

Final Report

Conservation of Vultures

through Community Participation in
Eastern Assam, India

Grant No P1638

30 January 2026



Report Prepared by
Dr Dipankar Lahkar

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Executed by

Aaranyak

A Society for Biodiversity Conservation in NE India

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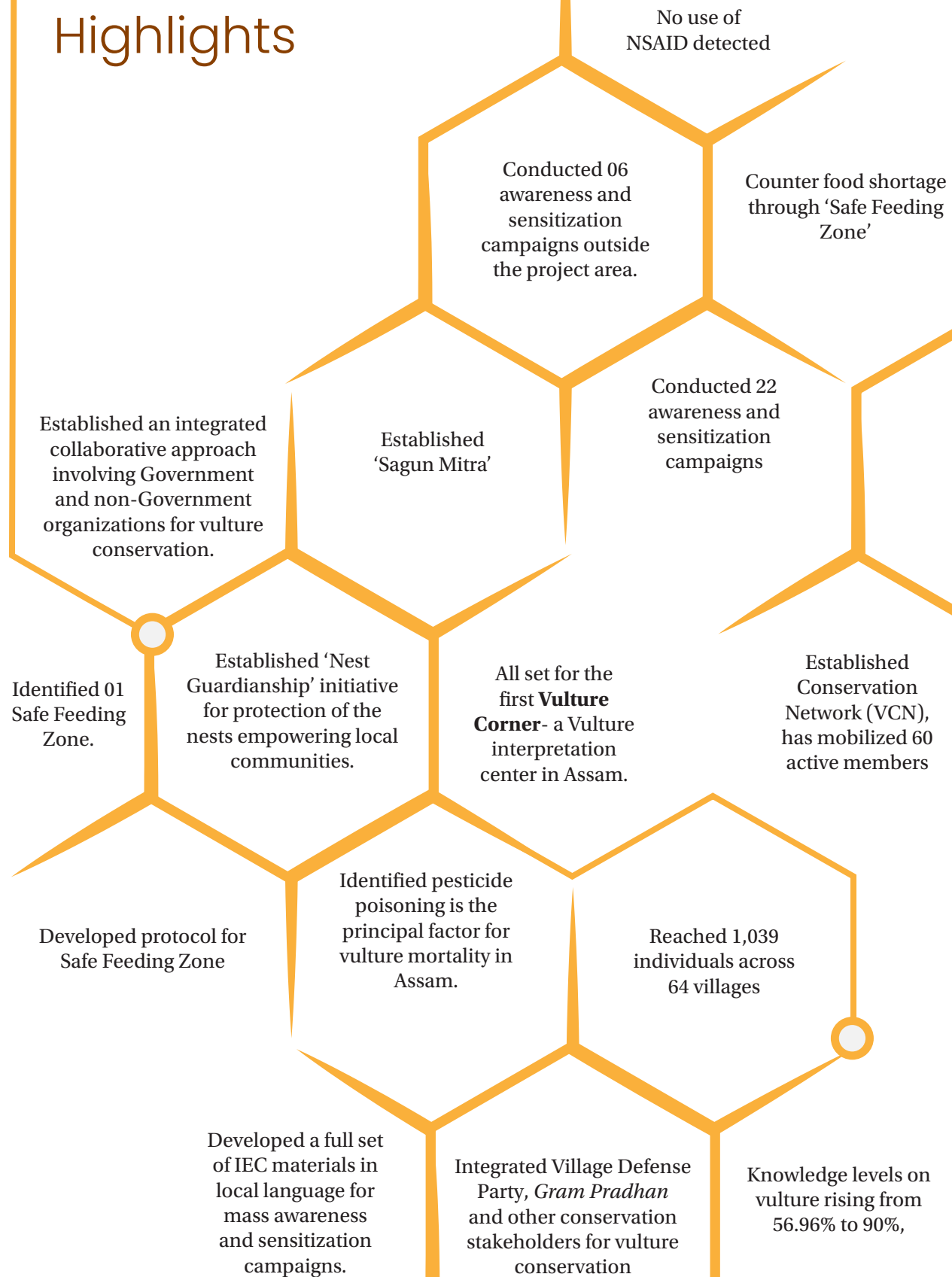
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Highlights



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Project Summary

The Kamrup District in Assam, India, has experienced a significant decline in vulture populations, with over 200 vultures dead in the past six years due to pesticide poisoning. From October 2024 to September 2025, this project was initiated in Kamrup District of Assam with aim to curb vulture deaths, with the following objectives: (i) identifying drivers of carcass poisoning, (ii) establishing a Vulture Conservation Network (VCN), and (iii) creating a community-owned vulture feeding ground. The project aims for zero vulture fatalities in Kamrup and extends conservation efforts to Sivasagar and Dibrugarh Districts of Assam.

To raise awareness and educate the community, we first conducted brainstorming participatory workshops to create a comprehensive set of Information, Education, and Communication (IEC) materials in local language and used them in 22 outreach programs titled “*Sagun xarakanr xankalpa jyatra*,” engaging 1,039 individuals across 64 villages. The outreach targeted various groups, including government line departments, government administrative entities such as the Circle Office, which facilitated the engagement of *Gram Pradhans*, as well as the local police stations to involve the Village Defence Party. Our outreach also encompassed Panchayati members (with three dedicated programs), school children (eight programs), women’s collectives (three programs), and broader community engagements (eight programs), effectively reaching 64 villages and impacting a total of 1,039 individuals—comprising 557 females and 482 males.

A notable initiative, *Sagun Mitra* (Friends of Vultures) under the auspices of the Vulture Conservation Network (VCN), has mobilized 60 active members from diverse backgrounds, further supported by partnerships with organizations.

Focus Group Discussions (FGD) in three villages helped document socio-economic factors leading to livestock carcass poisoning. The project developed a draft Standard Operating Procedure (SoP) for carcass disposal and identified a site for this purpose, pending formal community agreement.

Interviews with veterinarians revealed a lack of awareness about government banned drugs on veterinary use and highlighted the unregulated sale of Carbofuran, linked to accidental vulture poisonings.

The primary impact of this project firstly, the project effectively increased community awareness on conservation issues, with knowledge levels rising from 56.96% to 90%, secondly, the project successfully fostered the development of a collaborative network comprising government agencies, non-governmental organizations, community members, and civil society institutions dedicated to the protection of vultures in

Assam, thirdly, it represents a pioneering initiative in which government administrative departments and their ground-level personnel are educated,

sensitised and mobilized systematically for the cause of vulture conservation. This collaborative approach sets a precedent for future conservation efforts in the region, and lastly the extensive surveys effectively nullified the use of non-steroidal anti-inflammatory drugs (NSAIDs) in the Kamrup District. The use of pesticide poisoning as a retaliatory measure by herders in response to livestock predation by feral dogs or other carnivores, primarily responsible for killing vultures, poses a significant conservation challenge that necessitates focused attention to ensure the safeguarding of vultures in the region.



The Activity sheet

Sl no.	Executed Activity	Status	Remarks
01	Conduct day-long brainstorming sessions on the implementation of environment education and outreach on vulture conservation and prepare a module for implementation.	Completed	NA
02	Development of environmental materials (One leaflet and a poster).	Altered (Prior information was shared with the OBC)	We have developed IEC materials for mass awareness and also developed big size hoarding for high footfall areas.
03	Prepare the social survey questionnaire and plan for implementation.	Completed	NA
04	Conduct discussions and finalisation with the local collaborator's role for implementation of the field work.	Completed	NA
05	Identification of local schools and other institutions for the environment education and outreach.	Completed	NA
06	Conduct environment education and outreach on vulture conservation.	Completed	NA
07	Identification and conduct focus group interviews with cattle owners to understand the context behind carcass poisonings.	Completed	NA
08	Identification and conduct field surveys with livestock herders to understand drivers for carcass poisonings.	Completed	NA
09	Set up methods and conduct a survey on the use of NSAID with veterinary practitioners.	Completed	NA
10	Conduct surveys on the use of NSAID with veterinary practitioners.	Completed	NA
10	Finalised the method and conduct field census of feral dogs.	Completed	NA
11	Census of Feral Dog	Completed	NA

Sl no.	Executed Activity	Status	Remarks
12	Feral Dog vaccination	Not Achieved	We engaged in discussions with conservationists and veterinarians, concluding that targeted vaccination efforts in small areas are ineffective and would lead to resource misallocation.
13	Results of the social survey will be disseminated to livestock owners via environment education and outreach.	Completed	NA
14	Production and showcase of a skit on vultures.	Completed	NA
15	Community consultations and stakeholder meetings for a common consensus for vulture safe feeding zone	Ongoing	We have identified a vulture-safe feeding zone in Sivasagar district and are currently engaging in discussions with villagers in Kamrup District to develop a similar initiative.
16	Development and drafting of a SoP on the vulture safe feeding zone.	Completed	NA

CHAPTER-1

INTRODUCTION

Vultures play a crucial role in maintaining the delicate balance of ecosystems, acting as nature's clean-up crew by disposing of carrion and thereby preventing the spread of diseases between wildlife, livestock and humans. According to the research done by Jaliha *et al.*, (2022), these avian scavengers are integral to disease regulation, facilitating a natural form of sanitation that is essential for ecological health.

The decline of vulture populations became a pressing concern by the mid-1990s, prompting significant scientific investigation into the underlying causes of their alarming mortality rates. Notably, research conducted by Oaks and his colleagues (2004), revealed a critical correlation between vulture deaths and renal failure accompanied by visceral gout. These conditions were directly linked to the ingestion of Diclofenac residues, a non-steroidal anti-inflammatory drug (NSAID) introduced in the Indian market in 1980. Dr. Oaks proposed that residues of veterinary diclofenac are responsible for the precipitous decline in vulture population in the Indian sub-continent. In response to this alarming situation, Dr. Nita Shah's advocacy led to significant policy changes at the governmental level within India. The Government of India enacted a comprehensive ban on the use of Diclofenac in the veterinary sector in 2008, as formalized in Gazette Notification G.S.R. 499(E) dated 04 July 2008. This landmark decision marked a pivotal step towards the protection of the remaining vulture population. Further actions were taken by the Ministry of Environment, Forest and Climate Change (MoFCC), Government of India, in a proactive measure, restricted the packaging of multi-dose vial of Diclofenac to single dose for human use with Gazette notification no G.S.R 558 (E) dated 17 July 2015. This regulation aimed to mitigate the potential for misuse and reduce residual traces of the drug entering the environment. Continued research has identified additional NSAIDs that pose similar threats to vulture populations. A noteworthy study by Naidoo *et al.*, (2009) prompted the government to extend its ban beyond Diclofenac, encompassing Ketoprofen and Aceclofenac in the veterinary sector in 2023, alongside a prior prohibition of Nimesulide in 2004. These decisive actions reflect a growing recognition of the need for stringent regulations concerning veterinary pharmaceuticals to safeguard vultures in their *in-situ* environment. A pivotal study by Shah *et al.*, (2010) demonstrated that when administered to livestock, Meloxicam a NSAID, did not result in mortality among vultures, thereby alleviating concerns regarding its ecological impact. The adoption of Meloxicam in veterinary practices not only aligns with regulatory efforts aimed at preserving vulture populations, but it also underscores the importance of integrating ecological considerations into pharmaceutical practices. Collectively, these findings established best practices in veterinary pharmacology that prioritize both animal welfare and the conservation of vultures. The landmark regulations implemented by the Indian government concerning veterinary pharmaceuticals have significantly contributed to stabilizing the declining trends of vulture populations in few parts of India. These regulations not only prioritize animal welfare but also address critical ecological concerns, also promoting the conservation of vultures.

After the prevailing threats from diclofenac, the use of pesticides (Carbofuran) to contaminate livestock-carcasses became a grave threat in Assam (<https://india.mongabay.com/2022/04/vultures-in-assam-die-by-pesticide-poisoning-targeting-stray-dogs/>). These were used by livestock-owners to tackle livestock predation by carnivores (wild, feral and domestic). Unfortunately, this method poses a significant risk to vulture populations, as these birds are often inadvertently affected by the poison intended for the scavengers (Markandya, 2008). Corroborated media reports suggested that about 500 vultures were reported dead between 2018 to 2022 in Assam alone as a result of such accidental poisoning. The number may be more as such events might have occurred in isolated areas that went unreported. This has primarily disrupted the coexistence of vultures in Assam which is partly due to a lack of community involvement/engagement in the conservation process and lack of awareness.

