultural land to natural farming (nursery, seed bank, certification mechanism and market linkages established) 2. Promotion and adoption of practices implemented in Phase I	100% expansion of transitioning agricultural land to natural farming
Target	Transitioning ~29 ha (15%) of agricultural land to natural farming	Transitioning ~76 ha (cumulative 40%) of agricultural land to natural farming	Transitioning remaining ~84 ha (100% covered) of agricultural land to natural farming
Estimated Cost	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ~₹71,65,900 *Total cost: ₹72.25 lakhs*	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ~₹1,87,79,600 *Total cost: ₹1.88 crores*	1. Cost of training (one time): ₹60,000 2. Transition of land to natural farming: ~₹2,08,42,885 *Total cost: ₹2.09 crores*

Sustainable Livestock Management

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	1. Raising awareness and capacity building for households engaged in animal husbandry for livestock management 2. Training community members as animal health workers/para-vet training for improving access to livestock health services 3. Refer to section "Additional Recommendations for Consideration" 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[29]	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*

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

Sustainable Aquaculture

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 of sustainable aquaculture practices[30] (see 'Enhancing Livelihoods and Green Entrepreneurship' section for more details) 2. Capacity building of farmers/SHGs/FPOs for adoption of sustainable aquaculture practices 3. Enhancing market linkage/ access	Expansion of Phase I activities	Expansion of Phase I activities
Target	Enhancing sustainable aquaculture practices in the 4 ponds where fisheries are practiced	Expansion of Phase I activities as required	Expansion of Phase I activities as required
Estimated Cost	Sustainable aquaculture covered in section 'Enhancing Livelihood and Green Entrepreneurship'		

Existing Schemes and Programmes

- Drought management and proofing practices can be supported through funds and subsidies from Pradhan Mantri Krishi Sinchai Yojana (PMKSY), UP Millets revival programme, Pradhan Mantri Fasal Bima Yojana, National Agricultural Insurance Scheme, Weather-based Crop Insurance Scheme, Gramin Krishi Mausam Seva Scheme.
- Automatic weather stations can be installed under the Weather Information Network and Data Systems (WINDS) program to enhance the crop planning and disaster management
  - » The Uttar Pradesh government has announced the implementation of WINDS program, under which an automatic weather station will be installed at each tehsil headquarter and at least two automatic rain gauges in each block.
- Drought proofing activities and creation of nurseries and seed banks can be streamlined through MGNREGA.
- Organic farming practices can be supported through funds and subsidies provided under various schemes such as: Paramparagat Krishi Vikas Yojana (PKVY) and Soil Health Management Scheme.

30 Practices such as productivity enhancement, use of natural feed and effective micro-organism for maintaining availability of planktons for enhanced production of fish without increasing input cost

- 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.
- Gaushala construction can be supported under Nirashrit/Besahara Govansh Sanrakshan Yojana of the Government of UP.
- Krishi Raksha Scheme supports farmers in pest control through different ecological resources and to promote use of bio-chemicals.
- A sustainable approach to aquaculture (fish farming) can be supported under the Pradhan Mantri Matsya Sampda Yojana (PMMSY) and Mukhyamantri Matsya Sampda Yojana under the Government of UP.

Other Sources of Finance

- Set-up and operationalise (in alignment with schemes mentioned in 'Access to Clean, Sustainable, Affordable and Reliable Energy' section
  - » Cold-storage facility to help minimise post-harvest losses
  - » Renewable Energy (RE) powered vertical fodder grow units
- 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 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 Ashoka can be carried out in collaboration with technical experts and institutes in the region, local NGOs, CSOs and corporates.
- 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*.

Key Departments

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

3 Enhancing Green Spaces and Biodiversity

Context and Issues

- Ashoka has a demarcated forest area of 0.5 ha[31].
- Plantations in the GP include 1.5 ha agro-forestry plantation as well as plantation along the NH 730. The prominent species include ashok, palm and flowering trees.
- Further, plantation activities are carried out in the month of July under MGNREGA, with a reported average survival rate of 80%[32].

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

Improving Green Cover

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	1. Annual community-based plantation activities[33] through various initiatives: » **Green Stewardship Programme**[34] for students (5 students selected) » Creation of a Food Forest by planting indigenous fruit trees	1. Existing plantations maintained 2. Plantation activities continued and enhanced with creation of ***Bal Van***[35]	1. Plantation activities to continue and maintained- *Bal Van*, Food Forest and other plantations

31 As reported during the field surveys

32 As reported during the field surveys

33 Trees species listed in Annexure VI

34 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.

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

Suggested Climate Smart Activities	2. Development of *Arogya Van* - procurement and preparation of land, species selection and plantation of various medicinal herbs[36], shrubs and trees	3. Farmer are encouraged to adopt agroforestry 4. *Arogya Van* is established	2. ~47 ha (100% of land suitable for agroforestry) is covered under agro-forestry initiative 3. *Arogya Van* maintained and units for production of natural medicines and supplements established
Target	1. 1000 saplings of common and endangered trees to be planted and ensure at least 65% survival rate (using tree guards). Sequestration potential 5,600 tCO_2 to 10,000 tCO_2 in 15-20 years 2. Around 0.1 ha of land allocated/demarcated to establish *Arogya Van*	1. Another 1500 to 2000 sapling planted, along roads, pathways and around water bodies in the GP Sequestration potential 8,400 tCO_2 to 17,500 tCO_2 in 15-20 years 2. Agro-forestry adopted in 19 ha land (40% of land suitable for agroforestry[37]), 1,900 trees planted Sequestration potential of teak plantation = 10,600 t CO_2 to 19,000 tCO_2 in 20 years 3. *Arogya Van* established and maintained 4. Capacity building of FPOs, Women's groups, youth groups to manufacture and market natural medicines and supplements	1. Another 1500 to 2000 saplings planted Sequestration potential 8,400 tCO_2 to 17,500 tCO_2 in 15-20 years 2. Agro-forestry adopted in the remaining land suitable for agroforestry i.e.28 ha, and 2800 trees planted Sequestration potential =15,600 tCO_2 to 28,000 t CO_2 in 20 years for teak plantation 3. *Arogya Van* maintained and production of natural medicines and supplements continues

36 Suitable species are listed in Annexure VI

37 The agricultural land under vegetable, mustard, and maize (~47 ha) is considered suitable for agroforestry.

Estimated Cost	Plantation activities: ₹12,70,000 *Total cost: ₹12.70 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 ₹34.80 lakhs*	1. Plantation activities: ₹19,05,000 to ₹25,40,000 2. Agro-forestry activities: ₹11,20,000 3. Maintenance of plantations: ₹1,80,000 *Total cost: ₹32.05 lakhs to ₹38.40 lakhs*

Establishing a Nursery

Phase	**I (2024-25 to 2026-27)**	**II (2027-28 to 2029-30)**	**III (2030-31 to 2034-35)**
Suggested Climate Smart Activities	1. Establish a local nursery for the gram panchayat by employing SHGs 2. Train SHGs to maintain and run a nursery	Maintenance of nursery	Maintenance of nursery
Target	Establish one nursery to help improve green cover and also provide additional income to women		
Estimated Cost	Cost of construction and operation of nursery: ₹10,00,000 *Total Cost: ₹10 lakhs*	As per requirement	As per requirement

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[38] : ₹25,000		

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:

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

  - » Avail ₹28,000 per ha of agroforestry plantation
  - » Assistance for plantations can be availed in year-wise proportion of 40:20:20:20 for four years.
- Skill development and training programme of the Central Institute of Medicinal and Aromatic Plants, Lucknow can be helpful in setting up Arogya Van in the GP.
- Programmes by the National Biodiversity Authority and Uttar Pradesh State Biodiversity Board can be tapped into for training and capacity building of BMCs.

Other Sources of Finance

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

Key Departments

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

4 Sustainable Solid Waste Management

Context and Issues

- The total waste generated[39] from all domestic activities (households, public and semi-public spaces, and commercial areas) in the GP is approximately 260 kg per day. Out of this 151 kg is biodegradable/organic waste and 109 kg is non-biodegradable waste.
- There is a lack of waste collection, segregation, and effective waste treatment system in Ashoka leading to waste dumping in water bodies and vacant plots within and outside the GP[40] . This results in polluted water bodies, waterlogging due to clogged drains during monsoons that further increases risk of many health hazards.
- The large quantities of agricultural and animal waste is also adding to the waste management issues. The total livestock population in the GP is 1,900 (including cows, buffalos and goats) and the estimated dung output is roughly 13 tonnes per day[41] which can be managed sustainably through interventions such as composting, vermicomposting, natural fertilizer production and biogas generation in Ashoka.
- The household toilet coverage is ~71%. The field surveys and focus group discussions highlighted the need for public toilets in the GP.

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

39 See annexure IV for estimation methodology.
40 As reported during the field surveys
41 Assuming cows produce10 kg dung/day, buffalos produced 15kg 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 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 other 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. 625 households (100%) covered under GP's waste management system 3. Installation of 50 waste bins	Maintenance of existing facilities and waste management system	Maintenance of existing facilities and waste management system
Estimated Cost	1. 1 EV: ₹1,05,000 2. 50 waste bins/containers: ₹2,50,000 *Total cost: ₹3,55,000*	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 vermicompost pits 2. Partnership building between Panchayat and relevant stakeholders for setting up compost value chain in GP	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[42] 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%) of biodegradable/organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance of compost pits 3. Scaling up partnerships	1. Setting up of additional compost pits for treatment of all (100%) of biodegradable/organic waste from households, public/ semi-public facilities, commercial set ups and agriculture 2. Maintenance of compost pits 3. Scaling up partnerships
Estimated Cost	20 vermicompost pit: ₹2,00,000 *Total cost: ₹2 lakhs*	As per requirement	As per requirement

42 Vermicompost to be constructed at Ashoka and Sohapara village as per HRVCA

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 and youth groups » Community members and 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 from this GP and nearby villages of: » Additional 200 women » Additional SHGs, MSMEs and 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 special toilets for disabled community members 2. Construction of public toilets	Regular maintenance of public toilets	Regular maintenance of public toilets
Target	1. 13 special toilets for disabled community members 2. 3 public toilets[43]		
Estimated Cost	1. 13 special toilets - ₹3,90,000 2. 3 public toilets - ₹24,00,000 *Total cost: ₹27.9 lakhs*	As per requirement	As per requirement

43 Locations for public toilets infrastructure -at Sasarpara, Temadiya and Sohapara. as per HRVCA

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

- Ashoka GP consumed approximately 2,00,000 units of electricity in 2022-23. While 100% households in the GP have electricity connections, the power supply, as per the community members is not 24*7. On an average the GP experiences ~4 hours of power cuts every day[44].
- Due to the power cuts, there are 20 diesel generators operating in the GP[45] for power back-up and they consume about ~21 kL of fuel annually.
- Additionally, there are 300 diesel pumps used for irrigation[46] which consume 117 kL of fuel annually.
- Incandescent lamps, CFL (compact fluorescent) lights and other electrical fixtures and appliances with low efficiency are in use in many homes and public utilities. Additionally, the GP has expressed a need for additional street lights (105 streetlights)[47].
- Cowdung and fuelwood is used for cooking in 150 households[48]. There is a need to transition to cleaner cooking solutions that will not only lead to reduction in emissions but also co-benefits like improved indoor air quality.
- With increasing temperature, thermal comfort levels in homes are reducing and there is need for sustainable space cooling.

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

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

Solar Rooftop Installations

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	Solar rooftops to be installed on all government buildings[49] - 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%) pucca households	1. All new construction can be installed with solar PV 2. Solar rooftop photovoltaic set-up for 280 remaining houses (100% of existing pucca houses)
Target	Solar rooftop capacity installed on: » Panchayat Bhawan (~79 sq. m rooftop area): 5.5 kWp » Primary School 1(~189 sq.m rooftop area): 10 kWp » Primary School 2 (225 sq.m rooftop area): 10 kWp » Anganwadi Centre (30 sq.m rooftop area): 3 kWp Total solar rooftop capacity installed: 28.5 kWp Total annual electricity generated: ~38,170 kWh per year (~104 units per day)	Solar rooftop capacity installed on 186 (~40%) of pucca houses[50] Solar rooftop capacity installed: 558 kWp Total annual electricity generated: 7,47,274 kWh[51] per year (~2,047 units per day) GHG emissions avoided: Approximately 613 tCO_2e per year	Solar rooftop capacity installed on 280 (~100%) of pucca houses Solar rooftop capacity installed: 840 kWp Total annual electricity generated: ~11,24,928 kWh[52] per year (~3,082 units per day) GHG emissions avoided: Approximately 922 tCO_2e[53] per year

49 Solar rooftop installation for PRI buildings are with maximum capacity of 10kWh

50 3 kWp rooftop installation estimated per household

51 This clean energy generation is likely to be over thrice the current electricity consumption for various purposes in the GP.

52 This clean energy generation is likely to be over 5 times the current electricity consumption in the GP.

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

Target	GHG emissions avoided: approximately 31 tCO_2e per year *In light of much needed and ambitious targets of the recently launched PM Surya Ghar Yojana, some households can also be part of if this phase of solar PV installation on rooftops.*		
Estimated Cost	*Total cost: ₹14.25 lakhs (₹50,000/kWp)*	*Total cost: ₹2,79,00,000* Indicative subsidy[54] : ~40% (State + CFA) Effective cost: ₹1.67 crore	*Total cost: ₹4,20,00,000* Indicative subsidy: ~40% (State + CFA) Effective cost: ₹2.52 crore

Agro-photovoltaics

Phase	**I (2024-25 to 2026-27)**	**II (2027-28 to 2029-30)**	**III (2030-31 to 2034-35)**
Suggested Climate Smart Activities	Awareness generation amongst farmers, farmer groups, etc.	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[55] 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

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

55 This value is over 3 times the electricity consumed in the GP.

Estimated Cost	As per requirement	*Total cost: ₹5 crores*[56]	*Total cost: ₹5 crores*

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 60 (20%) existing diesel pump sets with solar pumps* **If solar pumps are not feasible then, energy efficient pumps (Kisan Urja Daksk Pumps by EESL) can be considered*	1. Replacing 150 (cumulative 50%) of the existing diesel pumps with solar pumps and solarisation of 1 grid-connected electric pump 2. Encouraging purchase/ use of all new pump sets to be solar-powered	1. Replacing 90 remaining diesel pumps (100% coverage) 2. Encouraging purchase/ use of all new pump sets to be solar-powered
Target	1. Capacity installed: 330 kW 2. Solar-based electricity generated: ~4,41,900 kWh per year 3. Diesel consumption avoided: 23,400 litres/ year 4. Emissions avoided: ~63 tCO_2e per year	1. Capacity installed: 495 kW 2. Solar-based electricity generated: 6,62,904 kWh per year 3. Diesel consumption avoided: 35,100 litres/ year 4. Emissions avoided: ~95 tCO_2e per year	1. Capacity installed: 825 kW 2. Solar-based electricity generated: 11,04,840 kWh per year 3. Diesel consumption avoided: 58,500 litres/ year 4. Emissions avoided: ~158 tCO_2e per year
Estimated Cost	Total cost: ₹1,80,00,000 to ₹3,00,00,000 (₹3,00,000 to ₹5,00,000/7.5 HP Solar pump) Indicative subsidy: 60% (State +CFA) *Effective cost: ₹72 lakhs to ₹1.2 crores*	Total cost: ₹2,70,00,000 to ₹4,50,00,000 (₹ 3,00,000 to ₹5,00,000/7.5 HP Solar pump) Indicative subsidy: 60% (State +CFA) *Effective cost: ₹1.08 crores to ₹1.8 crores*	Total cost: ₹4,50,00,000 to ₹7,50,00,000 (₹3,00,000 to ₹5,00,000/7.5 HP Solar pump) Indicative subsidy: 60% (State +CFA) *Effective cost: ₹1.8 crores to ₹3 crores*