The decline of the vulture population directly impacted humans. An estimated 500 million cattle are in India. The decline in vultures has been linked to increases in the populations of scavenging mammals, notably feral dogs. The decline in vultures has shown an increase in human deaths (When Vultures Nearly Disappeared in India, Half a Million People Died, Too, Study Finds | Smithsonian ([smithsonianmag.com](https://www.smithsonianmag.com)),

<https://www.bbc.com/news/articles/c28e2pvzn3lo>). The rise in feral dogs has been shown to not only significantly increase the risk of rabies transmission to humans in India, but also further exacerbate the risk of livestock predation. Dogs are not as efficient a scavenger as vultures and rotting carcasses further pollute water bodies increasing the prevalence of other diseases (The Social Costs of Keystone Species Collapse: Evidence From The Decline of Vultures in India, Frank and Sudarshan 2023, The Social Costs of Keystone Species Collapse: Evidence From The Decline of Vultures in India | EPIC (uchicago.edu)). Communities affected by increased numbers of feral dogs have taken to poisoning dogs to control the feral dog population. This in turn increases the risk of carcass-poisoning by herders to control the dogs, with the high probability of depressing vulture populations even further. The catastrophic decline in vulture numbers therefore represents a crisis for nature and people.

Initially in response to the vulture crisis in India the South Asian Vulture Recovery Plan was launched in 2004. Since 2006, efforts have included the captive breeding of Critically Endangered resident *Gyps* vultures (Prakash *et al.*, 2019). However, significant gaps remain in the direct engagement of local communities, which is an essential component of effective conservation strategy. Alongside, continuous research and monitoring are essential to ensure their populations thrive and to address any potential threats they may face in their natural habitat.

Vultures have been living in our society since time immemorial. Historically there has been no conflict with vultures in the region. In fact, Ramanaya's ancient epics have given vultures a special place in Assamese culture. Vultures are also depicted and their function in Assamese culture is described in *Sattriya* dance (to know more about *Sattriya* dance please visit <https://en.wikipedia.org/wiki/Sattriya>) and *Bhaona*, two traditional theatre forms with religious sentiment.

Assam, located in northeastern India, serves as a vital habitat for several vulture species, particularly the endangered Slender-billed Vulture (*Gyps tenuirostris*) which is believed to have a substantial population in this region of India. Notably, Assam is home to eight documented vulture species. Among the resident vulture species found in Assam are the White-backed Vulture (*Gyps indicus*), Slender-billed Vulture and Red-headed Vulture (*Sarcogyps calvus*). The White-backed Vulture, once among the most common scavengers across Assam, has faced drastic population declines due to multiple factors. In addition to these resident species, winter migrants, including the Himalayan Griffon Vulture (*Gyps himalayensis*) and the Eurasian Griffon Vulture (*Gyps fulvus*), both of which travel from higher altitudes seeking warmer habitats and abundant food resources during the colder months. These migratory behaviours underscore the ecological interconnectedness across regions and highlight the importance of preserving migratory routes and seasonal feeding grounds. Moreover, the region has witnessed irregular sightings of the Cinereous Vulture (*Aegypius monachus*), Bearded Vulture or Lammergeier (*Gypaetus barbatus*) and Egyptian Vulture (*Neophron percnopterus*). The limited records of the Cinereous Vulture and Lammergeier are primarily concentrated in the Barail Hill ranges of Assam.

Our project is designed to complement existing conservation efforts by actively involving local communities in vulture preservation initiatives. Community participation is imperative, as the majority of vulture fatalities stem from unintentional poisonings perpetrated by livestock herders targeting feral dogs. Given that vultures tend to feed in large numbers, they are disproportionately impacted by these poisoning incidents. Through collaborative efforts with livestock herders, our initiative was to devise solutions that cater to their needs while simultaneously increasing awareness of the vital ecological role vultures fulfill. By fostering mutual understanding and working towards coexistence, we worked for opportunities to mitigate vulture crisis and promote the health of both avian populations and local ecosystems. This holistic approach recognizes that the future of vultures is intertwined with human welfare, making it essential to cultivate practices that safeguard both livelihoods and biodiversity. With this aim, our project will implement (i) understand the drivers of carcass poisoning by pesticides and veterinary NSAIDs, (ii) understand the main socio-economic drivers behind poisoning of livestock carcasses, (iii) identify NSAID cases, (iv) track pesticide incidents, (v) enrol community members in the Vulture Conservation Network, (vi) document vulture poisoning incidents via VCN, and (vii) establish a Standard Operating Procedure for carcass disposal management.

This project addressed this gap, by sensitizing livestock-owners about the vulture crisis and involving them in a participatory Vulture Conservation Network (VCN) in Assam. Our project complemented the ongoing conservation initiatives, through active community engagement and participation to better understand and address human-vulture conflict.

Understanding coexistence

Traditionally vultures and people have a natural coexistence based upon vultures' key role in cleaning dead animal carcasses from the landscape. This clearing of carrion helps reduce risk of disease in the ecosystem. Traditionally communities have recognised this valuable role, and placed their dead cattle in backyard gardens or in dry paddy fields so that vultures might eat them. This symbiotic relationship helped support vulture populations as well as clearing dead carcasses and reducing disease risk to humans. Although there isn't a direct conflict between humans and vultures in Assam, retaliatory poisoning has proven to be a significant element in disrupting the coexistence of humans and vultures.

The ideal coexistence scenario in our landscape is one where the role of vultures in the ecosystem is recognised, and the traditional and cultural symbiotic relationship between vultures and people is restored. Feral dogs and livestock would be managed in ways that no longer jeopardise the survival of the vulture and in turn vultures would recover to their role to naturally clean the environment.

The effectiveness of this approach is based on the well-recognised importance of vultures to clean carrion and reduce disease risk. However, the problem of feral dogs requires novel solutions. Protecting livestock from predators is a common challenge in conservation and there are a variety of methods, from enclosures to better herd management, that can provide benefits. However, which methods are locally appropriate needs to be decided and developed through engagement with the herding community. Developing interventions that align with local needs, and are co-developed with the community affected, is one of the primary purposes of this work. However, to date, government departments (e.g., Forest department, veterinary department, local administration, etc.) have not been sufficiently arranged to address this issue. Equally, local community-based traditional village institutions that can serve as a first line of defence in an emergency, such as VDP and Gram Panchayat, have not been actively engaged in this process. We will work with these institutions to achieve the goal of this project. This community-led model of engagement would be replicable to other areas experiencing similar challenges.

Co-dependent relations between communities and vultures: Communities in Assam and vultures share a long cultural relationship; thus, our project will work to preserve those values and reduce negative interactions. We will explore cultural ethos, traditional belief systems, and attitudes towards vultures through community interactions, and focus will be to institutionalise our conservation goal by advocating with community-based institutions and respecting their traditional knowledge system. Therefore, our intervention would strengthen the cultural bridge between vultures and people for coexistence.

Equity, justice and inclusion: Through this project, local communities will be empowered to lead the initiative of vulture conservation in their localities. Through the creation of the Vulture Conservation Network (VCN), we will aim to increase community ownership in decision-making processes for equitable inclusion in conservation to reduce barriers and strengthen belongingness for coexistence.

Collaboration, partnerships and interdisciplinarity: The mission of our project is to tackle the vulture crisis by putting more of an emphasis on partnership with local communities and institutions, as well as building a bridge with government departments. We have already explored and identified the potential Government departments and agencies that we could partner with on this project.

Impact

The captive breeding of Critically Endangered Gyps vultures has been conducted by conservation scientists in the region. This *ex-situ* approach has great value for supporting the recovery of the species. However, it does not directly address the issue of accidental poisoning. So long as the issue of accidental poisoning of vultures in Assam is not addressed, captive birds released into the wild will remain vulnerable to poisoning death. Furthermore, these current conservation approaches lack direct engagement with communities particularly in Eastern Assam. Our project therefore addresses two critical gaps in current efforts. First, developing direct community engagement with livestock herders together with other members of the community and both community based and governmental institutions. Second, it will work to address the underlying cause of vulture deaths in the region, namely the accidental poisoning of vultures. In this way our project strongly aligns with and complements existing efforts of captive breeding programmes to ensure the long-term survival and coexistence of vultures in the region.

Stakeholder engagement

Livestock owners are the primary group involved in this study. Ultimately the project aims to make them the decision makers around developing measures for the protection of livestock and conservation of vultures through the Vulture Conservation Networks. Livestock owners will be contacted for this study based on where vulture roosting sites are identified during the nesting surveys. Furthermore, it is expected that volunteers from the local communities will help direct and participate in the field studies through the Vulture Conservation Networks.

Our project will specifically address these disruptions by working with herders and other stakeholders to reduce poisoning risks that will support the recovery of vultures. Vulture recovery will provide further reinforcing benefits, since a healthy vulture population will clean up carcasses more efficiently, reducing disease risk (such as rabies) that amplifies the risk feral dogs pose. Thus, a healthy vulture population will provide a natural solution towards control of feral dogs.

Through the creation of the Vulture Conservation Network (VCN), our project has the potential to give local people responsibility over the protection of vultures. In order to reestablish the natural coexistence between people and vultures, we will engage closely with the cattle herders and local communities to better understand their existing management techniques. There have been no prior attempts to address this issue, which underscores the urgent need for action.

Study Site

This proposed work will be implemented in the Kamrup District of Assam, India primarily targeting three villages viz Bamunigaon (25° 59' 29.37"N & 91° 15' 28.04"E), Milanpur (26° 02' 53.60"N & 91° 23' 16.28"E) and Niralpur (25° 47' 22.52"N & 91° 15' 44.04"E) and neighbouring areas covering about 250 sq.km (Figure-1). The media reports and our pilot field visits indicated that about 150 *Gyps* species of vultures have died since 2022 in three separate incidents due to the accidental poisoning targeting dogs in and around these three villages. The forested areas around these villages are under the jurisdiction of West Division, Guwahati, Assam. More recently about three Griffon vultures died in these localities due to poison-baits incidents that were targeted towards stray dogs. Multiple cases of vulture deaths were from these localities.

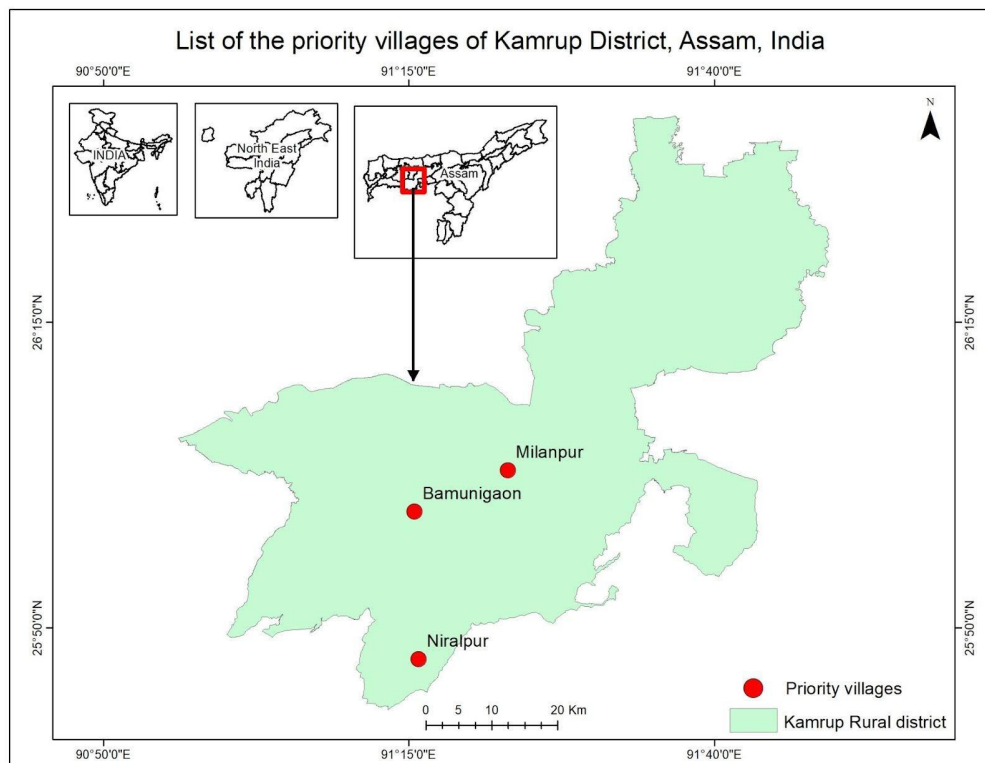


Figure-1. List of the project priority villages located in the Kamrup District, Assam, India.