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

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 *chulahs*/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 *chulahs*/solar-powered cookstoves and/or household biogas plants
Target	*Scenario 1*: 39 households use biogas plants (~ 25% of households having cattle) + 586 use LPG *Scenario 2*: 42 HH use solar-powered induction cookstoves (25% of HH in the top income groups) + 583 HH use LPG *Scenario 3*: 42 HH use solar-powered induction cookstoves (25% of HH in the top income groups) + 38 HH use improved *chulha* (25% of HH that currently use biomass) + 545 HH use LPG This also includes the continued use of LPG in the GP	*Scenario 1*: Additional 39 households use biogas plants (cumulative 50% of households) + 547 use LPG *Scenario 2:* 42 more HH use solar-powered induction cookstoves (Additional 25% HH in the top income groups) *Scenario 3:* 42 more HH use solar-powered induction cookstoves (Additional 25% HH in the top income groups) + 38 more HH use improved *chulha* (Additional 25% of HH that currently use biomass) + 465 HH use LPG This also includes the use of LPG in the GP in remaining households	*Scenario 1*: Additional 77 households use biogas plants (100% households having cattle) + 470 use LPG *Scenario 2*: 86 more HH use solar-powered induction cookstoves (Additional 50% HH in the top income groups) *Scenario 3*: 86 more HH use solar-powered induction cookstoves (100% HH in the top income groups) + 74 HH using improved *chulhas* (100% of HH that currently use biomass) + 305 HH use LPG This also includes the continued use of LPG in the GP

Estimated Cost	*Scenario 1*: ₹19,50,000 for biogas plants (₹ 50,000 for 2 to 3 m^3 biogas plant) *Scenario 2*: ₹18,90,000 for solar induction cookstove *Scenario 3*: ₹20,04,000 = ₹18,90,000 for solar induction cookstove + ₹1,14,000 *Average cost across scenarios: ₹19,48,000*	*Scenario 1*: ₹19,50,000 for biogas plants (₹ 50,000 for 2 to 3 m^3 biogas plant) *Scenario 2*: ₹18,90,000 for solar induction cookstove *Scenario 3*: ₹20,04,000 = ₹18,90,000 for solar induction cookstove + ₹1,14,000 *Average cost across scenarios: ₹19,48,000*	*Scenario 1*: ₹38,50,000 for biogas plants (₹50,000 for 2 to 3 m^3 biogas plant) *Scenario 2*: ₹38,70,000 for solar induction cookstove *Scenario 3*: ₹40,92,000 = ₹38,70,000 for solar induction cookstove + ₹2,22,000 *Average cost across scenarios: ₹39,37,300*

Energy Efficient Fixtures

Phase	I (2024-25 to 2026-27)	II (2027-28 to 2029-30)	III (2030-31 to 2034-35)
Suggested Climate Smart Activities	1. All light fixtures and fans to be replaced with energy efficient fixtures in all government/ public/semi-public buildings (Primary Schools, Panchayat Bhawan, Anganwadi) 2. At least 1 incandescent/ CFL bulb in all households to be replaced by LED bulb or 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 to 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 (approximately 14 LED tube lights and 10 fans) to be replaced in all government buildings 2. 625 LED bulb and 625 LED tube light installed in households[57] (1 energy efficient bulb and tube light installed per household)	1. 1,875 LED bulb and 1,250 tube lights installed in all households (3 bulbs and 2 tube lights replaced per household) 2. 625 energy efficient fans installed in each household (1 fan replaced per household)	1,250 energy efficient fans installed in all households (2 fans replaced per household)
Estimated Cost	Cost of LED bulbs: ₹43,750 Cost of LED tube lights: ₹1,40,580 Cost of energy efficient fans: ₹11,100 *Total cost: ₹1,95,430*	Cost of LED bulbs: ₹1,31,250 Cost of LED tube lights: ₹2,75,000 Cost of energy efficient fans: ₹6,93,750 Total cost: ₹11 lakhs	Cost of energy efficient fans: ₹13,87,500 *Total cost: ₹13,87,500*

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 55 solar LED streetlights along roads, public spaces and other key locations[58]	Install 50 solar LED streetlights along roads, public spaces and other key locations	Regular maintenance and addition of streetlights as required

57 Based on inputs received from Gram Pradhan

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

Target	1. Installing 5 high-mast solar LED streetlights at key locations (primary school, Panchayat Bhawan, playground, gardens, water bodies) 2. Installing 50 solar LED streetlights along the roads and pathways	Installing 50 solar LED streetlights along the roads and pathways	Regular maintenance and addition of streetlights as required
Estimated Cost	Cost of high mast streetlights: ₹2,50,000 Cost of LED streetlights: ₹5,00,000 *Total cost: ₹7.5 lakhs*	Cost of LED streetlights: ₹5,00,000 Total cost: ₹5 lakhs	*As per requirement*

Existing Schemes and Programmes

- The Uttar Pradesh Solar Energy Policy, 2022[59] 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[60] mode by themselves or in consultation with UPNEDA with consultancy fee of 3% cost of the plant.
- Central Financial Assistance by MNRE through Grid Connected Solar Rooftop Programme
  - » CFA up to 40% will be given for RTS systems up to 3 kW capacity. For RTS systems of capacity above 3 kW and up to 10 kW, the CFA of 40% would be applicable only for the first 3 kW capacity and for capacity above 3 kW (up to 10 kW) the CFA would be limited to 20%.
  - » For Group Housing Societies/Residential Welfare Associations (GHS/RWA) CFA will be limited to 20% for installation of RTS plant for supply of power to common facilities. The capacity eligible for CFA for GHS/ RWA will be limited to 10 kWp per house and total not more than 500 kWp.
  - » Solar rooftop installations for poor households can be undertaken under the PM-Surya Ghar: Muft Bijli Yojana[61]. The scheme provides a CFA of 60% of system cost for 2 kW systems and 40% of additional system cost for systems between 2 to 3 kW capacity. The CFA will be capped at 3 kW. At current benchmark prices, this will mean Rs 30,000 subsidy for 1 kW system, Rs 60,000 for 2 kW systems and Rs 78,000 for 3 kW systems or higher.
- PM KUSUM Yojana provides:
  - » 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% each per pump basis. Farmers will only need to pay an upfront cost of 10% and rest can be paid to the bank in instalments.

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

- Contribution of U.P. government to PM KUSUM Yojana:
  - » Under Component C-1: Solarisation of installed on-grid pumps with 60% subsidy to farmers (70% subsidy to the Scheduled Tribe, Vantangia and Musahar caste farmers); this is in addition to subsidy available from central government through MNRE'S PM KUSUM Scheme.
  - » 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[62] :
  - » 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[63] :
  - » 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% of the project cost is available through 2 schemes:

    a. Department of Agriculture Cooperation and Farmers Welfare (DAC&FW) is implementing Mission for Integrated Development of Horticulture (MIDH)

    b. 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[64], Value Addition and Preservation Infrastructure provides financial assistance in the form of grant-in-aid at the rate of 35% can be obtained for creation of infrastructure facility along the entire supply chain 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[65] .
- UP Bio-Energy Policy 2022[66] provides incentives for setting up CBG plants in addition to incentives available from Govt. of India under the GOBARDHAN scheme:
  - » The incentive of ₹75 lakh/tonne to the maximum of ₹20 crores on setting up Compressed Biogas

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

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

64 viz. pre-cooling, weighing, sorting, grading, waxing facilities at farm level, multi product/multi temperature cold storage, CA storage, packing facility, IQF, blast freezing in the distribution hub and reefer vans, mobile cooling units

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

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

(CBG) Production Plant
  - » Exemption on development charges levied by development authorities
  - » Exemption of 100% Stamp duty and Electricity duty
- MNRE implemented the Waste to Energy (WTE) Programme under the umbrella of the National Bio-energy Programme:
  - » 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[67]

Other Sources of Finance

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

Key Departments

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

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

6 Sustainable and Enhanced Mobility

Context and Issues

- Ashoka has a total of 655 internal combustion engine (ICE) vehicles; 500-two-wheelers, 30 cars, 100 tractors, and 25 auto-rickshaw[68].
- Additionally, there are 15 e-rickshaws in the GP.
- For the transportation of agricultural produce/goods, chota hathis (mini trucks) or tractors are used by farmers. Those farmers who do not own such vehicles rent them from neighbouring farmers[69].
- The total fuel consumption by the ICE vehicles is ~182 kilo litre (kl) of diesel and ~147 kl of petrol per annum. Overall, the fuel consumed in the transport sector has led to over ~837 t CO_2e emissions[70].
- Additionally, field survey shows that multiple stretches of roads within and outside the GP are affected by waterlogging and need to be elevated.

Therefore, there is significant scope for improving transport infrastructure and initiating a 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 elevation work to address issue of submergence of connectivity road	Regular maintenance of road infrastructure and repairs when necessary	Regular maintenance of road infrastructure and repairs when necessary

68 As per inputs received during field surveys
69 Based on inputs from community during field surveys and discussions with Gram Pradhan
70 Based inputs from community during field surveys

Target	Road elevation of total length of 1 km[71]	Regular maintenance and repair of all roads	Regular maintenance and repair of all roads
Estimated Cost	Road elevation cost: ₹10,00,000 *Total cost: ₹10 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: ₹25,00,00 – ₹50,00,000 *Total cost: ₹55 lakhs–₹80 lakhs*	As per requirement	As per requirement

71 Refer to HRVCA for details

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 auto-rickshaws 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	15 e-autorickshaws added to GP's IPT fleet to replace 10 diesel autos	10 e-autorickshaws added to GP's IPT fleet	Additional e-autorickshaws procured if required
Estimated Cost	Cost of one e-autorickshaws[72] : around ₹3,00,000 » Available subsidy: up to ₹12,000 per vehicle » Effective cost of 15 e-autorikshaws: ₹43,20,000 GHG emissions avoided: ~45 t CO_2e[73]	Cost of one e-autorickshaw: around ₹50,000 » Available subsidy: up to ₹10,000 per vehicle » Effective cost of 10 e-autorickshaws: ₹4,00,000	As per requirement

72 The cost of e-autorickshaws ranges from a band of Rs. 1,50,000 - Rs. 14,050,000 and more, depending on the configurations, battery type, amongst others. Price of e-autorickshaws is assumed to be at the lower endmiddle of the price band primarily factoring in possible subsidies/grants seed capital/viability gap funding from philanthropies and other funding agencies

73 GHG emissions avoided per auto estimated to be 3.00 tCO_2e per auto based on inputs received during field surveys. Replacing diesel autorickshaws with e-autorickshaws will reduce this emission and contribute towards the GP becoming carbon neutral or even carbon negetive.

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 provide
  - » 100% registration fee and Road Tax exemption to buyers (during the Policy period)
  - » Purchase subsidy as early bird incentives[74] to buyers (one time) through dealers over a period of 1 year – E-goods Carriers: @10% of ex-factory cost up to ₹1,00,000 per vehicle; 2-Wheeler EV: @15% of ex-factory cost up to ₹5000 per vehicle; 3-Wheeler EV: @15% of ex-factory cost up to ₹12,000 per vehicle
- Subsidies for e-rickshaws can also be availed under the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME II) Scheme.

Other Sources of Finance

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

Key Departments

- Infrastructure and Industrial Development Department
- Transport Department
- Panchayati Raj Department
- Rural Development Department
- Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)

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

7 Enhancing Livelihoods and Green Entrepreneurship

Agriculture and wage labor are the mainstay of the GP and more than 50% 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 both in animal husbandry and industries practices. Thus, the livelihoods of a large fraction of the population are uncertain. Other key sources of income in the GP are agriculture based and/or running local businesses/shops. In the past 5 years nearly 180 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 Manufacturing of Sustainable Products

Suggested Climate Smart Activities

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

Target

Initial engagement of:

a. 100 women
b. 17 SHGs (currently involved in tailoring activities)
c. Utilise locally available raw materials like bamboo grown in GP

Long-term engagement from this GP and nearby villages:

a. Additional 200 women
b. Additional SHGs, MSMEs and individual entrepreneurs

Composting & Selling of Organic Waste as Fertiliser

Suggested Climate Smart Activities

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

Target

Immediate target:

Compost generated from domestic waste (organic): 260 kg per day; 7,800 kg per month (as per current waste generation)

Long-term target:

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

Sustainable Aquaculture

Suggested Climate Smart Activities

1.Promotion of sustainable aquaculture

2.Capacity building of farmers/SHGs/FPOs for adoption of sustainable aquaculture practices

Target

Immediate target:

Promoting the sustainable aquaculture practices with the existing 4 ponds

Long-term target:

Expansion of the sustainable aquaculture practices with the remaining ponds

Facility to Hire E-goods Carriers and E-tractors

Suggested Climate Smart Activities

1. Commercial hiring (rental basis) of e-goods carriers and 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 and e-goods carriers

Target

Immediate target:

1. 2 or 3 e-tractors (Estimated cost: ₹6 lakhs 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 Ashoka 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 and 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)

(~10 ha gross cropped area under vegetable cultivation and dairy from over 900 cattle)

Cost: Approx. ₹8,00,000 to ₹15,00,000

Arogya Van for Production and Sale of Natural Medicines and Supplements

Suggested Climate Smart Activities

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

Target

Around 0.2 ha of land to be established as *Arogya Van*

Establishing a Nursery

Suggested Climate Smart Activities

1. Livelihoods generation through establishment of a nursery for the gram panchayat by employing SHGs
2. Training SHGs to maintain and run a nursery

Target

Cost of construction and operation of nursery: ₹10,00,000

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

Suggested Climate Smart Activities

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

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

Financing & Skill Development

- Sensitising banking and financial institutions to support green entrepreneurship and 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[75,76,77]:

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

2. Solar Passive Design and Passive Cooling

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

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

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

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

Case Example/Best Practice:

The Rajkumari Ratnavati Girl's School[78], 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[79]

- 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[80]

- 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.

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

4. Solar-powered Cattle Sheds

Cattle sheds are an adaptive measure for livestock to protect them from heat and cold waves; this initiative can be supplemented to enable climate change mitigation by deploying solar power installations over the cattle shed roofs. This can power lighting, reduce energy demand (passive cooling and ventilation), support fodder preparations, and any other operations in the sheds. Excess power can be fed into the 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[81,82]

- 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[83]

- 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)[84]' 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.

81 https://pscst.punjab.gov.in/en/climate-resilient-livestock-production-system
82 https://moef.gov.in/wp-content/uploads/2017/08/Punjab.pdf
83 https://jayshaktiengg.com/gujarat-government-launches-solar-scheme-for-farmers/
84 https://www.myscheme.gov.in/schemes/csssscspscc

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[85]

- 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'.

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%[86] 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[87]

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

85 https://www.nrdc.org/bio/anjali-jaiswal/cool-roofs-community-led-initiatives-four-indian-cities

86 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)

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

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.

Case Example/Best Practice:

7 Gram Panchayats (GP) and the neighboring hamlets, Rangareddy and Nagaurkurnool districts, Telangana[88]

- 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)[89]

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

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

89 https://unfccc.int/climate-action/momentum-for-change/women-for-results/rural-community-leaders-combatting-climate-change

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.

Case Example/Best Practice:

Community Seed Bank, Dangdhora, Jorhat, Assam (UNEP-GEF project)[90]

- 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[91]

- 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

90 https://alliancebioversityciat.org/stories/community-seed-banks-empower-farmers-address-climate-risk-india
91 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[92]
a. Rejuvenation and Conservation of Water Bodies 	▪ Nature-based Solutions (NbS) enhances coping ability from water scarcity and water stress ▪ Improved groundwater recharge ▪ Enhanced water quality ▪ Increased resilience to disasters like droughts, heatwaves, etc. ▪ Improved agricultural and livestock productivity ▪ Boost to local biodiversity	**SDG 6: Clean Water and Sanitation** ▪ Target 6.1 ▪ Target 6.4 ▪ Target 6.5 **SDG 11: Sustainable Cities and Communities** ▪ Target 11.4 **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2 **SDG 13: Climate Action** ▪ Target 13.1 ▪ Target 13.2 **SDG 15: Life on Land** ▪ Target 15.1 ▪ Target 15.5 
b. Enhancing Drainage Infrastructure 		
c. Rainwater Harvesting (RwH) Practices 		

92 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[93] 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 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 13.1 ▪ Target 13.2 ▪ Target 13.3 
b. Transition to Natural Farming 		
c. Sustainable Livestock Management 		
d. Sustainable Aquaculture 		

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 heat-waves and heat stress ▪ Health benefits from access to medicinal plants ▪ Nature-based Solutions (NbS) for improved soil stability, water conservation and corresponding agricultural benefits	▪ **SDG 11: Sustainable Cities and Communities** ▪ Target 11.7 ▪ Target 11.4 ▪ **SDG 12: Ensure Sustainable Consumption and Production Patterns** ▪ Target 12.2

93 Eco-Disaster Risk Reduction

b. Establishing a Nursery  b. People's Biodiversity Register 	▪ Improved livestock productivity ▪ Revenue generation from agro-forestry, production of natural medicines, etc. ▪ Improved environment and habitat for biodiversity, enhancing ecosystem health	**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 

Sustainable Solid Waste Management

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

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 and 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-photovoltaics 		
c. Solar Pumps 		
d. Clean Cooking 		
e. Energy Efficient Fixtures 		
f. Solar Streetlights 		

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 		

Enhancing Livelihoods and 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% waste management and reduction in occurrence of public health risks and epidemics	**SDG 5: Achieve Gender Equality and Empower All Women and Girls** ▪ Target 5.5
b. Composting and Selling of Organic Waste as Fertiliser 		

c. Sustainable Aquaculture	▪ Additional revenue generation ▪ Enhanced livelihood options ▪ Health benefits from access to medicinal plants ▪ Revenue generation from agro-forestry, 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 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
d. Facility to Hire E-goods Carriers and E-tractors		
e. Improving Livelihoods through Use of Solar Powered Cold Storage		
f. *Arogya Van* for Production and Sale of Natural Medicines and Supplements		
g. Establishing a Nursery		
h. O&M of Various RE Installations (Solar and Bio-gas)		

8 Way Forward

The proposed recommendations on implementation will help to not only reduce Greenhouse Gas (GHG) emissions of Ashoka but also to achieve energy, food and water security, thereby, making the Gram Panchayat climate smart, resilient and sustainable. This will foster a holistic and sustainable development of the GP to meet the aspirations of its residents. Additionally, these recommendations would improve quality of life while promoting a harmonious co-existence with nature. This Climate Smart Action Plan for Ashoka will make it '*Aatmanirbhar*' 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, Ashoka 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 in2022 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 Ashoka becoming a model climate smart gram panchayat. The success of the present plan will possibly influence other Gram Panchayats to follow the process to make themselves smart, resilient and sustainable. To achieve this vision, it will be crucial to promote a sense of community ownership and behavioural change for adoption of a sustainable lifestyle, along the lines of LiFE Mission as envisioned by the Hon'ble Prime Minister Shri Narendra Modi.

9 Annexures

Annexure I: Background and Methodology

Background

The State of Uttar Pradesh (UP) is making rapid strides towards climate action. Under the visionary and inspirational leadership of the Hon'ble Chief Minister, Shri Yogi Adityanath, the State has initiated a wide-range of climate actions across different levels of governance. One such initiative is to develop action plans for 'Climate Smart Gram Panchayats.' This concept was envisaged by the Chief Minister of Uttar Pradesh in June, 2022. To take this work ahead, a rapid multi-criteria assessment was conducted to identify climate friendly Gram Panchayats in 39 vulnerable districts[94] 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[95] for Ashoka has been developed by the Department of Environment, Forest and Climate Change, Government of UP in collaboration with Vasudha Foundation, and Gorakhpur Environmental Action Group. The action plan aims to provide a customised blueprint for mainstreaming climate action at the Gram Panchayat level. This in turn would strengthen localised climate initiatives to not only build climate resilience but also reduce emissions with the aim of becoming zero carbon/carbon neutral by 2030.

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

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

Methodology

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

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

- *Preparation of Survey Questionnaire*: to understand the ground situation and develop a baseline scenario of the Gram Panchayat a questionnaire was developed with inputs from key stakeholders and sectoral experts. The questionnaire covered various aspects such as demography, socio-economic

94 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

95 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

indicators, climate variability, climate perception (past 5 years), energy, agriculture and 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 and 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 Ashoka 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 : अशोका **विकासखण्ड : चित्तौरा** **जनपदः बहराइच**

I. गाँव की रुपरेखा

		विवरण	संख्या (सूचना का स्रोत– समुदाय के सदस्य)
1		राजस्व गाँव की संख्या	**4**
2		टोलों की संख्या	**5**
3	a	कुल जनसंख्या	**3250**
	b	कुल पुरुषों की जनसंख्या	**1750**
	c	कुल महिलाओं की जनसंख्या	**1500**
	d	विकलांगजन की जनसंख्या	**13**
	e	कुल बच्चों की जनसंख्या	**417**
	f	वरिष्ठ नागरिक (60 वर्ष से अधिक आयु वर्ग)	**350**
4		कुल परिवार की संख्या	**452**
	a	गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार की संख्या	**220**
5		कुल भोगौलिक क्षेत्रफल हेक्टेयर	**447.31**
6	a	साक्षरता दर	**46**
7	a	पक्का घरों की संख्या	**337**
	b	कच्चा घरों की संख्या (मुख्य रूप से उपयोग की गई सामग्री का उल्लेख करें)	**115** (मिट्टी, छप्पर, टिनशेड)

II. सामाजिक आर्थिक

8	ग्राम पंचायत में केवल कृषि (प्रकार) पर आश्रित परिवार	कुल परिवारों की संख्या
	निजी भूमि/स्वयं की भूमि	300
	किराए की भूमि (हुण्डा)	45
	अनुबंध खेती	15(केला व गन्ना उत्पादन हेतु प्रगतिशील किसान)
	दिहाड़ी मजदूर	150
	अन्य व्यवस्था (रेहन, अधिया आदि)	15
	अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में शामिल परिवार, उल्लेख करें)	150
9	**ग्राम पंचायत में आय के स्रोत**	**कुल परिवारों की संख्या**
	सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	15
	कुटीर उद्योग	0
	कृषि	380
	कला/हस्तकला	0
	पशुपालन	155
	व्यवसाय (स्थानीय दुकान)	45
	व्यवसाय/उद्यम	Nil
	दैनिक/दिहाड़ी मजदूर (अकृषिगत)	175
	अन्य–वाहन चालक	20

10		पलायन		हां	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	180	पलायन के मुख्य कारण– आजीविका के लिए
		अन्य गांव	25	✓	आजीविका के लिए
		निकट के शहर	50	✓	आजीविका के लिए
		राज्य के प्रमुख शहर	25	✓	
		देश के प्रमुख महानगर	70	विदेश में 10	आजीविका हेतु सऊदी अरब
	c	क्या पिछले पांच वर्षों में आप के ग्राम पंचायत में परिवार/व्यक्ति ने प्रवास किए है?		हां ✓ ☐	नहीं ☐

	d	पिछले पांच वर्षों में आपके ग्राम पंचायत में कितने परिवार प्रवास किए हैं? मुख्य कारण स्पष्ट करें।	5 परिवार बाहर से आकर जमीन लेकर प्रवास किये हैं। बहराइच शहर से सस्ता व ग्रामीण परिवेश के कारण बसना उचित समझा हैं।

11		**महिलाओं की स्थिति**	
	a	महिला प्रमुख परिवारों की संख्या (आय का मुख्य स्रोत– महिला)	10
	b	खेती में कार्यरत महिला	कुल संख्या
		निजी भूमि/स्वयं की भूमि	10
		किराएकी भूमि/हुण्डा	0
		अनुबंध खेती	0
		दिहाड़ी मजदूर	0
		अन्य व्यवस्था	0
		अन्य सूचनाएं/जानकारी (एक से अधिक कृषि गतिविधि में संलग्न महिलाएं, उल्लेख करें)	अधिकांश महिलायें अपनी खेती व बकरी पालन से आजीविका पूरी करती हैं।
	c	नौकरी/अन्य क्षेत्र में कार्यरत महिलाएं	कुल संख्या
		सेवा क्षेत्र (उदाहरणः अध्यापन, बैंक, सरकारी नौकरी आदि)	7
		कुटीर उद्योग	0
		कृषि	10
		कला/हस्तकला	0
		पशुपालन	35
		व्यवसाय (स्थानीय दुकान)	2
		दैनिक/दिहाड़ी मजदूर (अकृषिगत)	0
		अन्य	0

12	स्वयं सहायता समूहों				
	स्वयं सहायता समूह का नाम	सदस्यों की संख्या	अपनायी गई गतिविधियाँ	वार्षिक बचत (रु0)	बैंकों से जुड़ाव/अजुड़ाव
1	गायत्री	11	कोयला क्रय–विक्रय	5280	जुड़ाव
2	वन्देमातरम	11	सिलाई	5280	जुड़ाव
3	जयभीम	11	बकरी पालन	5280	जुड़ाव
4	शिवशक्ती	12	बकरी पालन	5760	जुड़ाव
5	बलरंगबली	11	बकरी पालन	5280	जुड़ाव
6	लक्ष्मी	12	–	5760	जुड़ाव
7	दुर्गा	10	–	4800	जुड़ाव
8	तुलसी	12	–	5760	जुड़ाव
9	रक्षा	12	–	5760	जुड़ाव
10	गुलाब	12	–	5760	जुड़ाव
11	ज्योति	12	–	5760	जुड़ाव
12	संतोष	12	–	5760	जुड़ाव
13	दीपक	12	–	5760	✓

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

14	अन्य समुदाय आधारितसंगठन/					
सामाजिक संगठन/ समितियों के नाम	क्या महिला प्रमुख संगठन/समिति हैं?	सदस्यों की संख्या	प्राप्त वार्षिक राजस्व/बचत	उत्पाद/सेवा	विपणन/लक्षित उपभोगकर्ता	
NIL	☐					
	☐					
	☐					
	☐					
	☐					
	☐					

15		योजनाएं					
	a	योजना के नाम	पंजीकृत लाभार्थी की संख्या	लाभ प्राप्त लाभार्थियों की संख्या	विगत वर्ष ग्राम पंचायत में प्राप्त कुल भगतान (रू0)	अन्य कोई बकाया (रू0)	की गई गतिविधियाँ/कार्य
		मनरेगा	469	250	1574000	1200000	मिट्टी पटाई, इंटर लाकिंग नाला निर्माण
		प्रधानमंत्री गरीब कल्याण अन्न योजना/एन.एफ.एस.ए.	426	426			
		प्रधानमंत्री उज्जवला योजना	300	300	सिलेण्डर सहित गैस व चूल्हा		गैस
		प्रधानमंत्री कृषि सिंचाई योजना	NIL				
		प्रधान मंत्री कुसुम योजना	NIL				
	b	अन्य योजनाएं	NIL				
		ग्राम उज्जवला योजना	NIL				
		ऊर्जा दक्षता योजना	NIL				
		प्रधानमंत्री रोजगार सृजन कार्यक्रम	NIL				
		प्रधानमंत्री आवास योजना	21	21			आवास निर्माण हो चुका है।
		सार्वजनिक वितरण प्रणाली (पी0डी0एस0)	426	426			प्रत्येक माह मानक के अनुरूप खाद्यान्न उपलब्ध हो रहा है।

		कम्प्यूटर प्रशिक्षण कार्यक्रम	–				
		उत्तर प्रदेश कौशल विकास मिशन	15	15			
		राष्ट्रीय कौशल विकास योजना (RKVY)	0				
		मौसम आधारित फसल बीमा	NIL				
		प्रधानमंत्री फसल बीमा योजना (PMFBY)	40				
		मृदा स्वास्थ्य कार्ड	NIL				
		किसान क्रेडिट कार्ड	300	225			कृषि सम्बन्धी कार्य में प्रयोग किया
		स्वच्छ भारत मिशन	450	450			सभी घरों में शौचालय बना है।
		सौर सिंचाई पम्प योजना	NIL				
		नई/नवीन भारतीय बायोगैस व कार्बनिक खाद कार्यक्रम	NIL				
		विकेन्द्रित अनाज क्रय केन्द्र योजना	NIL				
		गोवर्धन योजना	NIL				
		जल पुनर्भरण योजना	NIL				
		रेनवाटर हार्वेस्टिंग	NIL				
		समन्वित वाटरशेड विकास कार्यक्रम	NIL				
		अन्य वाटरशेड विकास योजनाएं	NIL				
		अन्य (एक जिला–एक उत्पाद, मेक इन इण्डिया, अन्य)	NIL				
		उद्यमितता सहायतित योजनाएं आदि	NIL				

16	सक्रिय बैंक खाताधारकों कीसंख्या	950
17	ई–बैंकिंग/डिजीटल भुगतान एप/यू.पी.आई आदि से भुगतान करने वाले खाताधारकों की संख्या	100

18	निकट कृषि बाजार/क्रय केन्द्र/सरकारी केंद्र	क्या ग्राम पंचायत द्वारा बाजार/क्रय केन्द्र का उपयोग होता है		यदि नही, तो बाजार/केन्द्र का उपयोग क्यों नही किया जाता	उत्पादित फसल(कु0)	बिक्री हुई फसल (कु0)	ग्राम पंचायत से दूरी (यदि ग्राम पंचायत से दूर है) (कि0मी0)
		हां	नहीं				
	सरकारी कृषि क्रय केंद्र डीहा	✓ ☐	☐		गेहूँ 4000कु.	2000	0.5 किमी0
	सरकारी कृषि क्रय केंद्र डीहा	✓ ☐	☐		धान 4800कु.	2500	0.5 किमी0
		☐	☐				
		☐	☐				

19		शिक्षा (केवल ग्राम पंचायत में)				
		प्रकार/स्तर	उपलब्ध छत का क्षेत्रफल (वर्ग मी0)	कुल नामांकित विद्यार्थियों की संख्या	विगत वर्ष में कुल ड्राप आऊट विद्यार्थियों की संख्या	ड्राप आऊट के मुख्यकारण(स्वास्थ्य (1), पहुँच/उपलब्धता–(2), आर्थिक समस्या–(3), अन्य–(4) उल्लेख करें)
	a	प्राथमिक विद्यालय				
		प्राथमिक विद्यालय अशोका	225	254	NIL	कृषि कार्य व अतिवृष्टि के समय उपस्थिति में कमी आ जाती है।
		प्राथमिक विद्यालय सोहापारा	188.80	116	NIL	
	b	जू0 हाई स्कूल	NIL			

	c	हाई स्कूल	NIL			
	d	अन्य संस्थान	NIL			

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

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)
	बहराइच–बलरामपुर NH730	2	0 मध्य से गुजरती है।	1

III. भूमि संसाधनों संबंधित सूचनाएं/जानकारी

22		वन भूमि का विवरण	
	a	वन का क्षेत्र	0.5 हेक्टेयर
	b	वन विभाग द्वारा अधिसूचित क्षेत्र	0
	c	सार्वजनिक उपयोग हेतु उपलब्ध वन क्षेत्र	0.5 हेक्टेयर

	d	कितने क्षेत्र पर अतिक्रमण है?	NIL
	e	विगत पांच वर्षों में कोई वन उन्मूलन/वन कटाई की गतिविधियां	NIL
	f	अनुमानित वन उन्मूलन/वन कटाई का क्षेत्रफल (एकड़)	NIL