Stakeholder Matrix

Apart from Aaranyak, the strategical approach to engage key stakeholders for the conservation of vultures in Assam.

Administrative Support	Knowledge Support
■ Civil Administration- Circle Office, Police Station, Forest Department, Forest School	■ Government Institutes/department- Assam Science Technology & Environment Council, Govt of Assam (ASTEC), Environmental Information, Awareness, Capacity Building and Livelihood Programme, Govt of India (EIACP), Forest School, Govt of Assam ■ Civil Society Organisation- Bombay Natural History Society (BNHS)
Implementation Support	Monitoring and sustainability support
■ Local Partners- Bonyabondhu ■ Education Institute- College and Schools ■ Village level Institutions- Youth Clubs and Libraries, Panchayati Raj Institution (PRI), Local Residents, Bazar Committee, Culture and Religious Institutes ■ Local media	■ VCN- Sagun Mitra, and Nest Guardianship ■ Local Partners ■ <i>Gram Pradhans</i> ■ Village Defence Party ■ Panchayat

CHAPTER-2

AWARENESS AND SENSITISATION CAMPAIGNS

Preparation of the Information, Education, and Communication (IEC) materials

To raise awareness and educate various segments of the community, particularly local residents and students, a participatory brainstorming workshop was initiated aiming at developing a comprehensive set of Information, Education, and Communication (IEC) materials in the local language (Figure-2). This workshop engaged a diverse group of participants, including regional vulture experts, local biologists, conservationists, environmental educators, representatives from government departments, illustrators, bird guides, community members and students.



Figure-2. Brain storming participatory workshop for tailoring a series of Information, Education, and Communication (IEC) materials in the local language to raise awareness and knowledge on conservation of vultures targeting communities and students of Assam, India (2025).

On July 5, 2025, Aaranyak, organised a participatory workshop entitled "Workshop on the development and implementation of awareness and conservation education initiatives for vulture conservation in Assam at the Administrative Office Conference Hall of Aaranyak." A total of 33 college students from Handique Girls' College, Guwahati College, and Arya Vidyapeeth College attended the event. Apart from them local biologists, vulture specialists, experts from the Government Institutes and NGO personnel were present.

The photograph below showcases experts and conservationists from various organizations participating in a workshop focused on the development and design of IEC (Information, Education, and Communication) materials related to vultures.





A campaign banner promoting vulture conservation was developed in Assamese as one of the key outcomes of the workshop to engage and encourage all community members to actively participate in vulture conservation efforts. The banner featured the slogan "*Bikh mukta khadyi basabo xagunar vabishyat*" (Poison-free food will save the future of vultures) and the tagline "*sagun xangrakhanar xankalpa jatra*" (Resolution for Vulture Conservation) (Figure-3).

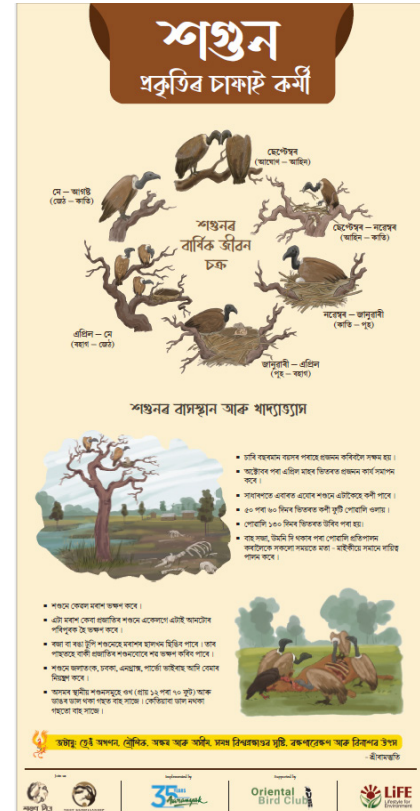
In addition to the banner, three educational posters were conceptualized to convey key messages: (a) basic information about vultures, (b) a narrative illustrating the reasons behind vulture mortality and (c) strategies to reduce vulture deaths and support their population recovery. These IEC materials were developed to ensure ease of understanding and facilitate effective communication with the target audience (Figure-4; 5, 6).



Figure-3. The campaign poster depicts the primary threats and mitigation measures for the conservation of vultures in Assam, India (2025).



Figure-4. The IEC materials display the basic information about vultures in the local Assamese language developed using a participatory work (2025). This is now freely available at the www.aaranyak.org for spreading education and awareness on vultures.



শগুনবোৰ

কিয়নো মৰি আছে বাক ?



শৰ পেলাব নৌপাওঁতেই শগুনবোৰে আকাশখন ছানি ধৰিছিল।



মোৰা কেবা বছৰৰ পৰা আমাৰ গাঁৱত শগুন জাকে জাকে মৰা দেখিছনে ?
হয় আইতা... শগুনবোৰ কিয়নো মৰি আছে বাক ?



তইতে এটা কথা মন কৰিছনে, গাঁৱত যে কুকুৰৰ সংখ্যা দিনকদিনে বাঢ়ি গৈছে ?
শগুন মৰাৰ ইয়া এক কাৰণ।



কি! কেনেকৈ কোৱাচোন ?
শুন তেস্তে...



তইতে শেতি চপোৱাৰ পিছত আমাৰ গৰু-ছাগলীবোৰক পথাৰত মেলি নিদিয় জনো ?



গৃহস্থ নথকাৰ সুযোগ বুজি এনে গৰু-ছাগলীক পথাৰত কেতিয়াবা কুকুৰ বা অন্য মাংসভোজী জন্তুৱে আক্ৰমণ কৰি মাৰে।
...এৰা, মালিকৰ কম লোকচান হয়নে !

সামগ্ৰিকভাৱে খাদ্যত হোৱা বিৰক্ৰিয়াই শগুনৰ অস্তিত্ব সংকটাপন্ন কৰি তুলিছে।

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শগুনবোৰ

কিয়নো মৰি আছে বাক ?



তেনে আপদীয়া জন্তুবোৰ মাৰিবলৈ গৃহস্থই মৰাশৰ ওপৰত কেতিয়াবা কীটনাশক দ্ৰব্য প্ৰয়োগ কৰে।



কিন্তু কুকুৰ বোৰ বৰ চতুৰ। সিহঁত দুনাই মৃত জন্তুটোৰ কাষলৈ ঘূৰি নাহে। শগুনহে এনে মৃত জন্তু খাই বিৰক্ৰিয়াত মৃত্যুবৰণ কৰে। আনকি কেতিয়াবা জাকটোৰ আটাইকেইটা শগুনবোৰো মৃত্যু হয়।



শগুন মৰাৰ আন কাৰণো আছে।
শগুন বাক সজা গছবোৰ কাটাৰ ফলতো সিহঁতৰ সংখ্যা উল্লেখজনকভাৱে কমি আহিছে।
আইতা, ইয়াৰ বাহিৰেও শগুনৰ আন কিবা সমস্যা আছে নেকি !



... আমাৰ গাঁৱৰ পত্ৰ চিকিৎসক ছাৰে কৈছে, পশুখনৰ চিকিৎসাত প্ৰয়োগ কৰা কিছুমান বিশেষ দৰবোৰ শগুনৰ মৃত্যুৰ কাৰক। এনে কেবাটিৰ দৰবৰ প্ৰয়োগ চৰকাৰে ইতিমধ্যে পত্ৰ চিকিৎসাত নিষিদ্ধ কৰিছে।
... তইতে চিকিৎসক ছাৰক দৰবকেইটাৰ বিষয়ে সুধিছিলে।



তাবোপৰি শগুন কমি অহাৰ বাবে এতিয়া মৃত জন্তুবোৰ মানুহে পুতি থকা বা উত্তৰাই দিয়ে। ফলত শগুনৰ খাদ্যৰ অভাৱ হৈছে। আশাত কিন্তু মৃত জন্তুবোৰ গাওঁৰ আঁতৰত থকা পথাৰতে পেলাই দিছিল।



শগুন সেইবোৰ খাই ঠাইখন পৰিষ্কাৰ কৰি বাহিৰলৈ লগতে বতৰ বোণাৰ পৰাও আমাক ৰক্ষা কৰিছিল। এনেয়ে নকয় - এশ গুনৰ অধিকাৰী শগুন

এনে ষড়চান্দ্ৰ আগাৰ গাঁওখনৰ দুশমান নষ্ট কৰে।
এনেবোৰ নষ্টটিলৈ কি কৰিব পাৰি জবি চাবিছোন।

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Figure-5. The IEC materials display a narrative illustrating the reasons behind vulture mortalities in Assam in local Assamese language developed using a participatory work (2025). This is now freely available at the www.aaranyak.org for spreading education and awareness on vultures.

আমাৰ মৌলিক দায়িত্ব আৰু কৰ্তব্য



খাদ্যত হোৱা বিষক্ৰিয়াৰ
প্ৰতিৰোধে শগুনৰ ভৱিষ্যৎ
সুৰক্ষা কৰিব।







বিষমুক্ত মৰা জন্তুৰ
শৰবোৰ পুতি নেপেলাই বা
উটুৱাই নিদি শগুনক
খাবলৈ দিব নোৱাৰিনে?





শগুনে বাহ সজা
গছবোৰ যিকোনো
পৰিস্থিতিত সুৰক্ষিত
কৰি ৰাখিব লাগিব।






পশুখনৰ চিকিৎসাত চৰকাৰে
নিষিদ্ধ কৰা দৰৱ ব্যৱহাৰ
হৈছে নেকি জানি লোৱা
উচিত। কিয়নো ইয়াৰ
প্ৰয়োগ আইন সংগত নহয়।





শগুন সংৰক্ষণৰ বাৰ্তা
প্ৰচাৰ কৰি আপুনিও
এজন শগুন মিত্ৰ হওক।




শগুন মৰা, ইহঁতৰ বাহ থকা গছ কটা, পশু চিকিৎসাত নিষিদ্ধ দৰৱৰ কিনা-বেচা আৰু
প্ৰয়োগ লগতে গৰু ছাগলীৰ শব্দত কীটনাশক দিয়াৰ বিষয়ে জানিলে ততালিকে ওচৰৰ
আৱক্ষী চৰকাৰ বা বন বিভাগত খবৰ দিলেও শগুনৰ সংৰক্ষণত সহায়ক হ'ব।

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Figure-6. The IEC materials display strategies to reduce vulture deaths and support their population recovery in Assam in local Assamese language developed using a participatory work (2025). This is now freely available at the www.aaranyak.org for spreading education and awareness on vultures.

Collaboration with the diverse stakeholders for implementation

A diverse group of stakeholders were engaged, including key government institutions like the Assam Science, Technology and Environment Council (ASTEC), the Assam Forest School and the Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP) under the Ministry of Environment, Forest and Climate Change (MoFCC) alongside prominent NGO's like the Bombay Natural History Society (BNHS) and Bonyabondhu, to develop a comprehensive and collaborative implementation strategy. Additionally, three colleges in Guwahati, Assam – Department of Zoology, Guwahati College, Department of Botany, Handique Girls' College and Department of Zoology, Arya Vidyapith College were engaged to promote student participation in generating resources for future initiatives. This multifaceted approach aims to foster collaboration and ensure the success of our project outcomes.

Training sessions on conducting effective campaigns

We conducted a comprehensive hands-on training program that employed both workshop methodologies and field applications to effectively disseminate the information contained in the Information, Education, and Communication (IEC). This initiative targeted both community members and students.

In addition to the IEC materials, we developed active communication tools (Figure-5) and provided training to approximately 30 participants, including students, biologists and local conservationists, to enhance their communication skills for outreach campaigns (Figure-6).

Implementation of the awareness and sensitization campaigns

The outreach campaigns were strategically designed to engage a diverse array of stakeholders, including various government departments and administrative entities, such as the Police department and Circle Office, which enabled effective collaboration with Village Defence Parties and *Gram Pradhans* (Village head) respectively to encourage community participation.

Our initiatives further extended to *Panchayati Raj* members, where we conducted three dedicated programs; school children, through eight informative sessions; women's collectives with three focused programs and broader community engagements featuring eight additional sessions, as detailed in Table-1. Overall, we executed 22 outreach programs across 19 villages under the initiative titled “*Sagun Xarakhanr Xankalpa Jyatra*” (Conservation Movement of Vultures). These efforts successfully engaged a total of 1,058 participants, comprising 574 females and 484 males. Additionally, these programs effectively touch a representative of 64 villages within the Kamrup District of Assam, India.

Table-1. The executed 22 outreach programs across 19 villages under the initiative titled “*Sagun Xarakhanr Xankalpa Jyatra*” (Conservation Movement of Vultures) during the phase of the project in the Kamrup district of Assam, India (2025).

SI No	Date	Venue	Name of the Village	District	Type of the place	Total Attendance	Male	Female
1	21-08-2025	Office of the Deputy commissioner, South Kamrup District, Chhaygaon	Chhaygaon	Kamrup	Government Office	70	46	24
2	22-08-2025	Bherbheri Yuba Sangha, Bherbhari	Bherbhari	Kamrup	Community Hall	27	0	27
3	23-08-2025	Guimara Majalia Vidyalaya, Guimara	Guimara	Kamrup	Educational Institute	58	21	37
4	24-08-2025	Chanda sadagar Merghar, Champaknagar Chandika,	Chandika	Kamrup	Cultural Institute	35	32	3

SI No	Date	Venue	Name of the Village	District	Type of the place	Total Attendance	Male	Female
5	25-08-2025	Borbahar, Bakali Para	Borbahar	Kamrup	Public Space	33	12	21
6	25-08-2025	Binen Das Home yard, Bagan, Santipur, Kamrup	Bagan, Santipur	Kamrup	Individual's house	31	5	26
7	25-08-2025	Guimara, Dithapara, Kamrup, Assam	Guimara	Kamrup	Public Space	40	1	39
8	27-08-2025	2no. Sakhumuri, Bongaon, Bamunigaon, Village	Bamunigaon	Kamrup	Community Hall	30	22	8
9	27-08-2025	Ino. Sakhumari Community hall	Bamunigaon	Kamrup	Community Hall	16	9	7
10	28-08-2025	Janajatiya High School, Kulsi	Kulsi	Kamrup	Educational Institute	60	36	24
11	28-08-2025	Hitesh Mali Home vard, Satpakhali, Kamrup, Assam	Satpakhali	Kamrup	Individual's house	25	27	8
12	04-09-2025	Satpakhali High school, Satpakhali, Kamrup, Assam	Satpakhali	Kamrup	Educational Institute	56	25	31
13	06-09-2025	Pantan Higher secondary school, Kamrup, Assam	West Pantan	Kamrup	Educational Institute	64	29	35
14	07-09-2025	Chayyagon Police station	Chhaygaon	Kamrup	Government Office	52	41	11
15	08-09-2025	Rampur Higher secondary school, Kamrup, Assam.	Rampur	Kamrup	Educational Institute	48	21	27
16	08-09-2025	Satrapara Ideal High School, Kamrup	Satrapara	Kamrup	Educational Institute	67	22	45
17	09-09-2025	Bartari Anchilik High School, Kamrup	Bartari	Kamrup	Educational Institute	125	77	48
18	09-09-2025	Simina Anchalik Higher secondary school	Simina	Kamrup	Educational Institute	70	22	48
19	12-09-2025	Matri Pathebharal, Jalukbari, Chhaygaon	Jalukbari	Kamrup	Community Library	21	3	18
20	12-09-2025	Sakurberia Bazar, Sidilapara, Kamrup	Sidilapara	Kamrup	Daily market	31	8	23
21	19-10-2025	Gawalhati Prathamik Vidyalaya, Joti Dowapara	Gawalhati	Kamrup	Educational Institute	80	33	47
22	28-08-2025	At the Mandira Das's resident-Member-Gram	Kochpara	Kamrup	Individual's house	10	1	9
						1058	484	574

The awareness campaigns were organized across nine different venues, including a Community Hall (3 events), Community Library (1 event), Cultural Institute (1 event), Daily Market (1 event), Educational Institution (9 events), Government Office (2 events), Individual Homes (2 events), Panchayat (1 event), and Public Places (2 events), as illustrated in Table-1.

Collaboration was a cornerstone of our efforts; therefore, all partners and supporters were actively involved in each campaign. Each initiative was conducted by trained team members, ensuring professionalism and efficacy and comprehensive documentation of all campaigns has been carried out.

Knowledge survey

It is essential to comprehend the site-specific relationship between local communities and vultures, as these interactions can significantly influence both direct and indirect conservation efforts. Understanding these dynamics is vital for effectively addressing the threats faced by vultures and enhancing overall conservation initiatives.

This study aimed to evaluate the changes in knowledge and perception among 267 respondents before and after a targeted awareness program designed for local communities, including schoolchildren, women and youth. A structured questionnaire pre- and post-knowledge survey was administered to assess community knowledge regarding vulture. The surveys were conducted alongside the awareness campaigns.





The survey focused on respondents' comprehension of vulture identification, primary food sources, perceived reasons for population decline and awareness of harmful practices, including the Government of India's ban on Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) in the veterinary sector and the use of pesticides. The primary objective of this survey was to document the participants' existing knowledge prior to their involvement in the awareness campaign, as well as to understand any changes in their perception and understanding following the intervention. This assessment contributes to ongoing efforts to promote vulture conservation in the region.

Six key questions were designed to evaluate respondents' knowledge regarding species identification, understanding of vulture diets, perceptions of food availability, awareness of threats and proposed conservation strategies. The study revealed that respondents identified four vulture species: the Himalayan Griffon (*Gyps himalayensis*), White-rumped Vulture (*Gyps bengalensis*), Slender-billed Vulture (*Gyps tenuirostris*), and Red-headed Vulture, also known as King Vulture (*Sarcogyps calvus*).

A comparative bar graph (Figure-7) illustrates that prior to the awareness program, respondents predominantly reported sightings of a single vulture species. In contrast, the post-awareness survey indicated that the most common response was 'no sightings,' suggesting that some respondents may have been misidentifying other bird species as vultures. Furthermore, sightings of multiple vulture species progressively declined in both the pre- and post-awareness survey conditions.

Question-1. About the sighting of vulture species

Pre-knowledge survey data indicated that 43% of respondents had never observed a vulture in their locality, while 45% reported seeing at least one vulture

species. Additionally, 8% of respondents reported sighting two species, 3% reported three species, and 1% reported four species (Figure-7). In the post-knowledge survey, it was found that 47% of respondents had not seen a vulture in their locality, followed by 35% who saw at least one species, 11% who reported two species, 6% who reported three species, and 1% who reported seeing six species (Figure-8).

The scatter plot comparing individual respondent counts from the pre- and post-knowledge surveys illustrates knowledge gain or shifts in perception. The pre-survey data exhibited a wider spread of values, indicating greater variability in responses prior to the awareness program, which suggests inconsistent knowledge or perception among respondents. In contrast, the post-survey data appears more clustered, indicating a reduction in variability and suggesting a potential improvement in species recognition and a shift in perception (Figure- 9). This comparative evidence presented in the scatter plot underscores the effectiveness of the awareness campaigns in influencing respondents' perceptions.

During the post-survey, respondents predominantly reported sightings of four vulture species in their localities. Specifically, 65% reported seeing the Himalayan Griffon, followed by 17% who noted the Red-headed Vulture, 15% who recognized the White-backed Vulture and 2% who mentioned the Slender-billed Vulture. This suggests that the Himalayan Griffon, a winter migrant in Assam, is the most commonly sighted vulture in the surveyed villages within the Kamrup district. Conversely, sightings of resident vultures such as the White-backed Vulture, Slender-billed Vulture and Red-headed Vulture have become increasingly rare.

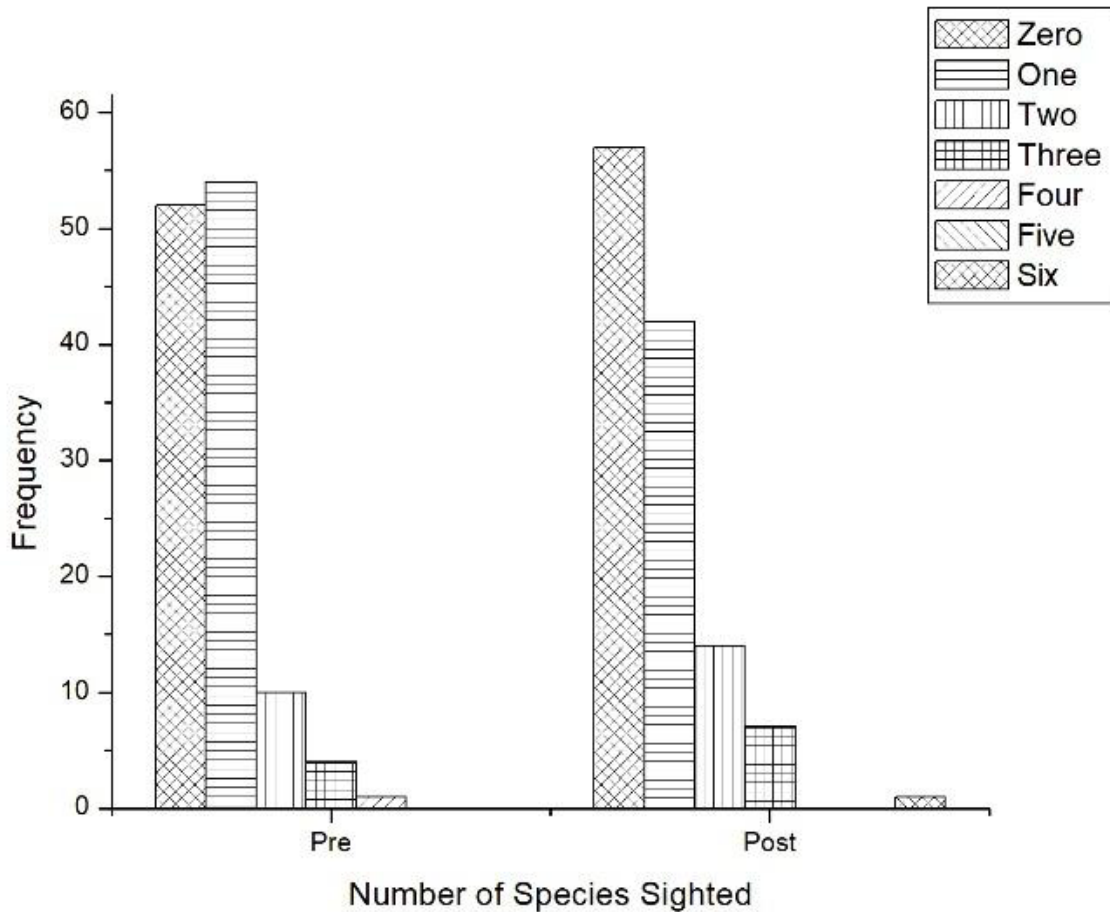


Figure-7. The pre and post response of the participants on the sighting of vulture species in their localities expressed during the implementation of knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).



In the past five years, sightings of resident vultures such as the Red-headed Vulture, White-backed Vulture and Slender-billed Vulture have become extremely rare and sporadic. However, the majority of respondents reported an increase in sightings of winter migrant vultures, such as the Himalayan Griffon, in their localities. Records of vulture deaths over the last five years support this observation, raising serious concerns about the current population status of resident vultures in Assam. During our extensive visits to these localities, we observed resident vultures on only two occasions.