23		अन्य भूमि का वर्गीकरण			
	a	ग्राम पंचायत के पास ग्राम सभा की कितनी भूमि उपलब्ध है?	2एकड़		
	b	कितनी भूमि पर अतिक्रमण है? (एकड़)	1एकड़		
	c	ग्राम पंचायत में खनन गतिविधियां	हां ✓ ☐	नहीं ☐	आच्छादित क्षेत्रफल 40 एकड़
		खनन के प्रकार बालू खनन 1, खनिज खनन–(उल्लेख करें) 2, अन्य (उल्लेख करें) 3	3 भूमि खनन ईंट भट्ठों के लिए		
		अतिरिक्त सूचनाएं	3 ईट भट्ठों से काफी कृषि भूमि अच्छादित 2 हाट मिक्स प्लान्ट मिट्टी आदि।		

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	6	
	c	क्या जल निकाय क्षेत्र में अतिक्रमण है?	✓ ☐	☐
	d	जल निकाय क्षेत्र में अतिक्रमण कब से है?	15 वर्षो से	
	e	क्या जल निकाय क्षेत्र के आस–पास के भूमि पर अतिक्रमण किया गया है?	हॉ पड़ोस के लोग कूड़ा आदि फेकते है।	

25		जल आपूर्ति	
	a	**ग्राम पंचायतमें घरों हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल–(2)	(3) भूमिगत जल (5) अन्य– पाइप लाइन द्वारा

		भूमिगत जल–(3) तालाब / झील–(4) अन्य– (5)	
	b	**क्या उपरोक्त जल आपूर्ति के स्रोत मौसमी या बारहमासी है?**	**बारहमासी**
	c	**घरों में जल आपूर्ति कैसे होती है?** पाइप जलापूर्ति (1) ग्राम पंचायत में सामान्य संग्रह केन्द्र (2) पानी टंकी (3) महिलाओं / बच्चों द्वारा दूर से लाया गया (4) हैण्डपम्प (5) ऊँचा सतही जलाशय (6) कूंआ (7) अन्य (8), उल्लेखित करें। अगर 4 है, तो कितनी दूर से लाया जा रहा है?	(1)पाइप जलापूर्ति (3) जल निगम द्वारा स्थापित।
	d	कितने घरों में जलापूर्ति पाइप से है?	452
	e	क्या पानी का बहाव / प्रवाह दर कम, अधिक या संतोषजनक है?	अधिक
	f	पइप जलापूर्ति की नियमितता 24×7 घण्टे(1) काफी नियमित (2) अनियमित (3)	(2) सुबह 5 बजे से 10 बजे तक व सायं 5 से 7 बजे तक।
	g	**ग्राम पंचायत में कृषि सिंचाई हेतु जल आपूर्ति का मुख्य स्रोत क्या है?** नहर (1) वर्षा जल (2) भूमिगत जल – (नलकूप (3A), कूआ (3B) तालाब / झील (4) पानी टैंक (5) नदी (6) अन्य (7)	(2)वर्षा जल 3 A- पाइप की कमी से अधिक क्षेत्र में सिंचाई का अवसर होते हुये वंचित (7) व्यक्गित बोरिंग 350 इकाई

	h	**क्या उपरोक्त जल आपूर्ति स्रोत मौसमी या बारहमासी है?**	बारहमासी
	i	क्या जलापूर्ति का बहाव/प्रवाह दर कम/अधिक या संतोषजनक है?	नलकूप व व्यक्तिगत बोरिंग सन्तोषजनक है। वर्षा जल प्राकृतिक रूप परिवर्तन शील रहता है।
		अतिरिक्त जानकारी (उदाहरण : क्या घरेलू, कृषि व संबंधित गतिविधियों, उद्योगों आदि के लिए जल आपूर्ति पर्याप्त है)	हॉ– तालाबों का पानी सूख जाता है। गॉव पास के तालाब घरेलू जल निकासी के कारण भरे रहते हैं।
	j	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?	हॉ

IV. जलवायु की धारणा

तापमान व वर्षा में प्रमुख परिवर्तन/बदलाव					
26					
	a	गर्मी के माह में देखा गया			
	b	गर्मी के तापमान में देखे गए बदलाव (पिछले पांच वर्षों में)	गर्म दिनों में वृद्धि	गर्म दिनों में कमी	गर्म दिनों में कोई परिवर्तन नहीं
			✔ ☐	☐	☐
	c	दिनों की संख्या	35		
	d	अन्य सूचनाएं (गर्मी माह में कोई परिवर्तन)	हॉ मार्च प्रारम्भ से शुरू होना		
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		20	
	d	अन्य सूचनाएं (सर्दी माह में कोई परिवर्तन)	ठण्डक देर से आती है।		
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		15	
	d	अन्य सूचनाएं (मानसून माह में कोई परिवर्तन)	अगस्त महीना प्रायः सूखा रहता है।		
29					
	a	क्या गैर मानसून ऋतु की वर्षा में परिवर्तन हुआ है? (विगत पांच वर्षों में)	वर्षा के दिनों में वृद्धि	वर्षा के दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	✔ ☐	☐
	b	ग्रीष्म ऋतु की वर्षा में देखे गये परिवर्तन	वर्षा दिनों में वृद्धि	वर्षा दिनों में कमी	वर्षा के दिनों में कोई परिवर्तन नहीं
			☐	✔ ☐	☐
	c	दिनों की संख्या		4	
	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		4	
	f	अन्य सूचनाए / जानकारी	असमय वर्षा होती है।		

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	जूलाई अगस्त	अगस्त	अगस्त	अगस्त	अगस्त
	c	सूखे का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता, कुएं खोदा आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन नलकूप/बोरिंग से अतिरिक्त सिंचाई	
	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	2				
31		**बाढ़NIL**					
		बाढ़ की घटना	प्रथम वर्ष (2022)	द्वितीय वर्ष (2021)	तृतीय वर्ष (2020)	चतुर्थ वर्ष (2019)	पंचम वर्ष (2018)
			☐	☐	☐	☐	☐
	b	किस माह में बाढ़ देखा गया					
	c	बाढ़ का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	d	बाढ़ की आवृत्ति : बाढ़ की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	☐		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2					
32		**भूस्खलनNIL**					
	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					
	c	भूस्खलन का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	d	भूस्खलन की आवृत्ति : भूस्खलन की घटना (पिछले पांच वर्षों में)	वृद्धि	कमी	कोई परिवर्तन नहीं		
			☐	☐	☐		
	e	अतिरिक्त सूचना कोई पुरानी प्रमुख घटना–1, स्वास्थ्य पर प्रभाव–2					
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		मार्च			
	c	ओलावृष्टि का प्रबन्धन कैसे किया गया (सरकारी सहायता, निजी सहायता आदि)	घरेलू स्तर पर प्रबन्धन			कृषि स्तर पर प्रबन्धन	
	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?	अगस्त, सितम्बर,	अगस्त, सितम्बर,	अगस्त, सितम्बर,	अगस्त, सितम्बर,	अगस्त, सितम्बर,
	B	किस प्रकार के टिडडी/कीट/बीमारी को देखा गया?	अगस्त अन्तिम सप्ताह व सितम्बर मध्य तक धान में गन्धी व झुलसा रोग, सब्जियों में फलछेदक एवं फंगस	अगस्त अन्तिम सप्ताह व सितम्बर मध्य तक धान में गन्धी व झुलसा रोग, सब्जियों में फलछेदक एवं फंगस	अगस्त अन्तिम सप्ताह व सितम्बर मध्य तक धान में गन्धी व झुलसा रोग, सब्जियों में फलछेदक एवं फंगस	अगस्त अन्तिम सप्ताह व सितम्बर मध्य तक धान में गन्धी व झुलसा रोग, सब्जियों में फलछेदक एवं फंगस	अगस्त अन्तिम सप्ताह व सितम्बर मध्य तक धान में गन्धी व झुलसा रोग, सब्जियों में फलछेदक एवं फंगस
	C	कीट/बीमारी का प्रबन्धन कैसे किया गया? (सरकारी सहायता, निजी सहायता आदि)	दवा का छिड़काव रासायनिक निजी स्तर पर				
	D	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/मौसमीचेतावनी प्रणाली/कृषि चेतावनी प्रणाली	☐	✓ ☐	☐	☐
	आपातकाल अनाज बैंक	☐	✓ ☐	☐	☐
	अन्य	☐	✓ ☐	☐	☐

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

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

		कृषि एवं संबंधित गतिविधियों पर प्रभाव (विगत पांच वर्षों में)					
38		**फसल हानि**					
	a	घटना का वर्ष	हानि की ऋतु/मौसम खरीफ (1)	फसल का नाम	हानि के कारण रोग, चरम, घटनाक्रम–	अनुमानित हानि की मात्रा	परिणाम स्वरुप आय में हानि

			रबी(2) जायद / अन्य ऋतु (3)		गर्मी, ठण्ड, वर्षा, ओलावृष्टि, मिट्टी आदि	(कुन्तल)	(औसत रु0)
		प्रथम वर्ष (2022)		(1)धान (2)गेहूँ (3)सब्जी	रोग / वर्षा, गर्मी, अधिक गर्मी	2500कुन्तल 2500कुन्तल 500कुन्तल	4400000 5625000 750000
		द्वितीय वर्ष (2021)		(1)धान (2)गेहूँ (3)सब्जी	रोग वर्षा गर्मी,	500 1000 200	900000 2100000 300000
		तृतीय वर्ष (2020)	NIL				
		चतुर्थ वर्ष (2019)	NIL				
		पंचवां वर्ष (2018)	NIL				
	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?	सामान्यतः कोई लाभ नहीं केवल किश्त भरना पड़ता है कोई रूचि नहीं				

39		फसल पद्धति में बदलाव				
	a	सामान्य फसल	खरीफ धान	रबी गेहूँ सरसों	जायद / अन्य ऋतु सब्जी	
	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 (खरीफ)	जून तृतीय सप्ताह	हॉ	जूलाई माह	सूखा व अधिक गर्मी
		गेहूँ (रबी)	नवम्बर प्रथम सप्ताह	हॉ	दिसम्बर अन्तिम सप्ताह	वर्षा व गन्ना की देर से कटाई
		सरसों	सितम्बर अन्तिम सप्ताह	हॉ	अक्टूबर	अधिक नमी देर से वर्षा
	c	अन्य सूचना / जानकारी (विलुप्त फसल / प्रजाति आदि उल्लेख करें)	अरहर, चना, मटर व मसूर की खेती समाप्त			

40		सिंचाई प्रणाली / पद्धति में परिवर्तन				
	a	फसल का नाम	वर्तमान में सिंचाई पद्धति का उपयोगफव्वारा सिंचाई (1), टपक विधि (2), नहर (3), वर्षा आधारित (4), पारम्परिक (5), अन्य (6) (उल्लेखित करें)	वर्तमान में उपयोग किए गए पानी की मात्रा (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)

		धान	वर्षा आधारित (4), वोरिंग से (6)	1800	वर्षा जल (4), पम्पसेट(6)	1200	
		गेहूँ	पम्पसेट(6) वर्षा जल(4),	2500	वर्षा जल (4), पम्पसेट(6)	2000	
	b	ग्राम पंचायत में सिंचाई हेतु पम्पों की संख्या	डीजल आधारित	विद्युत आधारित	सौर पम्प	पारम्परिक सिंचाई विधियां	
			300	0	0	0	0
	c	अन्य सूचनाएं/जानकारी अगर कोई है	वर्षा होने की स्थिति में सिंचाई खर्च में कमी				
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) (2) (3)			
	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)	(1)	5	दुर्घटना व कंपकपी	बारहमासी	(2)
		द्वितीय वर्ष(2021)	(1)	15	दुर्घटना व कंपकपी	बारहमासी	(2)
		तृतीय वर्ष (2020)	(1)	18	दुर्घटना व कंपकपी	बारहमासी	(2)
		चतुर्थ वर्ष(2019)	(1)	25	रोग	बारहमासी	(2)
		पंचम वर्ष(2018)	(1)	30	रोग	बारहमासी	(2)
		अन्य जानकारी/सूचनाएं	गाय व भैंस में बाझपन बढ़ा है।				
	c	मुर्गी पालन पर प्रभाव	पक्षी हानि मुर्गी (1) बत्तख (2) अन्य (3)	पक्षी हानि की संख्या (प्रत्येक पक्षी का उल्लेख करें)	हानि के कारण	हानि के मौसम/ ऋतु	उत्पादकता में कोई परिवर्तन पाया गया है? वृद्धि (1)

							कमी (2) परिवर्तन नहीं (3)
		प्रथम वर्ष (2022)	(1) मुर्गी	100 चूजे	शीतलहर	सर्दी	(2)
		द्वितीय वर्ष(2021)	(1) मुर्गी	150 चूजे	शीतलहर	सर्दी	(2)
		तृतीय वर्ष (2020)	(1) मुर्गी	150 चूजे	शीतलहर	सर्दी	(2)
		चतुर्थ वर्ष(2019)	(1) मुर्गी	180 चूजे	शीतलहर	सर्दी	(2)
		पंचम वर्ष(2018))	(1) मुर्गी	200 चूजे	शीतलहर	सर्दी	(2)
		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)	NIL				
		द्वितीय वर्ष(2021)	NIL				
		तृतीय वर्ष (2020)	NIL				
		चतुर्थ वर्ष(2019)	NIL				
		पंचम वर्ष(2018)	NIL				
		अन्य जानकारी / सूचनाए	NIL				

V. कृषि व पशुपालन

42	a	प्रमुख उगाई जाने वाले फसलें व सम्बन्धित सूचनाएं/जानकारी											
					उर्वरक उपयोग			कीटनाशक उपयोग			खरपतवारनाशी		
		फसल (अनाज, तिलहन, दलहन, उद्यान एवं फूल आदि)	ऋतु/ मौसम	उपज (कु0) प्रति एकड़	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)
		धान	वर्षा	25	डाई, यूरिया	60 75	(1)	कराटे (कीटनाशक) फ्यूराडान	200MLप्रि त एकड	(1)	24D	200 ML/प्रति एकड़	(1)
		गेंहूँ	जाड़ा	15	डाई, यूरिया	50 60	(1)	कराटे (कीटनाशक) /फ्यूराडान	200ML प्रति एकड	(1)	24D	200 ML/प्रति एकड़	(1)
		गन्ना	ग्रीष्म कालीन	300	डाई, यूरिया	125किग्रा. 100किग्रा.	(1)	कोराजीन	100ML /प्रति एकड़	(1)	2 4D		(1)
	b	क्या ग्राम पंचायत में फसल अवशेष जलायें जाते हैं	हां ✓ ☐	नहीं	जलाये गये खेतो का कुल क्षेत्रफल (एकड़) 50	क्या यह फसल अवशेष पूर्व में जलाये जाते थे? हाँ	अगर नही तो, कब से जलाना आरम्भ किया		क्या फसल अवशेष प्रबन्धन की योजनाओं को जानते/जागरूक है? हाँ				

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

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

45	कृषि वानिकी, सामाजिक वानिकी, परती भूमि विकास और अन्य वृक्षारोपण गतिविधियां										
	पौध रोपण गतिविधियों के प्रकार	आच्छादित क्षेत्रफल	स्थान	योजना अन्तर्गत राष्ट्रीय कृषि वानिकी मिशन (1), समन्वित वाटरशेड प्रबन्धन कार्यक्रम (2), वर्षा आधारित क्षेत्र कार्यक्रम (3), मनरेगा (4), वृक्षारोपण जन आन्दोलन (5), अन्य (6)– उल्लेख करें	मोनोक्लचर (1), मिश्रित प्रजाति (2)	रोपित प्रजातियां	आरम्भ दिनांक	सफलता (प्रतिशत)	कृषि वानिकी गतिविधियों के लाभ तक लोगों की पहुंच/अवसर	पिछले 10 वर्षों में पहुंच/अवसर में परिवर्तन, वृद्धि (1), कमी (2), कोई परिवर्तन नहीं (3)	परिवर्तन के कारण– लाभ में वृद्धि (1), लाभ में वृद्धि (2), प्रजाति सम्बन्धित (3), वन उन्मूलन (4) अन्य (5)– उल्लेख करें
	अशोका उद्यान	1.5 एकड	ग्राम सभा की भमि पर NH730	मनरेगा (4)	(1),(2)	2वर्ष अशोक, ताड़, फूल व उद्यान के पौंधे	जुलाई 2019	80%	एक मनोरम स्थल विकसित	(1)	(1)