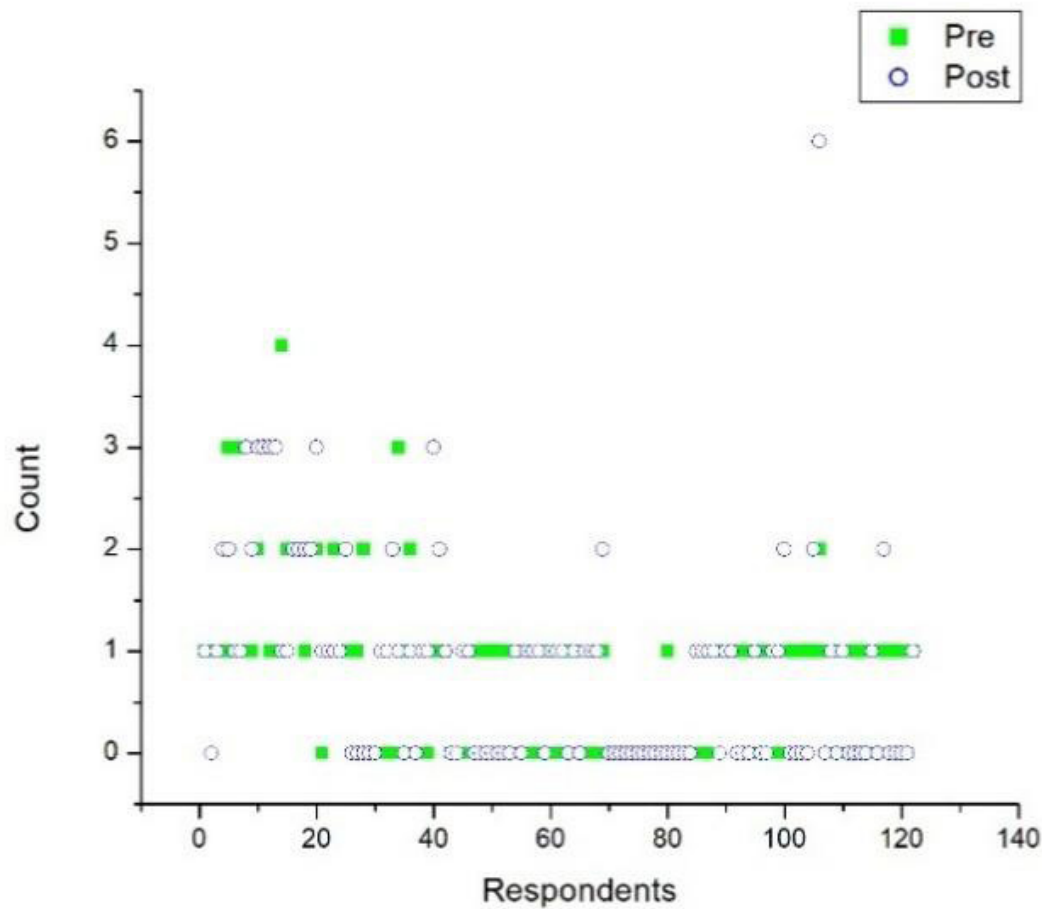


Figure-8. The responses of the pre and post knowledge survey of the participants on the sighting of vulture species were displayed on a Scatter Plot implemented through a knowledge survey involving the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

Question-2. About the knowledge on principle food of vultures

Carcass remains the primary food source for vultures, as evidenced by both pre- and post-knowledge surveys conducted during the implementation of the awareness program. These findings indicate that participants possess a clear understanding of the principal food sources for vultures (Figure-9).

In the pre-knowledge survey, various food sources were identified, including carcasses, meat, fish, rotten meat, rice and snails. However, in the post-knowledge survey, only carcasses and meat were noted as the primary food sources. The preference for carcass as the main food source has also shown an increase in the post-knowledge survey.

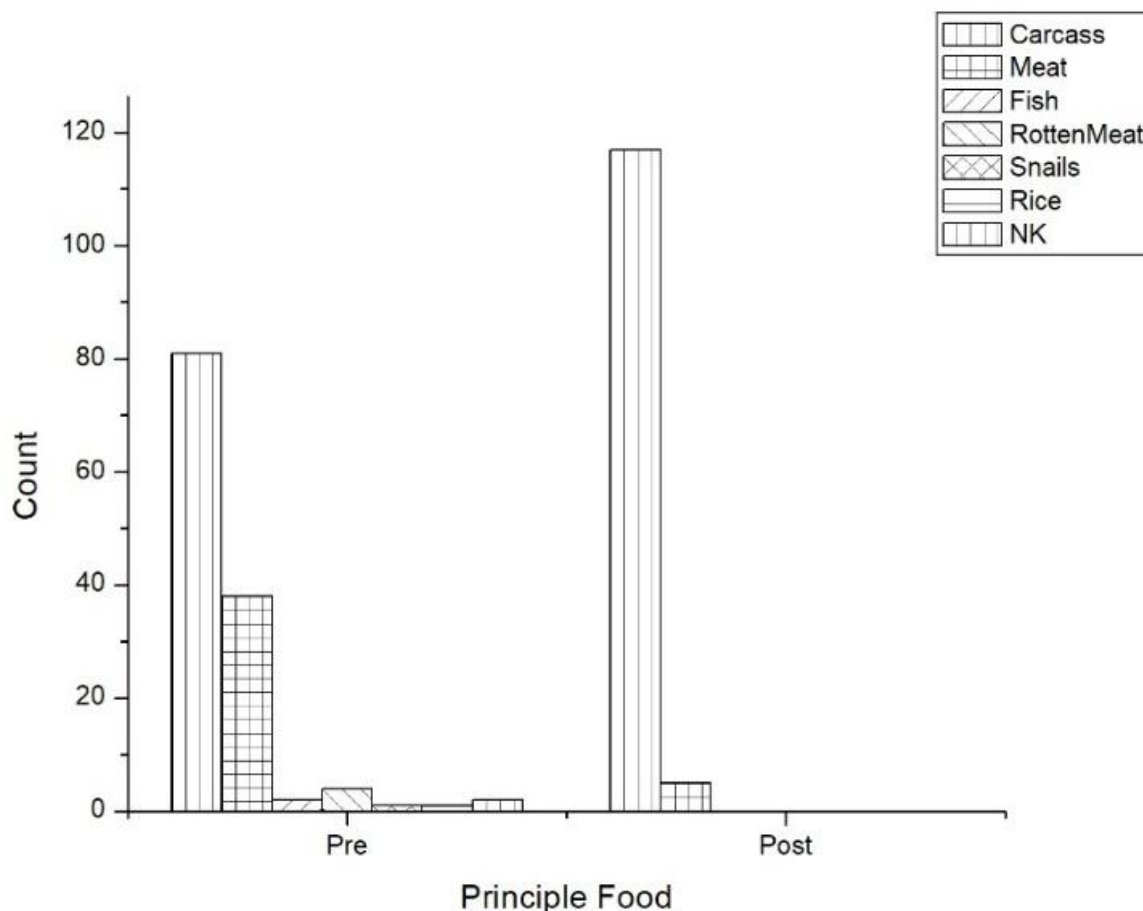


Figure-9. The pre and post response of the participants on the preferred food of the vultures expressed during the implementation of knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

Question-3. About the availability of the sufficient food for vultures in the participants locality

The pre-survey responses revealed that a large portion of participants, approximately 73%, indicated a scarcity of food for vultures in their locality (Table-2). In contrast, 12% of respondents stated that food scarcity was not an issue, while 14% expressed uncertainty on the matter.

The subsequent post-survey results demonstrated a marked increase in the perception of food scarcity, with nearly 98% of respondents indicating that there was insufficient food available for vultures. This notable shift suggests that the awareness program effectively enhanced public understanding and perception regarding the availability of food sources for vultures. The substantial decrease in the number of uncertain responses reflects a growing clarity and confidence among respondents, while the predominance of negative responses indicates a more informed view of the local food landscape with respect to vulture conservation (Figure-10).

Additionally, the majority of respondents (59%) reported that recent cultural shifts within the villages have also contributed to food scarcity for vultures. Participants noted that, in the past, each village had a communal site for disposing of carcasses, where dead livestock were provided for the vultures. However, due to the decline in vulture visitations to their localities, communities now find it necessary to bury dead cattle to prevent health hazards and unpleasant odours.

The informal interviews conducted with various participants revealed that while there is a general awareness about the primary food source of vultures, there exists a misconception regarding the food habit of vultures. Participants expressed beliefs that vultures also consume a range of other food items, including live chickens, domestic birds, fish and crustaceans. It was noted that awareness and sensitization campaigns are essential to clarify these misunderstandings.

Interestingly, the younger generation, particularly those aged 15 to 30, displayed a limited understanding of vulture feeding habits, likely due to the increasing rarity of these birds. In contrast, older participants shared captivating anecdotes about the behaviour of Red-headed vultures, specifically how they skilfully tear the skin of a carcass, allowing other vultures to access the meat.

Concerns were raised regarding the extreme scarcity of the Red-headed vulture. Participants mentioned that in many instances, other vulture species need to wait 3 to even 5 days for carcasses to decompose sufficiently before they can feed. Historically, villages had "de-skinning" specialists, locally referred to as "muchhi". However, due to the social stigma attached to it, younger generations show little interest in pursuing this occupation. Previously, de-skinning facilitated the removal of skin for commercial use, while the remaining carcasses were available for vultures like resident White-backed Vulture, Slender-billed Vulture.

During discussions with local women, it was noted that improved cattle health care, supported by government veterinary services available at sub-centres in each block, has resulted in fewer cattle deaths. This decrease in mortality may also contribute to the less food available for vultures. Furthermore, it is important to highlight that there are no large cattle sheds in the project area; instead, most households maintain an average of 1 to 8 cattle.

Question-4. Causes for vulture disappearance

During the pre-knowledge survey, respondents indicated that the primary reason for the decline in the vulture population was "unknown" to them. This was followed by "food scarcity," with only a few respondents citing additional factors such as habitat destruction, human activities, railway lines, slow reproductive rates, and poisoning. In contrast, responses from the post-awareness survey showed a notable improvement in respondents' understanding of the causes behind the decline in vulture populations. They identified habitat destruction as the major factor, closely followed by food scarcity and poisoning. Additionally, lack of awareness and superstition were recognized as significant contributing factors (Figure-11).

Question-5. Measures to conserve vulture

In the pre-knowledge survey, a majority of respondents (60.65%) expressed 'uncertainty' regarding potential conservation measures to halt the declining vulture population and facilitate population recovery. Among those who provided suggestions, key recommendations included "providing food" (8%), "restoring habitat"- which encompasses preserving tall trees and planting vulture nesting species (7%), and emphasizing the "need for awareness and education" about vultures (4%). The remaining 20% stated various conservation

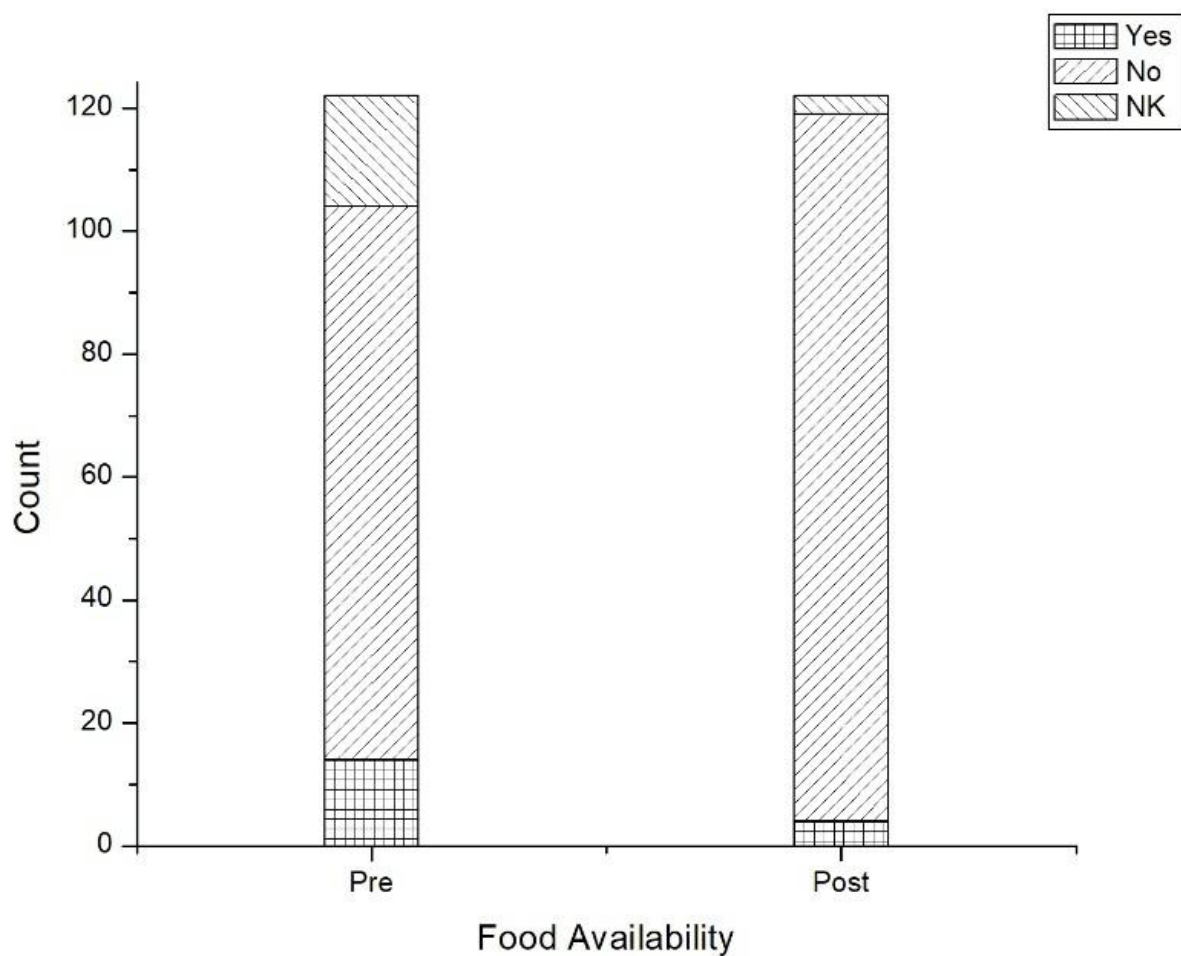


Figure-10. The pre and post response of the participants on the availability of the sufficient food for vultures in their localities expressed during the implementation of knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

Table-2. The potential threats to the vultures reported by the respondents during the implementation of a knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

Sl No	Threats mentioned by the respondents	No of occasion a particular threat is mentioned by the respondents
1	Food Scarcity	153
2	Habitat	134
3	Lack of awareness	52
4	Poisoning	124
5	Superstation	3

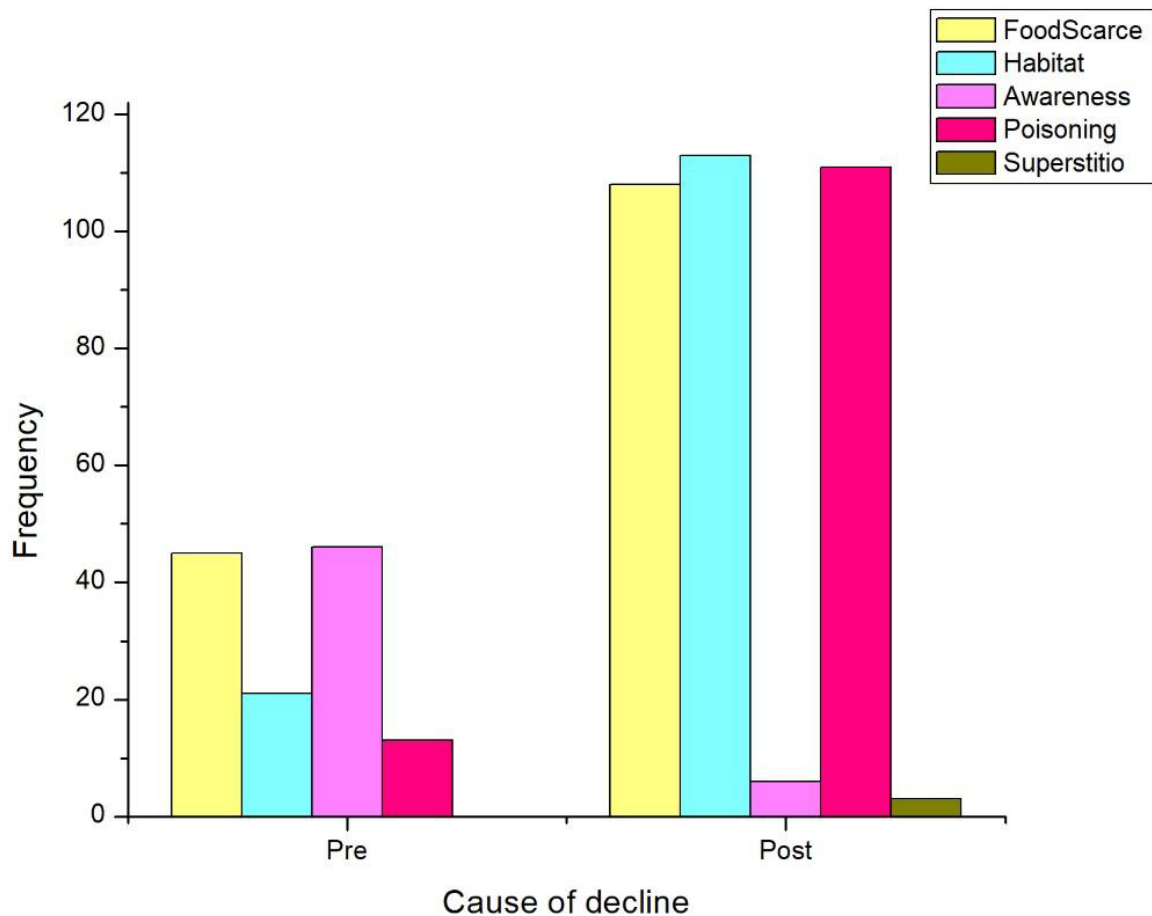


Figure-11. The pre and post response of the participants on the causes for decline in vulture population in the respondents' localities expressed during the implementation of knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

measures, such as "stopping the poisoning of carcasses," "ensuring poisonous food is buried," advocating for a proactive role from the forest department, creating designated dumping sites for vulture carcasses, safeguarding nesting trees, halting pesticide use, enforcing regulations on banned veterinary drugs, and raising awareness about these issues.

In the post-knowledge survey, respondents predominantly identified "provision of poison-free food" (80%) as a crucial solution. This included recommendations to "stop poisoning," establish "dedicated feeding sites for vultures," and avoid using pesticides and veterinary medicines that could harm vultures. Habitat restoration was mentioned by 10% of respondents, with the remaining 10% advocating for both "provision of poison-free food" and "habitat restoration."

The perceptions of the respondents showed a significant shift from the pre-survey to the post-survey, particularly regarding the importance of habitat restoration, indicating an increased public understanding and prioritization of this issue. Additionally, respondents introduced other mitigation measures, including habitat safeguarding and providing separate shelters for vultures, highlighting new conservation ideas that emerged from the awareness program. While awareness of food availability remained relatively stable, there was a slight decrease in its emphasis post-awareness, likely due to a reallocation of focus toward more targeted conservation actions.

The "No Knowledge" (NK) category declined significantly from the pre- to post-survey, illustrating the effectiveness of the awareness program in clarifying conservation strategies for the participants. Figure-12 clearly illustrates the change in perceptions among respondents, showcasing a prioritized approach to vulture conservation strategies as a result of the awareness initiative. This shift indicates a movement from vague or

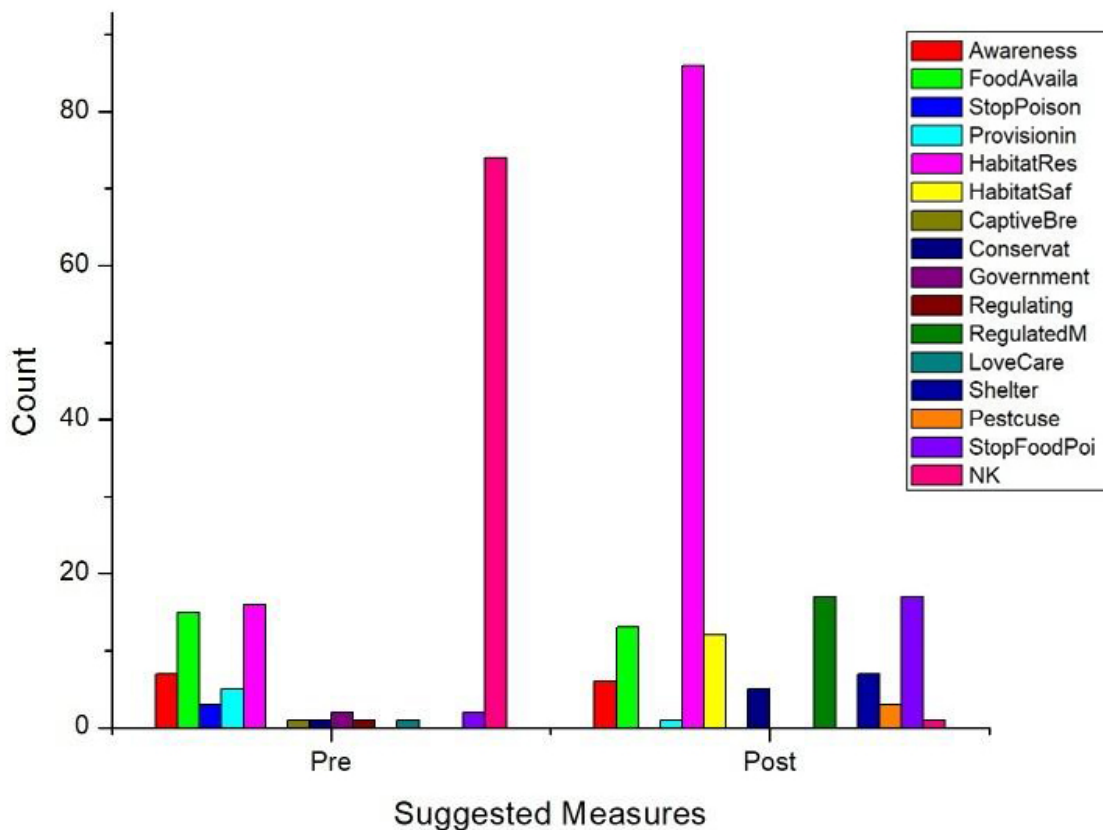


Figure-12. The pre and post response of the participants on the mitigation measures for conservation of vultures expressed during the implementation of knowledge survey on vultures among the 267 participants of 64 villages of Kamrup district of Assam, India (2025).

uncertain responses toward specific, informed actions centered on habitat restoration, safe food practices, and regulated use of medicines. Overall, this suggests that the intervention effectively enhanced ecological literacy and promoted actionable conservation behaviors among respondents.

Question-6. Communities' knowledge on the veterinary medicines that has been banned by the Government of India and the pesticide poisons that contributed to killing of vultures in their localities

The pre-knowledge survey indicated that a significant majority of respondents were unaware of the veterinary medicines banned by the Government of India (98%) and the harmful pesticides (78%) affecting vulture populations. However, the post-knowledge survey showed a notable shift in knowledge among participants following the awareness program (refer to Figure-13). Specifically, 84% of respondents reported increased awareness regarding medicines and pesticides that threaten vultures. Additionally, participants were able to recognize commonly used pesticides in their local areas, such as carbofuran (brands like Furadon and Fenail) and certain rat poisons, both of which are highly toxic and have been associated with vulture deaths.

Knowledge Score

Each respondent was given a score for each correct response. Score of knowledge per question and score was obtained per question (Table-3). The Knowledge Index (KI) was also obtained in percentage from sum of all correct/appropriate answers to the maximum possible score which revealed KI of 56% Pre-awareness program and KI of 90% Post-awareness program which clearly indicates the knowledge gain was by 33% demonstrating the effectiveness of the awareness program.

Each participant in the study received a score for every correct answer they provided during both pre and post knowledge surveys. These scores were calculated for each individual question and are summarized

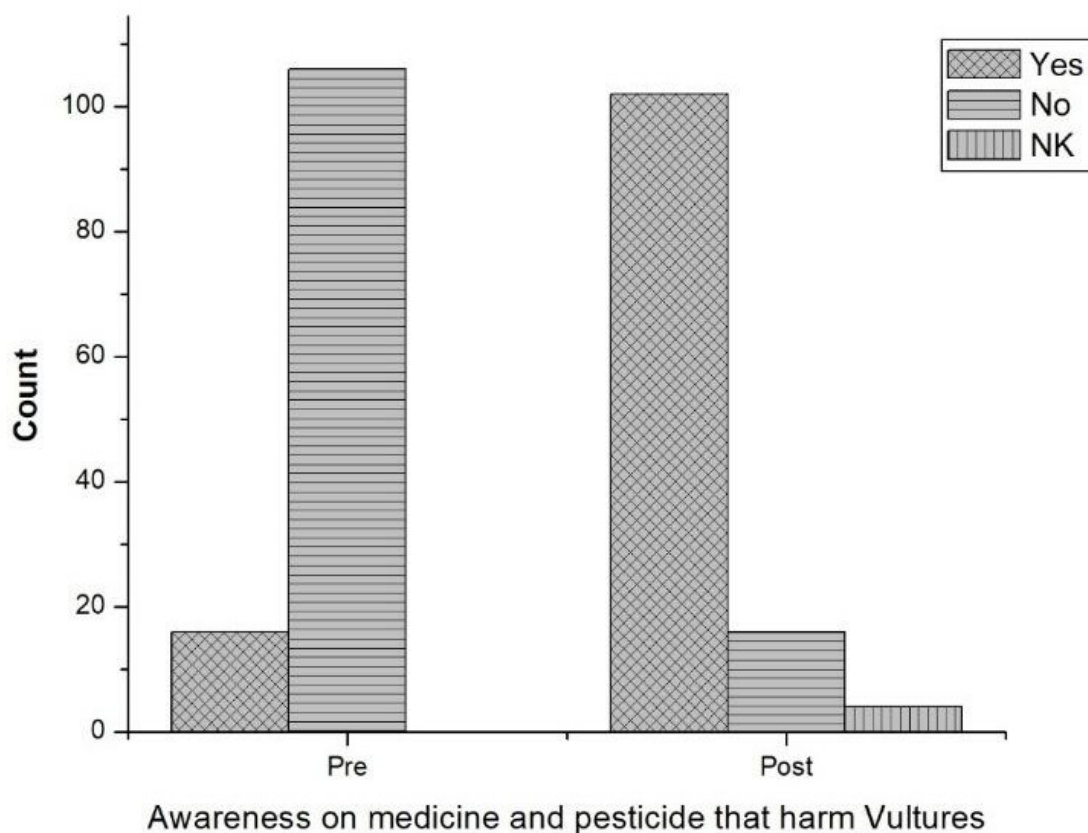


Figure-13. Pre and post knowledge survey assessment of participants' knowledge on banned NSAIDs and harmful pesticides affecting vulture population decline in Assam, India (2025).

in Table-3. To measure overall knowledge, we created a Knowledge Index (KI), which is expressed as a percentage. This index was determined by dividing the total number of correct answers by the maximum possible score and multiplying it by 100.