46	अपनाये गये स्थायी पशुधन प्रबन्धन तकनीक			
	पशुधन के प्रकार	ग्राम पंचायत में कुल संख्या (लगभग)	अपनाई गई गतिविधियां (चारा में परिवर्तन, पोषण पूरक अर्थात् पशुआहार, खुले में चराई आदि)	प्राप्त/उत्पादित आय प्रति पशुधन वार्षिक (रू0)
	गाय (देशी नस्ल)	100	NIL	6000
	गाय (संकर नस्ल)	0	NIL	NIL
	भैंस (देशी नस्ल)	400	पशु आहार	45000
	भैंस (संकर नस्ल)	400	पशु आहार	6000
	बकरी	1000	खुले में चराई	15000
	सुअर	100	सामान्य	–
	मुर्गी	1000	पूरक आहार	–
	मत्स्य	3 तलाब	पूरक आहार	–
	अन्य			–

VI. स्वच्छता एवं स्वास्थ्य

48		1.						
	a	अपने घर में प्रतिदिन उत्पन्न होने वाला अपशिष्ट पदार्थ/कचरा	1–2 किलो		पॉलीथिन, साफ सफाई का कचरा एवं भोजन सामग्री अपशिष्ट पदार्थ			
	b	आपके ग्राम पंचायत में अपशिष्ट पदार्थ/कचरा कैसे इकट्ठा किया जाता है?	इक्ट्ठा नहीं होता रोज घूर पर डाल दिया जाता है/तालाबा में फेंका जाता है।					
	c	कचरा संग्रह कितनी बार होता है?	✓ प्रतिदिन	□साप्ताहिक	□वैकल्पिक दिन			
			ळां	नहीं	लागू 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 स्थित		घरों के नजदीक तालाब में	
	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)
			□	✓ □	□		□	

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	□	□	325
	c	सामुदायिक शौचालय/इज्जत घर की संख्या	✓ □	□	1
	d	क्या शौचालय का उपयोग किया जा रहा है?	हॉ		
	e	अगर शौचालय का उपयोग नहीं किया जा रहा है तो क्यों? (साफ–सफाई का अभाव, रख–रखाव का अभाव, बहुत दूर आदि)	लागू नहीं		

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)	67800ली.				
	c	गांव में किया गया अपशिष्ट जल उपचार, यदि कोई है तो–	तालाबं				
	d	अपशिष्ट जल पुनःचक्रण या पुनः उपयोग की गतिविधि, यदि कोई हैं तो–	नहीं				

51		स्वास्थ्य देखभाल की सुविधा			
		स्वास्थ्य केन्द्र की उपलब्धता	हां	नहीं	उपलब्ध छत का क्षेत्रफल (वर्गमीटर)
	a	प्राथमिक स्वास्थ्य केन्द्र	□	✓ □	
	b	सामुदायिक स्वास्थ्य केन्द्र	□	✓ □	
	c	उपस्वास्थ्य केन्द्र	□	✓ □	
	d	आंगनवाड़ी	✓ □	□	30 वर्गमीटर
	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)	200	40	50	110	CHC	✓ □	□	प्राइवेट चिकित्सालय बहराइच

	b	जल–जनित रोग (हैजा / डायरिया / टाईफाई ड / हैपेटाइटिस आदि)	250	150	50	50	CHC	✓	□□	प्राइवेट चिकित्सालय बहराइच
	c	श्वास सम्बन्धी रोग जो वायु प्रदूषण से होते हैं (इनडोर एण्ड आउटडोर)	100	10	25	65	CHC	✓	□□	प्राइवेट चिकित्सालय बहराइच
	d	कुपोषण	3	3	-	-	आंगनवाड़ी	✓	□□	प्राइवेट चिकित्सालय बहराइच

VII. उर्जा

53			
	a	आपके ग्राम पंचायत में कुल कितने घर विद्युतकृत हैं	**452**
	b	ग्राम पंचायत में निम्नलिखित अनुमानित विद्युत उपकरणों की संख्या	
		ए0सी0	**0**
		एयर कुलर	**5**
		रेफ्रिजेटर / फ्रीज	**10**

54		**विद्युत कटौती की आवृत्ति**	
	a	दिन में कुछ बार	✓ □
		दिन में एक बार	□
		विद्युत कटौती नही	☐
	b	प्रतिदिन कितने घण्टे गुल रहती है?	4 घण्टे
		यदि प्रतिदिन नही तो सप्ताह में कितने घण्टे बिजली गुल होती है?	28 घण्टे

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	20
	सौर उर्जा	2
	इमरजेंसी लाईट	452
	इन्टवटर्स	10
	अन्य साधन (उल्लेख करें) सर्च लाइट पशुओं को भागने के लिए	200

57		नवीकरणीय/अक्षयऊर्जा के स्रोत		
	a	क्या गांव में निम्नलिखित में से कोई स्थापना है?	इंस्टालेशन (स्थापना) की संख्या	कुल स्थापित क्षमता (किलोवाट)
		घर की छतों पर सौर उर्जा स्थापना	0	
		विद्यालय की छत पर सौर उर्जा स्थापना	1	2 किलोवाट
		चिकित्सालय की छत पर सौर उर्जा स्थापना	0	
		ग्राम पंचायत भवन पर सौर उर्जा स्थापना	0	
		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)	हॉ	

58	भोजन बनाने हेतु प्रयुक्त ईंधन	परिवारों की संख्या	प्रति परिवार प्रयुक्त औसत मात्रा (किग्रा/महीना)
	पारम्परिक जलौनी (उपले/जलौनी लकड़ी)	150	150 किग्रा0
	बायोगैस	0	
	एलपीजी गैस	380	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	0		
	b	कार	30	डीजल व पेट्रोल	50 किमी
	c	दो पहिया वाहन	500	पेट्रोल	40 किमी
	d	विद्युत चालित वाहन	0	0	0
	e	आटो	25	डीजल	100 किमी
	f	ई–रिक्शा	15	चार्जिग	70 किमी
	g	अन्य	0	0	0

60		कृषि यंत्र	ग्राम पंचायत में कृषि यंत्रों/मशीनों की सख्या	प्रयुक्त ईधन के प्रकार	तय की गई औसत दूरी (किमी प्रतिदिन)
	a	टैक्ट्रर	100	डीजल	25 किमी
	b	कम्बाईन हारवेस्टर	2	डीजल	फसल कटाई के समय 20 किमी
	c	अन्य (कृपया उल्लेख करें) जे0सी0बी0	2	डीजल	मिट्टी का कार्य भट्ठों पर 20 किमी

61	ग्राम पंचायत में अवस्थित पेट्रोल पम्प (अगर कोई है)										
		ईधन के प्रकार	प्रतिदिन की बिक्री	पम्प से आपूर्ति वाले गांव की संख्या	कितने प्रकार के वाहनएक दिन/महीना में पेट्रोल पम्प से ईधन लेते हैं? (समय/ अवधि का उल्लेख करें)						
					टैक्ट्रर/ ट्रक	कृषि यंत्र	जीप	कार	दो पहिया वाहन	आटो	ई–रिक्शा	अन्य किसान
	a	डीजल	14000	8	180	60	120	200	0	40	0	40

	b	पेट्रोल	2500	8	0	0	0	50	600	0	0	0

62	औद्योगिक इकाई			
	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)
	गिट्टी मिक्सर	2	(2)	100 लीटर
	मिनी आक्सीजन प्लान्ट	1	(1)	08 किलोवाट
	मिनी दुग्ध अवशीतन केन्द्र	1	(1) (2)	10 किलोवाट

Annexure-III: HRVCA

क्लाइमेट स्मार्ट ग्राम पंचायत अशोका

विकास खण्ड चित्तौरा जनपद–बहराइच

खतरा, जोखिम, नाजुकता एवं क्षमता विश्लेषण

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

ग्राम पंचायत अशोका में गर्मी को छोड़कर सभी मौसम की अवधि में कमी आयी है। 20–25 वर्ष पहले जाड़ा, गर्मी, बरसात प्रायः सभी अपने समय पर शुरू होते थे और लगभग अपने तय समय पर ही समाप्त होते थे। इस पूरे मौसम चक्र में गर्मी के दिनों में वृद्धि हुई है और धीरे–धीरे अगस्त महीने में सूखे जैसी स्थिति बनते रहने से पूरा मौसम चक्र प्रभावित हो रहा है। वर्ष 2022 के अक्टूबर महीने में एक सप्ताह हुई भारी बारिश ने धान की फसल पूरी तरह से समाप्त कर दी और मार्च महीने में तेज तापमान ने गेहूँ की फसल को 65 प्रतिशत हल्का कर दिया। इसके पहले 2021 मे गेहूँ की फसल के समय बारिश ने भारी नुकसान किया था। गर्मी अब मार्च महीने से शुरू होकर अक्टूबर महीने तक होने से जाड़े के दिनों में कमी हुई है। वर्षा का समय बदलता जा रहा है। जून जुलाई में कम वर्षा होती है और अगस्त में प्रायः सूखा हो जाता है। अन्त में भारी बारिश अधिक होती हैं। समुदाय से हुई चर्चा में यह सभी तथ्य सामने आये।

सहभागी ग्रामीण आकलन (पीआरए) के विभिन्न विधियों का उपयोग करते हुए अशोका गांव से प्राप्त सूचना एवं प्राथमिक आँकड़ों के आाधार पर जलवायुगत आपदा, खतरा जोखिम प्रोफाइल में अपेक्षित सूचनाओं का संकलन किया गया। आपदा खतरा जोखिम प्रोफाइल से सम्बन्धित सूचनायें निम्न क्रमवार दी गयी हैं :–

1. गांव को प्रभावित करने वाले आपदाओं की पहचान करना एवं इनका प्राथमिकीकरण :–

समुदाय से हुई चर्चा से पता चला कि अशोका गांव घरेलू व बरसाती जल जमाव से बहुत प्रभावित है। ग्राम पंचायत में तीन ईट के भट्ठे यहां की वातावरण को जहॉ प्रभावित करते है वहीं 50 एकड़ से अधिक भूमि इनके गिरफ्त में है। 2 गिट्टी क्रशर गांव के दक्षिणी हिस्से में मिक्सिंग का काम व तारकोल जैसी चीजों को गर्म करते है। हाट मिक्स प्लान्ट से वातावरण प्रदूषित है। ग्राम पंचायत के बीचो बीच से NH 730 गुजरती है जिस पर प्रतिदिन वाहनों के आपसी टक्कर के साथ जानवर व मानव क्षति भी प्रायः होती रहती है। वर्ष 2017 में प्रारम्भ हुए टंकी द्वारा घरेलू जल सप्लाई से पानी का उपयोग बढ़ा है और अधिक मात्रा में प्रदूषित जल तालाब में पहुंचता है और जल जमाव बढ़ रहा है, जिससे बीमारी काफी बढ़ गयी है।

आपदा का इतिहास एवं क्षति :–

1 - Ashoka, Bahraich

ग्राम पंचायत अशोका में पिछले 40.–50 सालों के आपदाओं के बारे में चर्चा करने पर पता चला कि 1982 में आयी भीषण बाढ़ ने गांव को बुरी तरह से प्रभावित किया था और ठीक उसके अगले साल सूखा पड़ गया था एवं अकाल जैसी स्थिति बनने के कारण गांव में दुख का माहौल दो साल तक बना रहा। ठीक 2 साल बाद 1985 में बड़ी चेचक जैसी स्थिति बनने से सोहापार गांव में 15 बच्चों की मृत्यु हो गयी थी। इसी प्रकार फरवरी 2001 में ओलावृष्टि की अधिकता रही और फसलें लगभग पूरी तरह नष्ट हो गयी।

पूरे ग्राम पंचायत में भौगोलिक स्थिति और बनावट के कारण अशोका खास गांव के मध्य में बरसाती व सामान्य दिनों में जल जमाव की स्थिति बनती है जो बहुत परेशानी पैदा करता है। गांव में आवागमन जहॉ प्रभावित होता है वहीं बीमारियां भी अधिक होती हैं।

(विस्तृत विवरण संलग्नक–01 देखें)

आपदा की पहचान एवं प्राथमिकीकरण के आधार पर निम्न आपदाएं ग्राम पंचायत अशोका को प्रभावित करते हैः–

आपदा का नाम	जनवरी	फरवरी	मार्च	अप्रैल	मई	जून	जुलाई	अगस्त	सितम्बर	अक्टूबर	नवम्बर	दिसम्बर
जल जमाव	■	■	■	■			■	■	■	■	■	■
शीतलहर	■											■
ओला पत्थर		■	■									
आंधी तूफान				■	■							
लू					■	■						
सूखा					■	■	■	■				

आपदाओं का मानचित्रण करने के दौरान आपदा का मौसमी कैलेन्डर व मौसम विश्लेषण किया गया जिसके दौरान पता चला कि अब चरम वर्षा के दिन बढ़े है और बरसात के मौसम में भी लम्बे अन्तराल तक वर्षा की कमी रहती है। अशोका ग्राम पंचायत में खास अशोका गांव के मध्य में जल जमाव स्थिति बरसात के दिनों में आवागमन की बड़ी दुर्दशा होती है। आवागमन बुरी तरह प्रभावित होता है। घरों का गन्दा पानी गांव के मध्य में बना तालाब अपनी बनावट के कारण मुसीबत बना हुआ है। केवल मार्च अप्रैल व मई महीने में सड़क सूखता है बाकी सभी महीनों में यह कष्टकारी है। जुलाई मध्य से पूरा अगस्त का महीना सूखा रहने लगा है। फसल पकने के समय प्रायः सूखा या भारी वर्षा क्षति का कारण बनता है।

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

उपरोक्त आपदाओं के स्वरूप के आधार पर होने वाले क्षति, संभावित जोखिम एवं सभी संसाधनों पर पड़ने वाले प्रभाव एवं उससे प्रभावित हो रहे लोगों के साथ संसाधनों का क्षरण जैसी परिस्थितियों की विस्तृत जानकारी संकलित की गयी जिसमें महिला, पुरुष, बच्चे एवं हितधारकों की भागीदारी सक्रिय रही।

ग्राम पंचायत अशोका के सभी राजस्व गांव व उसके एक टोले में भ्रमण करने के दौरान सभी लोगों से चर्चा होती रही जिसमें आपदाओं के जोखिम व खतरों पर विस्तृत मंथन के बाद निम्न तथ्य सामने आये।