Before the awareness program, the Knowledge Index was 56%. After the program was completed, the Knowledge Index increased to 90%. This significant increase of 34% clearly demonstrates that the awareness program effectively improved participants' knowledge.

Table-3. Knowledge Index (KI) between the pre and post knowledge survey generated from the responses of the 267 participants of 64 villages of the Kamrup district of Assam, India (2025).

Question	Pre	Post	Knowledge gain (%)
1	0.58	0.61	1.67
2	0.97	1	1.25
3	0.73	0.96	11.7
4	0.59	0.99	20.08
5	0.39	0.97	29.71
6	0.13	0.82	35.56

Chi square test was conducted to compare pre and post intervention responses across 26 categories (involving six questions) which revealed a highly significant shift in distribution ($\chi^2 = 529.53$, $df = 25$, $p < 0.000001$; Monte Carlo $p = 0.001$) indicating that the pattern of responses changed substantially post awareness program.

Cramer's V = 0.55 and Contingency Coefficient = 0.48 exhibits further the strength of this association and both suggest a strong relationship between Pre and Post responses. The major shift was contributed by the sharp increase in "How can we Conserve Vulture" responses specifically Habitat Restoration (16-105) and very drastic decline in No Knowledge category (74-1) and the rise in "Why Vultures are disappearing" responses where the major answer was cited as Poisoning being the reason for decline (13 to 111) and Habitat loss (21 to 113), and the reversal in pesticide awareness (from predominantly "Not Aware" to "Aware"). These results demonstrate that the awareness program had an impact on respondent perceptions and knowledge, particularly in areas of habitat conservation, poisoning threats, and awareness levels.

The Venn diagram reveals that among the five major threats identified as per the responses (Table-3) Food scarcity is the most highly responded to concern consistently appearing in all intersections. The diagram exhibits the highest overlap between food scarcity and habitat and food scarcity and poisoning, whereas superstition showed minimal overlap with other categories (Figure-14).

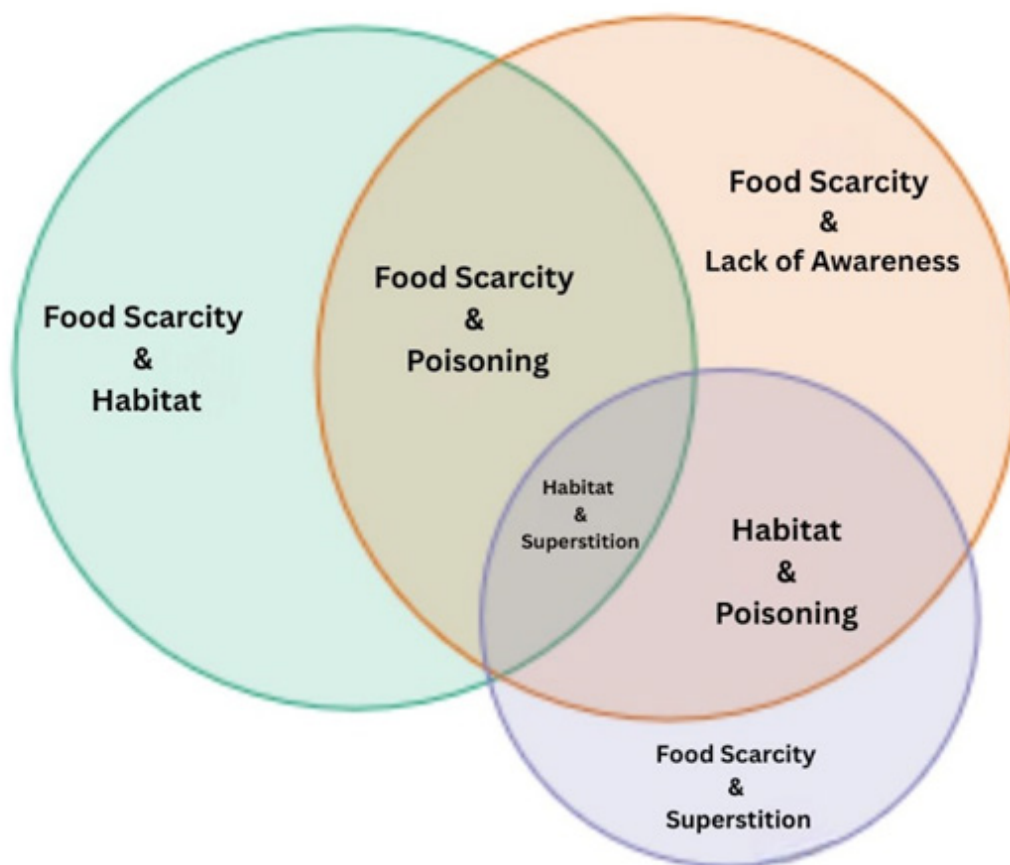


Figure-14. Venn Diagram for major threats responded to the Pre and post knowledge survey assessment of participants' knowledge on banned NSAIDs and harmful pesticides affecting vulture population decline in Assam, India (2025).

Conclusion: The pre and post comparative evaluation clearly reflects the significance of awareness programs which improved respondent knowledge and perception on vultures. The study demonstrates greater clarity, knowledge enhancement and perception shift. Conservation measures proposed post-awareness reflect that the responses are more scientific reflecting enhanced ecological literacy.

CHAPTER-3

VILLAGE LEVEL DYNAMICS

3.1 Demographic assessment

These demographic characteristics not only reflect the population density within each village but also imply varying levels of interaction with and exposure to environmental issues, such as the conservation of local fauna, specifically vultures. Understanding the local perceptions, beliefs and knowledge about vultures in these communities is vital, as it can inform conservation strategies tailored to enhance awareness and support for these critical species, which are often threatened by habitat loss and poisoning. By engaging with diverse community members through the focus group discussions, we aim to identify potential gaps in knowledge and areas where educational interventions could be beneficial in fostering a sustainable coexistence with the vulture population in the region.



Free, Prior and Informed Consent (FPIC) meeting with the *Gram pradhans* of the Bamunigaon village at his residence to finalise the dates for the village level Focus Group Discussion (FGD).

A structured focus group discussion was conducted across three villages—Dubjeni, Balaudhi Rampur (often referred to as 2 No. Rampur), and Bamunigaon—located in the Kamrup District under the Chayagaon Forest Division (Table-4). The primary objective of this discussion was to assess and excavate our understanding of the local communities' knowledge on vultures.

The selected villages are part of the Chayagaon Panchayat of Assam, India and exhibit a rich tapestry of community structures, showcasing a diversity of cultural and social dynamics. Among the three villages, Bamunigaon stands out with the largest population, comprising approximately 1,380 individuals, making it a significant focal point for community engagement. In contrast, Rampur has a smaller yet substantial population of around 1,200 individuals (Figure-15).

Table-4. Village level administrative profile of the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

Sl. No.	District	Village Name	Development Block	Forest Division	Panchayat /VDC
1	Kamrup	Dubjeni 2 No. Balaudhi	Chhaygaon	Chhaygaon	Chhaygaon
2	Kamrup	Rampur (2no Rampur village)	Rampur	Chhaygaon	Chhaygaon
3	Kamrup	Bamunigaon	Chhaygaon	Chhaygaon	Chhaygaon

The villages also exhibited the presence of SC and ST among others (Figure-15), in contrast Dubjeni village has a small population with no recorded SC households.

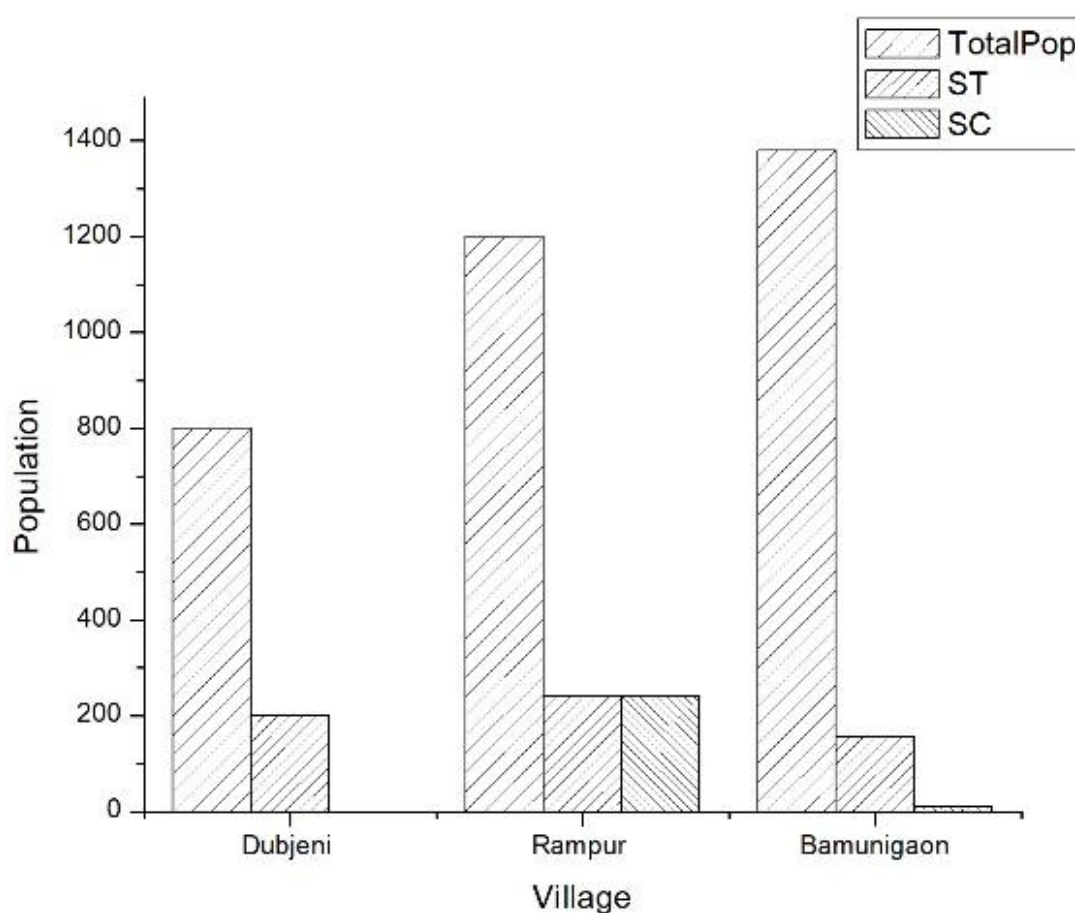


Figure-15. Population data of three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

3.2 Major livelihood practices

In the three villages of Dubjeni, Rampur, and Bamunigaon, agricultural practices form the cornerstone of local livelihoods, with distinct variations observed in their economic activities and agricultural contributions. This analysis delves into the dominant livelihood strategies in each village, shedding light on their agrarian characteristics and the socioeconomic fabric of the community.