अशोका खास में 250 घर, सासरपारा– 85, सोहापारा–50, टेमरिया 55 व गौरा–12 घर

खतरा एवं जोखिम विश्लेषण से प्राप्त सूचनाएं

क्रम	आसन्न आपदा/खतरे	संभावित जोखिम का क्षेत्र	संभावित जोखिम प्रभावित क्षेत्र			
			जोखिम	आबादी	घर	संसाधन
1	जल जमाव	स्वच्छता	नालो में अधिक पानी कचरों का आना	750 अशोका खास मध्य गांव	100 घर	सड़क पर गन्दे पानी का फैलाव आवागमन जोखिम पूर्ण।
		स्वास्थ्य	जल जनित बीमारी की बहुतायत	पूरा गांव	250 घर	प्रति वर्ष बरसात में 250 लोग प्रभावित।
		शिक्षा	प्राथमिक विद्यालय पहुॅचना जोखिम	125 बच्चे	100 घर	गांव को जाने वाली मुख्य सड़क पर जल जमाव
		सामाजिक सुरक्षा	बच्चों महिलाओं व विकलांग जनों का घायल होना	पूरा गांव	100 घर	गांव को जाने वाली मुख्य सड़क पर जल जमाव
		पशुपालन	पड़ोस में रहने वाले परिवारों के बकरी सहित बड़े जानवर अधिक बीमार	पूरा गांव	100 घर	गाय, भैंस व बकरी पालन प्रभावित
		कृषि उत्पादन	अरहर, चना , मसूर, मटर का समाप्त होना	पूरा गांव	452 घर	पूरे अशोका ग्राम पंचायत से 4 फसलें समाप्त
2	शीतलहर	स्वास्थ्य	मानव एवं पशुओं की परेशानी बढती हैं	वृद्ध/बीमार लोग व बकरी की क्षति अधिक	400घर	मानव एवं पशुधन की क्षति
		कृषि	आलू व सरसों के फसलों का नुकसान	पूरा गांव	452घर	खेत
		पशुपालन	बकरियों में बीमारी अधिक	पूरा गांव	452घर	बकरी व खेत
3	लू	स्वास्थ्य	मानव व पशुओं को अत्यधिक परेशानी स्वास्थ्य खराब	पूरा गांव	425 घर	ठंडे स्थानों की कमी व पशुओ के लिए बागीचों की कमी व चारों का संकट

		शिक्षा	स्कूल में अधिक गर्मी	सभी पढ़ने वाले विद्यार्थी	452 घर	अधिक गर्मी से बच्चों का स्वास्थ्य संकट में
4	सूखा	कृषि	जून व अगस्त महीना सूखा होने से धान की रोपाई में देरी व नमी की कमी	पूरा गांव	452 घर	300 हेक्टेयर कृषि भूमि पर फसल उत्पादन का संकट
		पशुपालन	गर्मी महीने में चारे का घोर संकट	पूरा गांव	452	चारे का संकट
5	आधी तूफान	कृषि	अप्रैल व मई महीने में भयानक आंधी तूफान होने पर आम व गंहूँ का फसल चौपट	पूरा गांव व बगीचा	452 घर	फसल, मानव तथा पशु क्षति
6	ओलावृष्टि	मानव पशु व कृषि पर क्षति	प्रत्येक 4–5 वर्ष में एक बार अप्रैल माह में भयानक ओलावृष्टि की बारम्बारता	पूरा गांव	452 घर	फसल, मानव तथा पशु क्षति

आजीविका संसाधनों पर आपदा का प्रभाव :–

अशोका पंचायत में आजीविका का प्रमुख क्षेत्र खेती व पशुपालन है। ईट भट्ठे भी आजीविका के साधन हैं जिस पर अधिकतर बाहरी मजदूर काम करते है। आजीविका से यह साधन सर्वाधिक आपदाओं से प्रभावित होते हैं जिससे सम्बन्धित सूचनाएं संकलित हैं जो संलग्न हैं।

(विस्तृत विवरण हेतु संलग्नक–02 देखें)

3. नाजुकता विश्लेषण :–

अशोका ग्राम पंचायत में समुदाय व हितधारकों से नाजुक वर्ग (जैसे बुजुर्ग, विकलांग व आर्थिक रूप से कमजोर परिवार) की जानकारी प्राप्त की गयी। आपदाओं की बढ़ती बारम्बारता से प्रभावित समुदाय सामाजिक और आर्थिक रूप से कमजोर होता है। आपदा की दृष्टि से सक्षम बनाने हेतु नाजुक समुदाय, संसाधन व स्थल की जानकारी आवश्यक है। इसके लिए पंचायत सहायक, आशा बहू, स्वयं सेवक एवं रोजगार सेवक की मदद से नाजुक वर्ग, जाति, लिंग, उम्र, आय के आधार पर गांव में नाजुक स्थल एवं प्रभावित होने वाले संसाधन व उनके ब्यौरा की जानकारी प्राप्त की गयी जो निम्न है :–

1. जल–जमाव :–

अशोका गांव के मध्य में तालाब स्थित होने के कारण पूरे गांव का गन्दा पानी इकट्ठा होता है वहीं बरसात के मौसम में बाहरी पानी भी आता है। बरसात में 100 से अधिक घर व अन्य सभी महीनों में 50 से अधिक घर बुरी तरह से प्रभावित होते है।

- अशोका ग्राम पंचायत के मध्य में स्थित तालाब उथला है और चारों ओर का ढलान तालाब की ओर है।
- हमेशा पूरे गांव का गन्दा घरेलू पानी तालाब में आता है और इसी कारण से दक्षिण पश्चिम व पूरब को जोड़ने वाला सम्पर्क मार्ग डूब जाता है।
- हर वर्ष इस तालाब से जुड़ने वाले नाले व सड़क टूट जाते हैं।
- तालाब की ओर से NH 730 को दक्षिण में जाने वाला सम्पर्क खडंजा हर वर्ष टूट जाता है।
- सभी सम्पर्क मार्गों के किनारे बनी नालियां खराब हो चुकी हैं।
- तालाब से पानी निकल कर NH 730 के सहारे बाहर निकलता था जो बीच में अशोका पेट्रोल पम्प बन जाने से जल निकासी बाधित है।

समुदाय स्तर पर जल जमाव का प्रभावः–

- जल जमाव से ग्राम पंचायत के अशोका खास गांव में 100 से अधिक घर बुरी तरह प्रभावित हैं। घर की दीवार व फर्श में नमी हमेशा बनी रहती है।
- राहगीर प्रायः नालों पर पानी रहने से गिरते और चोटिल होते रहते हैं आवागमन बाधित रहता है।
- बरसात के सभी दिनों में मच्छर व मलेरिया का प्रकोप गम्भीर रूप से बना रहता है।
- छोटे बच्चों को प्राथमिक विद्यालय आने जाने में परेशानी होती है। छोटे पशुओं को बहुत परेशानी होती है और उनमें बीमार होने की घटनायें बहुत बढ़ गयी हैं।

2 सूखाः–

- कृषि प्रधान ग्राम पंचायत अशोका में खरीफ के समय सूखे का बहुत प्रभाव पड़ता है जून व अगस्त में प्रायः सूखा पड़ जाने से धान की रोपाई व उसे बार–बार सिंचाई करने का खर्च बढ़ जाता है। अनियमित जलवायु से यह परिस्थिति लगातार गम्भीर हो रही है।
- गांव में एक राजकीय नलकूप है किन्तु नाली के अभाव में मात्र तीन लोगों के खेत की सिंचाई हो पाती है।

5 - Ashoka, Bahraich

- गांव में 6 तालाब हैं जिसका जल गर्मी के दिनों में सूख जाता है। पशुपक्षियों व जानवरों के लिए पेयजल संकट बना रहता है।
- अशोका खास गांव में नलकूप होने के बावजूद नाली के अभाव में सूखा की स्थिति में कोई लाभ नहीं मिलता।
- पेयजल की व्यवस्था पानी की टंकी के संचालन से सूखा प्रभाव मुक्त है।
- वृक्षारोपण अभियान जुलाई में चलता है और सूखे के कारण प्रत्येक वर्ष सारे पौधे सूख जाते हैं।

सूखा का समुदाय पर प्रभावः–

- फसल विशेषकर धान की रोपाई व उसकी उपज प्रभावित होती है।
- स्वास्थ्य पर बुरा प्रभाव पड़ता है। उल्टी–दस्त व मलेरिया का प्रकोप अधिक होता है।
- पशुओं के लिए चारे का संकट बढ़ जाता है।
- भविष्य की सारी व्यवस्थायें आर्थिक स्थिति बिगड़ जाती है।

3. लू :–

ग्राम पंचायत में जन उपयोगी बड़े बगीचे की कमी है जिससे लू अधिक दुष्प्रभाव डालता है। राष्ट्रीय राजमार्ग होने से गर्मी अधिक लगती है। बच्चों को विद्यालय में देर तक पढ़ाई के लिए ठहराव मुश्किल होता है। आवागमन बाधित व लोगों की कार्यक्षमता घट जाती है। पशुओं के लिए पेयजल संकट हो जाता है। बीमारी अधिक होती है। सुरक्षित हरा चारा की कमी हो जाती है।

4–शीतलहर :–

शीतलहर के दौरान बुर्जुग जन व बकरियों की मृत्यु की घटनायें बढ़ जाती हैं। लोग इन्हें बचाने का प्रयास करते है। यद्यपि गर्मी के दिनों की वृद्धि के बाद अचानक ठण्ड बढ़ती है तो उसकी गम्भीरता और अधिक बढ़ जाती है। बकरियों की मृत्यु व बुर्जुग जनों के ऊपर अधिक प्रभाव पड़ता है। छोटे बच्चों की बीमारियां बढ जाती है और गरीब लोगों को गर्म कपड़ों के अभाव में बहुत परेशानी होती है।

उपरोक्त के अतिरिक्त आपदाओं से निपटने के लिए समुदाय की व्यवहारगत व ढ़ॉचागत संरचना में कमियाँ हैं जिनका विवरण निम्नवत् है :–

- आपदाओं से निपटने के लिए लोगों में जानकारी का अभाव है। ग्राम पंचायत में कोई स्वैच्छिक संगठन कार्यरत नहीं है।
- आपदाओं से निपटने के लिए पूर्व तैयारी अथवा ग्राम पंचायत स्तर पर कोई बैठक और चर्चा नहीं होती है।
- सूखे, गीले एवं अन्य प्रकार के कचरे खुले में अथवा नालियों व तालाबों में फेके जाते हैं।
- मानसून के समय बच्चों के साथ सभी को मलेरिया व उल्टी दस्त की बीमारी प्रायः होती रहती है।
- पशुओं के गोबर का प्रयोग कंडा बनाने में अधिक होता है। गैस मंहगा होने के कारण लोग लकड़ी व कंडे का प्रयोग अधिक करने लगे हैं।
- ग्राम पंचायत स्तर पर कोई रोजगार व कुटीर उद्योग नहीं हैं केवल राष्ट्रीय राजमार्ग पर दुकाने हैं व ठेले लगाकर 50 लोग अपनी आजीविका चला रहे हैं।
- ईट भट्ठों के कारण स्थानीय स्तर पर कृषि भूमि कम होती जा रही है।
- गांव में मिश्रित फसलों के साथ खेती नहीं होती है। एकल फसलों से जोखिम अधिक हो रहा है।

4. क्षमता विश्लेषणः–

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

ग्राम पंचायत अशोका जनपद मुख्यालय के बहुत करीब स्थित है। इस ग्राम पंचायत में सुरक्षित पेयजल की व्यवस्था नियमित रूप से उपलब्ध है। सम्पर्क मार्ग पक्के खण्ड़जे लगे हैं। गांव में एक राजकीय नलकूप सक्रिय है। ग्राम पंचायत के अन्दर प्राथमिक विद्यालय स्थित है। अशोका उद्यान भी ग्राम पंचायत का दर्शनीय स्थल एवं मनोहारी है। यहां व्यायाम के साधन उपलब्ध हैं।

ग्राम पंचायत में 337 परिवारों के घर पक्के है और 115 परिवार के कच्चे छप्पर व टीनशेड के है। गांव में 13 महिला स्वयं सहायता समूह है जिसमें से सभी बैंक से जुड़े हैं और 5 समूह आर्थिक गतिविधियों से जुड़े हैं। ग्राम में दो प्राथमिक विद्यालय हैं जिसमें 370 बच्चे पढ़ते हैं।

सुविधा, संसाधन, मानचित्रण के आकड़े व तथ्य :–

संसाधन मानचित्रण पर भौतिक एवं प्राकृतिक संसाधनों की उपलब्धता अंकित की गयी है जो ग्राम पंचायत अशोका में है। मानव संसाधनों एवं अन्य सहयोगी संसाधनों की उपलब्धता निम्न है–

भौतिक संसाधनों की उपलब्धता एवं गांव से दूरी :–

क्रम	विवरण	संख्या	सम्पर्क व्यक्ति का नाम व संख्या	गांव से दूरी
1	प्राथमिक विद्यालय अशोका	01	श्रीमती प्रियमदा 99188227877	0
2	प्राथमिक विद्यालय सासरपारा	01	श्रीमती आरती साहू 9450767976	0
3	पंचायत भवन	01	श्रीमती मंजू देवी 9648825464	0
4	पानी टंकी	01	ग्राम पंचायत में	0.5 किमी
5	सरकारी राशन की दुकान	01	श्री मनीराम 9628703214	0
6	पशु चिकित्सालय	01	डीहा	0.5 किमी
7	पेट्रोल पप्प	02	ग्रमा पंचायत–हाईवे पर	0.5 किमी
8	थाना कोतवाली देहात	01	–	7 किमी
9	तहसील बहराइच	01	बहराइच शहर	8 किमी
10	विकास खण्ड चित्तौरा	01	–	8 किमी
11	प्राथमिक स्वास्थ्य केन्द्र चित्तौरा	01	–	8 किमी
12	आपदा केन्द्र बहराइच	01	बहराइच शहर	10 किमी.
13	पोस्ट आफिस डीहा	01	–	1 किमी.
14	बिजली विभाग बहराइच	01	बहराइच शहर	8 किमी.
15	फॉयर स्टेशन बहराइच	01	बहराइच शहर	10 कमी.
16	बस स्टेशन बहराइच	01	बहराइच शहर	10 किमी.
17	रेलवे स्टेशन बहराइच	01	बहराइच शहर	9 किमी.
18	खाद बीज भण्डार डीहा	01	ग्राम पंचायत सीमा पर	01 किमी.
19	अनाज क्रय केन्द्र डीहा	01	ग्राम पंचायत सीमा पर	01किमी.
20	बैंक बहराइच	04	बहराइच शहर	08 किमी.

क्रम	विवरण	संख्या	सम्पर्क व्यक्ति का नाम व सख्या	गांव से दूरी
1	तालाब	6	–	01 किमी
2	बाग	2	–	01 किमी
3	पार्क	1	अशोका उद्यान	2 किमी
4	कृषिगत क्षेत्र	350 एकड़	धान, गेंहू, केला, गन्ना	गाँव के परिधि में
5	खुला क्षेत्र	2 एकड़	गाँव की सीमा में	1 किमी

मानव संसाधनः–

क्रम	मानव संसाधन	संख्या	सम्पर्क व्यक्ति का नाम	गांव से दूरी
1	ग्राम प्रधान	01	श्री रामराज 9140638787	गांव में
2	शिक्षक शिक्षिका	02	श्रीमती पियमदा व आरती साहू	गांव में
3	आंगनवाड़ी	03	नीता 8795478250 पूनम 9696678216 मधु 7800742975	गांव में
4	आशा बहू	04	रेनू 8188096282 खुशबू 8874172596 सविता 9838806872, रेनू 6396013836	गांव में
5	पशु चिकित्सालय	01	मधु 7800742975	0.5 किमी.
6	वाहन चालक	25	गांव में	गांव में
7	पंचायत सहायक	01	श्रीमती मंजू देवी 9648825464	गांव में
8	सफाई कर्मी	02	–	–
9	रोजगार सेवक	01	श्री राजेन्द्र प्रसाद 7355002996	गांव में
10	पंचायत सचिव	01	श्री दिनेश मिश्रा 9453546426	बहराइच शहर

आपदा के समय सुविधाओं व उपलब्ध संसाधनों का महत्वपूर्ण योगदान रहता है। यही सुविधाएं व संसाधन आपदाओं के प्रभाव को कम करने के लिए क्षमताओं के रूप में ढ़ाल के रूप में खड़े होते हैं। इन सुविधाओं तक समुदाय की पहुंच व समुदाय की सहभागिता का स्तर आपदाओं में क्षति को न्यून करते हैं और जीवन सहज बनाते हैं। उपरोक्त सभी तथ्य का समावेश इस विवरण में संकलित है।

वित्तीय संसाधनः–

उपरोक्त सभी तीन संसाधनों के अतिरिक्त गांव के पास वित्तीय संसाधन की उपलब्धता है जो वर्ष 2023–24 में संभावित हैं:–

क्रम	मद	वर्ष 2023–24 (रुपये में)
1	15वां वित्त आयोग	13,00,000
2	स्वयं के राजस्व का स्रोत	–
3	मनरेगा–रोजगार के अनुरूप	20,00,000

क्लाइमेट स्मार्ट ग्राम पंचायत अशोका की कार्य योजना का निर्माण

सहभागी ग्रामीण आंकलन विधि से प्राप्त सूचनाओं और जानकारियों के आधार पर सेक्टरवार कार्य योजना निर्माण के प्रारूप के अनुरूप ग्राम पंचायत की वर्तमान स्थिति, उससे सम्बन्धित समस्यायें, उन समस्याओं के निराकरण हेतु विशिष्ट कार्य योजना के बारे में जानकारी प्राप्त की गयी। इन्हीं सूचनाओं, तथ्यों एवं पंचायत के लोगों से हुई चर्चा व विचार विमर्श के पश्चात "क्लाइमेट स्मार्ट ग्राम पंचायत" अवधारणा के तहत कार्ययोजना तैयार किया गया है जिसमें आपदा जोखिम, जोखिम के कारण व समाधान आदि के बारे में तथ्यों का संकलन तैयार किया गया है। क्षेत्रवार क्लाइमेट स्मार्ट ग्राम पंचायत अशोका की कार्ययोजना निम्न है–

क्रम	**कार्य क्षेत्र**	**कार्य का नाम**	**कार्य विवरण**	**परिसम्पत्ति का स्थान**	**अनुमानित धनराशि**	**अवधि**	**योजना का परिव्यय**
1	सेक्टर 1 मानव विकास एवं सामाजिक सुरक्षा, साफ–सफाई एवं स्वच्छता	कूड़ा पात्र रखवाना	पूरे ग्राम पंचायत अशोका में 50 गीला व सूखा कचरा उठाने के लिए कूड़ा पात्र रखवाना	ग्राम पंचायत	2.5 लाख	3 माह	15 वां वित्त आयोग
2		शौचालय निर्माण	13 विकलांग परिवारों हेतु विशेष शौचालय निर्माण	सभी विकलांग परिवार	3.90 लाख	3 माह	स्वच्छ भारत मिशन
3		सार्वजनिक शौचालय निर्माण	3 सार्वजनिक शौचालय निर्माण सासरपारा,टेमड़िया और सोहापारा	ग्राम पंचायत के पुरवा	24 लाख	6 माह	स्वच्छ भारत मिशन

4		जैविककूड़ा प्रबन्धन केन्द्र	20 परिवारों में जैविक कूड़ा प्रबन्धन का मॉडल तैयार करना	अशोका 10 सोहापारा 10	3लाख	4 माह	स्वच्छ भारत मिशन
5		वर्मी कम्पोट की स्थापना	20 परिवारों में मॉडल के रूप में वर्मी कम्पोट तैयार किया जाना	अशोका व सोहापारा	2लाख	3 माह	उद्यान विभाग
6		जल निकासी हेतु नाला निर्माण	अशोका गांव में अली अहमद के घर से दसई प्रधान के घर तक 800 मीटर पूरे गांव का घरेलू जल सड़क व आस–पास जमा होता है जो गांव का मुख्य सड़क है के निकासी हेतु 1 मीटर चौड़ा नाला निर्माण किया जाना। 750 मीटर लम्बा ककरही तालाब को जोडने के लिए	अशोका खास	18 लाख	5 माह	स्वच्छ भारत मिशन
7		जल संग्रहण क्षेत्र विकसित किया जाना	ककरही तालाब को गहरा किया जाना	अशोका खास	6 लाख	4 माह	15 वां वित्त आयोग
8		नाला निर्माण	सासरपारा गांव में घरेलू जल निकासी हेतु 250 मीटर लम्बा 1 मीटर चौड़ा नाला निर्माण किया जाना	ससरपारा	5 लाख	4 माह	15 वां वित्त आयोग
9	बुनियादी आधारभूत संरचना एवं पर्यावरण	पंचायत भवन का पुनरोद्धार	पंचायत भवन में सोख्ता गड्ढ़ एवं परिसर को सुदृढ़करण करना	पंचायत भवन	4 लाख	3 माह	15 वां वित्त आयोग
10		सोलर प्लाण्ट स्थापना	प्राथमिक विद्यालय सोहापारा पर सोलर प्लान्ट की स्थापना	सेहापारा	4 लाख	3 माह	शिक्षा विभाग

11		सौर्य ऊर्जा संचालित नलकूप स्थापना	सोहापारा में केले की सघन खेती करने वाले 20 कृषकों को सोलर पम्प सिंचाई योजना से जोड़ना	सेहापारा	10 लाख कृषक अंशदान का 50 प्रतिशत	6 माह	कृषि विभाग
12		जलाशय सुधार	सभी 6 तालाबों का संरक्षण व सफाई	ग्राम पंचायत	30 लाख	6 माह	15 वां वित्त आयोग
13		सम्पर्क मार्ग का पुनरोद्धार	गांव के अन्दर 1 किमी सम्पर्क मार्ग को ऊँचा किया जाना	अशोका खास में	10 लाख	4 माह	15 वां वित्त आयोग
14		वातावरण शुद्धीकरण	घनी छाया वाले 500 पौधेरोपण एवं देखरेख	सीमा क्षेत्र में	10 लाख	2 वर्ष	15 वां वित्त आयोग
15	सेक्टर–3 आजीविका, कृषि एवं पशुपालन	नर्सरी स्थापना	स्वयं सहायता समूहों के माध्यम से दो लाख पौधों के नर्सरी की स्थापना	अशोका खास	10 लाख	2 वर्ष	मनरेगा

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

वातावरण निर्माणः–

योजना तैयार करने के लिए ग्राम पंचायत भ्रमण कर प्रारम्भिक जानकारी लेने के साथ सभी 4 राजस्व गॉव का भ्रमण किया गया। गांव के भीतरी व बाहरी क्षेत्र का भ्रमण कर भौगोलिक परिस्थिति के साथ–साथ आवासीय व्यवस्था व जल सम्बन्धी नाली नाले आदि का अवलोकन किया गया। गांव में पेड़ पौधे के साथ तालाबों की स्थिति की जानकारी प्राप्त की गयी। समुदाय के व्यवहार व गांव की समस्याओं के साथ अपनायी जा रही उपयोग एवं व्यवस्था के आधार पर समझ विकसित कर योजना निर्माण की प्रक्रिया प्रारम्भ की गई।

खुली बैठकः–

ग्राम पंचायत अशोका में 16 फरवरी 2023 को पूर्व सूचना के अनुसार एक बैठक को आयोजन पंचायत भावन अशोका पर किया गया जिसमें ग्राम प्रधान, सचिव श्री दिनेश चन्द्र मिश्रा, पंचायत सहायक श्रीमती मंजू, रोजगार सेवक, सफाई कर्मी एवं कई हितभागी व ग्रामवासी उपस्थित रहे। सभी उपस्थित सदस्यों को क्लाइमेट स्मार्ट ग्राम पंचायत की अवधारणा के बारे में विस्तृत रूप से परिचित कराने के पश्चात ग्राम प्रधान अशोका श्री रामराज की अध्यक्षता में बैठक सम्पन्न हुई जिसमें ग्राम पंचायत में उपस्थित संसाधनों व परिस्थितियों के आधार पर भविष्य के लिए क्लाइमेट स्मार्ट ग्राम पंचायत अशोका कैसे बने सेक्टरवार सुझाव लिया गया। ग्राम पंचायत में उपस्थित 3 ईट भट्ठे, सड़क निर्माण हेतु गिट्टी मिक्सर के दो संयंत्र व राष्ट्रीय राजमार्ग 730 से उत्पन्न प्रदूषण आदि को ध्यान में रखते हुये प्राकृतिक संसाधनों के साथ–साथ कृषि क्षेत्र में रसायनिक उर्वरकों व कीटनाशक दवाओं का इस्तेमाल व वर्तमान मानव व्यवहार पर विस्तृत चर्चा हुई। उपरोक्त सभी के आधार पर योजना का प्रारूप तैयार किया गया।

ट्रांजेक्ट वाक (ग्राम भ्रमण) :–

ग्राम पंचायत अशोका में कुल 4 राजस्व गांव हैं। बैठक से एक दिन पूर्व सभी गाँवों का गहन भ्रमण किया गया और देखा गया कि ग्राम पंचायत में तालाब के अलावा अशोक वाटिका, सासरपारा में प्राथमिक विद्यालय, अशोका खास में पानी की टंकी, पशु चिकित्सालय, 2 पेट्रोल पम्प, पंचायत भवन व सामुदायिक शौचालय के साथ प्राथमिक विद्यालय, दुग्ध अवशीतल केन्द्र व आक्सीजन प्लान्ट स्थिति है।

ग्राम पंचायत में एक मदरसा व 3 ईट भट्ठे के अलावा दो गिट्टी मिक्सर प्लान्ट व नेशनल हाईवे 730 बहराइच – बलरामपुर मार्ग स्थित है।

बहराइच से बलरामपुर मार्ग पर स्थित अशोका ग्राम पंचायत पश्चिम से पूरब की ओर बसा है। शहर से 6 किमी. पूरब की ओर सबसे पहले पेट्रोल पम्प, पानी की टंकी, पशु चिकित्सालय सामुदायिक शौचालय, पंचायत भवन व प्राथमिक विद्यालय है। अशोका खास गांव एन.एच. 730

से उत्तर दिशा की ओर बसा है जिसमें 250 घर है। पंचायत भवन के पूरब उत्तर को जाने वाला मार्ग गांव की मध्य रेखा बनाता है और तालाब से पूरब पश्चिम की ओर बट जाता है।

अशोका गांव में 62 घर कच्चे व 188 घर पक्के है। गांव में पूर्बी छोर पर फिर एक पेट्रोल पम्प अशोका नाम से है। अशोका के पूरब टेमरिया गांव 1.5 किमी. पर स्थिति है जिसमें 55 घर है उनमें से 25 कच्चे घर है। इसी गांव से एन.एच. 730 पर ही 0.5 किमी. की दूरी पर उत्तर दिशा में सोहापारा गांव है जिसमें 50 घर है उनमें से 10 घर कच्चे है। एन.एच. 730 के दक्षिण दिशा में सासरपारा गॉव है। जिसमें 85 घर हैं और उनमें से 13 घर कच्चे है। सासरपारा गॉव के पूरब एन.एच. 730 पर ही 12 घर का पुरवा गौरा है जिसमें 3 घर कच्चे हैं।

अशोका खास में 4 तालाब है जबकि सासरपारा में एक तालाब स्थित है और टेमरिया में एक तालाब स्थित है। सभी तालाब एक एकड़ से क्षेत्र में बड़े हैं जिसमें अशोका खास गांव के मध्य में स्थित तालाब गांव के गंदे पानी से भरा रहता है। इस ग्राम पंचायत में कुल 6 तालाब हैं।

अशोका वाटिका लगभग 1.5 एकड़ में बनाया गया है और 8 नवम्बर 2019 को सार्वजनिक किया गया जो अब एक बेहतर भ्रमण योग्य पार्क बनता जा रहा है जिसमें खेल कूद के सामान भी लगाये गये है। वाकिंग ट्रैक के साथ हरा भरा यह बगीचा पर्यावरण के लिए सुखद है। पूरे ग्राम पंचायत में व राष्ट्रीय राजमार्ग के दोनो ओर पेड़ लगे है।

पंचायत भवन के पश्चिम में समुदायिक शौचालय उत्तर में प्राथमिक विद्यालय अशोका साथ में (आंगनवाड़ी केन्द) पश्चिम में पानी की टंकी, पशु चिकित्सालय पेट्रोल पम्प व पूरब में सासरपारा ग्राम में प्राथमिक विद्यालय स्थिति है। आशा एवं रोजगार सेवक के अतिरिक्त गांव में सफाई कर्मी व ग्राम प्रधान भी निवास करते हैं और हमेशा गांव के लिए उपलब्ध रहते है।

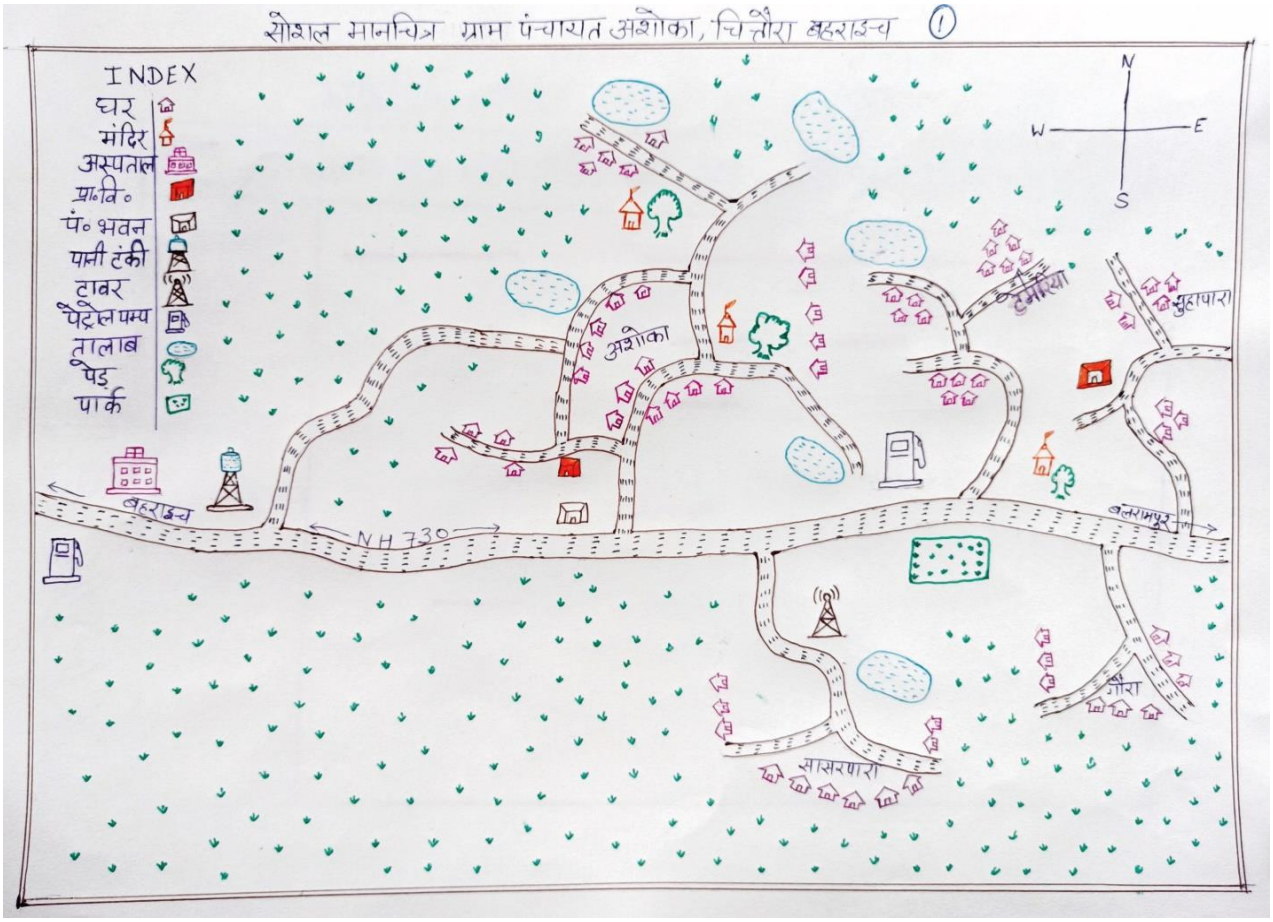
15 - Ashoka, Bahraich

सामाजिक मानचित्रणः–

सभी गांवो के भ्रमण के पश्चात पंचायत भवन में समुदराय की उपस्थिति में सामाजिक मानचित्रण तैयार किया गया जिसके आधर पर प्राप्त सूचनायें निम्न हैः–

क्रम	विवरण	संख्या	
1	ग्राम पंचायत की चौहद्दी का क्षेत्रफल	447.31 हेक्टेयर	पूरे ग्राम पंचायत की बसाहट व कृषि क्षेत्र मिलाकर।
2	कुल टोलो की संख्या	4	अशोका खास, टेमरिया, सोहापार व सासरपारा
3	कुल घरो की संख्या	452	अशोका 250 टेमरिया 55 सोहापारा 50 सासरपारा 85 गौर 12
4	कुल पक्के घरों की संख्या	339	अशोका 188, टेमरिया 30, सोहापारा 40, सासरपारा 72, गौर 9
5	कुल कच्चे घरों की संख्या	113	अशोका 62, टेमरिया 25, सोहापारा 10, सासरपारा 13, गौरा 3
6	आर्थिक रूप से कमजोर परिवारों की संख्या	220	पूरे ग्राम पंचायत में
7	विकलांग जनों की संख्या	13	पूरे ग्राम पंचायत में
8	महिला मुखिया परिवारों की संख्या	10	पूरे ग्राम पंचायत में
9	पेयजल कनेक्शन	452	सभी घरों में

17 - Ashoka, Bahraich



जातिगत/श्रेणीगत विवरणः–

सामान्य जाति के घरों की संख्या	60
पिछड़ी जाति के घरो की संख्या	272
अनुसूचित जाति के घरों की संख्या	120
कुल घरों की सख्या	452

ग्राम पंचायत अशोका की कुल आबादी 3250 है जिसमें 1750 पुरूष व 1500 महिलायें है। 60 वर्ष से ऊपर उम्र के लोगों की संख्या 350 है और छोटे बच्चों की संख्या (0–6 वर्ष) कुल संख्या 417 है। गरीबी रेखा से नीचे जीवन यापन करने वाले परिवार 220 है जबकि कुल परिवारों की संख्या 452 है।

आपदाओं का ऐतिहासिक समय रेखा एवं घटना क्रमः–

क्रम	वर्ष	आपदा/खतरा	घटनाओं का कारण	मृतको की संख्या	प्रभावित लोगो की संख्या	आर्थिक क्षति	न्यूनीकरण हेतु किया गया कार्य
1	1982	बाढ़	पहाड़ी पानी नदी के रास्ते आया व भारी बारिस	0	पूरा गॉव	400 एकड़ धान की फसल व सभी घरों में दवाओं पर भारी खर्च	पक्के मकानों के बनाने का क्रम बढ़ा
2	1982	उल्टी दस्त बीमारी	बाढ़ के कारण	20	पूरा गॉव	दवाओं में खर्च बढ़ा	साफ सफाई बढ़ा
3	1985	बड़ी चेचक	बच्चों को चेचक के बाद शरीर में घाव व मौत	15	पूरा गॉव		साफ सफाई पर विशेष ध्यान बढ़ा
4	2001	ओलावृष्टि					
5	2022	सूखा	अधिक तापमान माह मार्च 2022	0	पूरा कृषि क्षेत्र	गेंहूँ कम	अनियन्त्रित
	2022	अति वृष्टि	अक्टूबर दूसरा सप्ताह	0	खरीफ फसल नष्ट		अनियन्त्रित

आजीविका के साधनों पर आपदाओं का प्रभावः–

क्रम	आजीविका के प्रकार	परिवार संख्या	आपदा	आपदा का प्रभाव (अधिक, मध्य, कम			क्या प्रभाव पड़ता है
1	कृषि	380	सूखा				• धान व गेंहूँ उत्पादन लागत बढ़ रही है। • पूरी फसल सिंचाई करके करना पड़ता है। • सिंचाई का साधन केवल डीजल इंजन पर आधारित है जो अधिक महंगा है। • उत्पादन घटता है। • गन्ने की उत्पादन लागत बहुत बढ़ गयी है।
			शीतलहर				• सरसों फसल पर माहो का प्रभाव अधिक हो जाता है। • आलू की फसल पर झुलसा रोग हो जाता है।
			अतिवृष्टि				• असामयिक अतिवृष्टि से धान व गेंहूँ की फसल कटाई प्रभावित होती है। अधिक नुकसान होता है।
			ओलावृष्टि				• ओलावृष्टि से विशेष कर गेंहूँ की फसल मड़ाई के समय में नष्ट हो जाती है। ऐसा 2–3 वर्ष के अन्तराल पर अवश्य होता है।
2	मजदूरी	150	सूखा				• रोजगार के अवसर कम हो जाते हैं। • शहरों में मजदूरी कम हो जाती है। • बड़े शहरों को जाना पड़ता है।
		150	शीतलहर				• कोई काम का अवसर नहीं बचता

							• स्वास्थ्य पर बुरा प्रभाव पड़ता। • घरेलू खर्चा बढ़ जाता है।
		150	अतिवृष्टि				• काम के अवसर शून्य हो जाते है। • गांव में व बाहर काम नहीं मिलता है।
3	पशुपालन गाय, भैंस,बकरी पालन व मुर्गी पालन	155	शीतलहर				• बकरी की मौत अधिक होती है। • बड़े पशु भी बीमार हो जाते हैं। • दूध उत्पादन कम हो जाता है। • मुर्गी पालन में जोखिम बढ़ जाता है।
		155	सूखा				• पशु चारा की परेशानी हो जाती है। • भूसा महंगा हो जाता है • बीमारी बढ़ने लगती है • मुर्गी पालन में बीमारी का जोखिम बढ़ जाता है।
4	स्वयं का व्यवसाय	45	शीतलहर				• बिक्री कम हो जाती है। • आमदनी घटती है।
			अतिवृष्टि				• दुकान बन्द रहती है। • सामान खराब हो जाता है।

क्लाइमेट स्मार्ट विलेज प्लान को तैयार करने हेतु सहयोगी दल

पंचशील डेवलपमेन्ट ट्रस्ट, बहराइच

1. ध्रुव कुमार
2. श्री राम तेज यादव
3. श्री आलोकित कश्यप
4. सुश्री रिंकी वर्मा
5. सुश्री रिंकी देवी

Annexure IV: Estimating Targets and Costs

Enhancing Green Spaces and Biodiversity

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Plantation activities	**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.)[96] = **₹70 per tree** (saplings are also available at no cost from DoEFCC, GoUP) Tree Guards (metal)[97] = **₹1,200 per unit** Maintenance of plantations: **1.5 lakh/ha**	Sequestration potential estimated based on teak species - 5.6 to 10 tCO_2e sequestered per tree Plantation density for agro forestry is considered 100 trees/ha
b) Arogya van	For a GP with area less than **300-400 ha**, one *Arogya* van can be suggested with **0.1 ha** area For a GP with area of around **1000 ha**, one *Arogya* van can be suggested with an area of **0.2- 0.5 ha** based on availability of land		
c) 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[98] = **₹40,000/hectare**[99]	

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

Sustainable Agriculture

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Micro irrigation- drip and sprinkler irrigation	**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	**₹1 lakh per ha**	
b) 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**[100]**= ₹150**	
c) 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[101]= **₹90,000**	
d) Setting up of automatic mini weather monitoring station	**Phase 1:** Installation of one automatic mini weather monitoring station **Phase 2:** Regular maintenance of one automatic mini weather monitoring station **Phase 3:** Regular maintenance of one automatic mini weather monitoring station	Cost of 1 mini weather station[102] = **₹1,50,000**	

100 Cost as per inputs received from GPs in HRVCA

101 Cost as per inputs received from GPs in HRVCA

102 https://www.indiamart.com/proddetail/mini-automatic-weather-station-2707861533.html

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
e) 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): **₹60,000** B. Certification (based on expert consultation): **₹33,000** C. Introduction of cropping system- organic seed procurement; planting nitrogen harvesting plants: > Cost per acre = **₹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= **₹2,500** E. Calculation (cost of transition per acre)= (a)+(b)+(c)+(d) = **₹1,00,000** *Total Cost*[103]: Area (ha)*2.471*Calculation done in (e) [Area (ha)*2.471*1,00,000 = **₹2,47,100**]	

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

Management & Rejuvenation of Water Bodies

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Maintenance of Water Bodies (Cost not to be double counted if these plantations are a part of the overall green space enhancement initiative as mentioned above)	**Phase 1**: Cleaning, desilting & fencing of water bodies + Tree plantations (1000) around periphery of water bodies (along with tree guards) **Phase 2**: Additional 100 tree plantations (along with tree guards) around water bodies + continued maintenance of water bodies **Phase 3**: Continued maintenance of water bodies	Approximate Cost[104]: 1. Restoration (cleaning, desilting, increase in catchment area, etc.) of 1 pond = **₹ 7Lakhs** 2. Construction of 1 Retention Pond (300 m^3 capacity) = **₹7 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**	
b) Enhancing Drainage and Sewage Infrastructure	**Phase 1**: Cleaning & desilting of existing drains + enhancing drainage infrastructure (construction of new drains) **Phase 2 & 3:** Continued activities carried out in Phase 1	Refer mostly to the costs provided in the HRVCA	
c) Improving Sanitation Infrastructure	**Phase I:** Enhancing household toilet coverage **Phase II & III:** Increasing toilet coverage and maintenance of existing infrastructure	Cost of 1 twin pit toilet[105] = **₹15,000** to **₹20,000**	

104 Cost as per inputs received from GPs in HRVCA

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

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
d) 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[106] = **₹35,000** Cost of 1 recharge pit[107] = **₹35,000**	

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

107 Cost as per inputs received from GPs in HRVCA

Sustainable and Enhanced Mobility

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Enhancing existing road infrastructure	**Phase 1**: Road elevation works + Road Rcc/ Interlocking works **Phase 2 & 3**: Continued maintenance of roads	Cost per km of road upgradation/repair[108]: **₹50,00,000 per km**	
b) Enhancing Intermediate Public Transport (IPT)	E-rickshaws as per inputs on requirement of GP	Cost of 1 e-rickshaw: **~ ₹50,000** Available subsidy: up to **₹10,000 per vehicle**	
c) 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= **₹6,00,000** Cost of 1 commercial e-vehicle= **₹5** to **10 lakhs**	

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

Sustainable Solid Waste Management

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) 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[109] = Total waste generated / capacity of each van (310 kg) No. of waste bins = from HRVCA orcan be estimated by identifying strategic locations (PRI buildings, public buildings, parks, etc.)	
	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.)	

109 Cost as per market rates

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
	Phase 3: a. Maintenance works b. Scaling up partnership	COST[110]: 1. 1 Electric Garbage Van = **₹95,000** to **1,00,000** 2. 1 waste bins/ containers[111] = **₹15,000**	
b) Management of organic waste	**Phase 1:** a. Setting up Compost & vermi-compost pits through community involvement b. Partnership model between panchayat, community members and farmer groups for: 1. production & sale of compost 2. sale of agricultural waste	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[112] = xxx kg/day of organic waste / 2 Periodic composting of __ kg per year of agricultural waste (as per primary data)	

110 Cost as per market rateS

111 Cost as per SBM guidelines and inputs in HRVCA reports

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

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 II and III: a. Maintenance and increasing compost pits capacity b. Scaling up partnership	Cost[113]: 1. Compost Pits cost reference: 30 vermicomposting and 15 Nadep compost pits = **₹4,50,000** 2. Solid Waste Management Yard (for both organic and inorganic waste) cost[114] reference: **₹35,00,000**	
c) 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 III: 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	

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

Access to Clean, Sustainable, Affordable and Reliable Energy

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Solar rooftops	**Phase 1:** PRI buildings (Panchayat Bhawan, schools, anganwadi, PHC, CHC, CSC etc) Assumption- 70% of rooftop area is available for solar rooftop installation	Total rooftop capacity installed = 5 sq.m. = 5 kW About 10 sq.m. area is required to set up 1 kWp grid connected rooftop solar system 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= **₹50,000**[115] No. of units of clean electricity generated per day= Electricity generated/365	Annual electricity generated (kWh)* 0.82/ 1000= ____ tonnes of CO<

115 Cost as per MNRE and current market rates

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
	Phase 2 & 3: Households Assumption- 70% of rooftop area is available for solar rooftop installation Installed capacity taken to be 3 kWp **Phase 2**: 40% of total pucca houses to install **Phase 3**: 100% of total pucca houses to install	Average Installed capacity per HH= 3 kWp Total capacity installed at HH level= No. of HH * 3 kWp Annual clean electricity generated (in kWh)=Total capacity installed at HH level (kWp) *310 (sunny days)*24 (hrs)*0.18 (CUF) Cost per kWh= **₹50,000**[116] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	
b) 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= **₹1 lakh**[117] No. of units of clean electricity generated per day= Annual Electricity generated/ 365	

116 Cost as per MNRE and current market rates
117 Cost as per market rate of installation

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
c) Solar pumps	**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 = **₹3** to **₹5** lakhs[118]	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
d) 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= **₹50,000** for 2 to 3 m^3 biogas plant Cost for 1 for double burner solar cookstove without battery= **₹45,000** Cost for 1 improved *chulhas*= **₹3,000**[119]	

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

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
e) Energy efficiency (EE)	**Phase 1**: All PRI buildings to replace all fixtures and fans with energy efficient fixtures and fans + All HH to replace 1 incandescent/CFL bulb with LED bulb or 1 fluorescent tube lights with LED tube light **Phase 2**: All incandescent/CFL bulbs replaced with with LED bulb & all fluorescent tube lights replaced with LED tube light + 1 conventional fan replaced with EE fan in all HH **Phase 3**: All fans in all HH to be replaced with EE fans	Cost of 1 LED bulb= **₹70** Cost of 1 LED tubelight= **₹220** Cost of 1 EE fan= **₹1,110**[120]	
f) 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= **₹50,000** Cost of 1 solar LED street light= **₹10,000**[121]	

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

121 Costs as per market rates

Enhancing Livelihoods and Green Entrepreneurship

Suggested Actions	Broad Guidelines to decide targets of various activities (can be subject to change based on Gram Panchayat context)	Calculation/formula for estimating quantitative target	Sequestration potential/ emissions avoided
a) Construction & Renting out of Solar-powered Cold Storage	Setting up of cold storage	Capacity : 1 unit = **5 - 10** metric tonnes based on production of vegetables and fruits/ and/or milk and milk products Cost: **₹8-15** lakh per unit	
b) Engage SHGs in Manufacturing of Sustainable Products from Agricultural Waste	Setting up of agricultural waste processing unit	Cost of 1 processing unit[122] = **₹3,00,000**	

122 Costs as per market norms

Annexure V: Relevant SDGs & Targets

SDG 2: Zero Hunger

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

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

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

SDG 3: Good Health and Well being

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

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

SDG 6: Clean Water and Sanitation

Target 6.1: Achieve universal and equitable access to drinking water

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

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

Target 6.5: Implement integrated water resources management at all levels

Target 6.8: Support and strengthen the participation of local communities

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

SDG 7: Affordable & Clean Energy

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

Target 7.2: Increase share of renewable energy in energy mix

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

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

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

SDG 8: Decent Work and Economic Growth

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

SDG 9: Industries, Innovation and Infrastructure

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

SDG 11: Sustainable Cities and Communities

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

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

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

SDG 12: Ensure sustainable consumption and production patterns

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

Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international

frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

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

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

SDG 13: Climate Action

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

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

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

SDG 15: Life on Land

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

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

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

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

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

Annexure VI: Suitable species for plantation activities

Timber Trees

Name of plants	Family	Local names	Uses/ Medicinal properties
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

Name of plants	Family	Local names	Uses/ Medicinal properties
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.
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

Name of plants	Family	Local names	Uses/ 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

Name of plants	Family	Local names	Uses/ 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

Name of plants	Family	Local names	Uses/ Medicinal properties
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