3.2.1 Dubjeni village

In Dubjeni, homestead gardening emerges as the predominant livelihood practice, significantly contributing to the local economy and food security (Figure-16). The practice of cultivating diverse vegetables, fruits, and herbs not only provides sustenance for families but also generates supplementary income through local markets. Following homestead gardening, paddy cultivation is vital to the village's agrarian landscape, reflecting the region's dependence on rice as a staple food. Additionally, private employment opportunities offer some economic diversification, allowing residents to engage in various wage-earning activities outside of agriculture.

While handloom activities and government jobs are present, they exhibit moderate engagement levels compared to the dominant practices. The presence of handicrafts, wage labour, and animal husbandry is minimal, indicating a focus on more sustainable and manageable forms of livelihood within the village. This streamlined approach to agricultural and economic practices may reflect the village's adaptive strategies in response to environmental factors and market demands.

3.2.2 Rampur village

In Rampur, paddy cultivation takes precedence as the foremost livelihood contributor, closely followed by homestead gardening and private employment. The reliance on paddy reflects the agricultural traditions and ecological suitability of the area for rice farming. In this village, a balanced combination of these three sectors supports the local economy, ensuring food security and financial resilience among households.

Moderate levels of engagement in government jobs and wage labour provide additional security, although traditional crafts such as handicrafts and handlooms appear to receive less emphasis. This shift may be indicative of changing economic priorities or the challenges faced by traditional craft industries in adapting to contemporary market dynamics. The limited exploration of animal husbandry suggests an underutilization of available livestock resources that could further diversify income sources in Rampur.

3.2.3 Bamunigaon village

Bamunigaon mirrors Dubjeni in that homestead gardening is recognized as the major contributor to livelihood, underscoring its importance in providing fresh produce and additional income opportunities. The practice serves dual purposes, enhancing nutritional outcomes for families while fostering economic resilience against market fluctuations.

Paddy cultivation stands as the second key economic activity, ensuring sustenance through the staple crop. Private employment emerges as a moderate sector, reflecting the diverse ways families seek to supplement their incomes. Nevertheless, exploratory activities in handloom, handicrafts, animal husbandry, and wage labor remain minimal, suggesting potential areas for development within the community's livelihood strategies. This lack of emphasis on more diversified practices may signal an opportunity for targeted interventions aimed at enhancing the economic prospects of Bamunigaon's residents.

Across these villages, the intertwining of traditional agricultural practices with varying degrees of economic diversification highlights the resilience and adaptability of the local populations. While homestead gardening and paddy cultivation dominate, the overall landscape of livelihood practices illustrates the necessity for further exploration and support of less prominent sectors. Enhancing the knowledge and capacity surrounding alternative livelihood options can not only bolster economic stability but also contribute to the sustainable development of these communities in the face of environmental and societal changes.

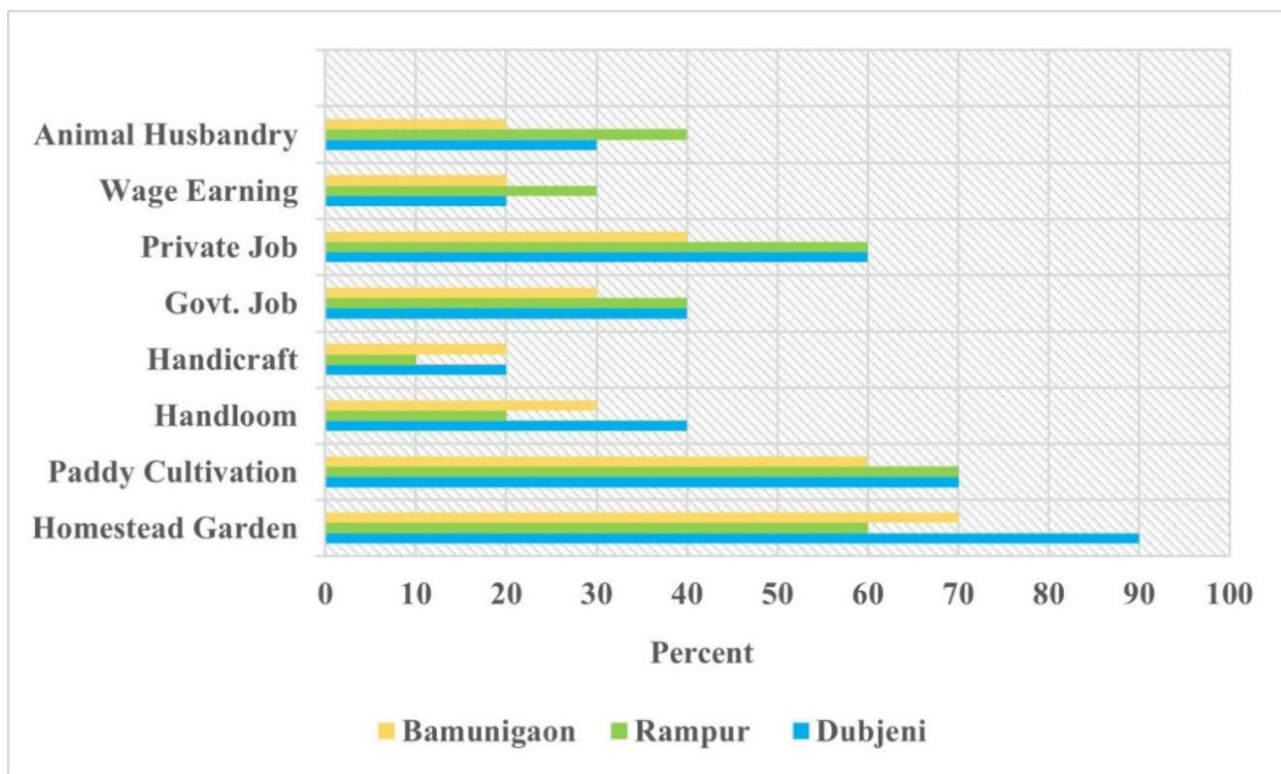


Figure-16. Livelihood sectors across three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

3.3 Animal rearing practices

Animal husbandry is a significant aspect of rural livelihoods, contributing to the socioeconomic fabric of the villages of Dubjeni, Rampur, and Bamunigaon. The spectrum of animal rearing in these areas encompasses livestock, pets and a range of other animals. This analysis seeks to elucidate the distinct patterns and contributions of these categories across the three villages, highlighting the broader implications for local economies and community well-being.

3.3.1 Dubjeni village

In Dubjeni, the livestock sector is predominantly characterized by the rearing of cattle and goats, which represent the primary sources of livelihood for many families. However, a striking 60% of the total animal husbandry activities are categorized as “others,” suggesting a significant reliance on animals not classified as traditional livestock or pets. This “others” category may include smaller animals or livestock that contribute to subsistence but are not central to the primary agricultural activities (Figure-17).

Interestingly, while pets account for 20% of the animal rearing activities in Dubjeni, the absence of buffaloes indicates a particular choice of breeding or a lack of resources or land suitable for larger livestock. The preference for cows and goats highlights the villagers’ inclination towards species that are manageable and adaptable to the local environment, thereby reflecting a strategic choice in animal husbandry practices.

3.3.2 Rampur village

In Rampur, the livestock landscape is dominated by cows, which make up 40% of the animal rearing sector. The prominence of cows is likely attributable to their dual role as both a source of milk and as draft animals, thereby providing essential economic and nutritional benefits to the households. Pets,

while important, take a lesser share of the pie compared to the overall livestock figures (Figure-17).

Moreover, the “others” category resurfaces as a key contributor in Rampur, possibly indicating the presence of various small livestock species or alternate animals that fulfill specific roles within the community. Similar to Dubjeni, the absence of buffaloes suggests a selective approach to the types of livestock reared, possibly shaped by factors such as economic viability, feed availability, and market demand.

3.3.3 Bamunigaon village

Bamunigaon exhibits the most diverse distribution of animals among the three villages. Cows again dominate the livestock sector, constituting 40% of the rearing activities, closely followed by goats at 10% and a modest contribution from buffaloes at 5%. This variance illustrates a broader range of animal husbandry practices that include diverse species, thereby enhancing the village’s resilience against economic fluctuations (Figure-17).

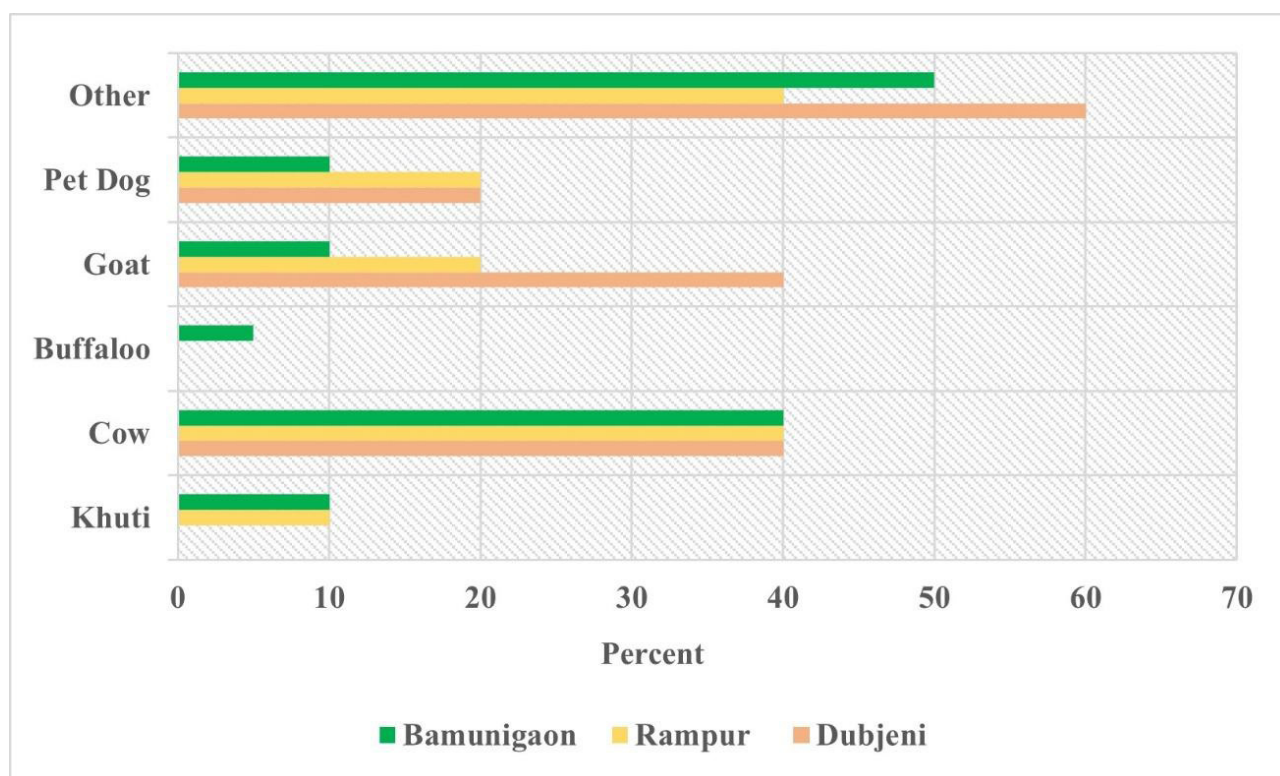


Figure-17. Livestock reared across priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

The analysis of animal rearing practices across Dubjeni, Rampur and Bamunigaon reveals significant insights into the agrarian lifestyles and economic strategies of these rural communities. While cows and goats remain central to the livestock sectors of all three villages, the substantial presence of the “others” category indicates a rich tapestry of animal husbandry that transcends traditional definitions. The absence of buffaloes across the villages suggests a localized approach to livestock selection, potentially influenced by resource availability and cultural preferences. These distinctions not only reflect individual village dynamics but also underscore the importance of animal rearing as a versatile and adaptive component of rural livelihoods. Understanding these patterns can inform agricultural development policies aimed at enhancing food security and economic resilience in these communities.

Pets, specifically dogs, also represent 10% of the animal rearing activities, reflecting a connection between the community and companionship animals. However, akin to the other villages, the “others” category accounts for a substantial 50% of the animal husbandry sector in Bamunigaon. The prominence of this category may point to a unique mixing of animal types that cater to the multifaceted needs of the villagers, including security, companionship, and small-scale farming.



Focus Group Discussion with the key stakeholders of the Rampur village located in the Kamrup District of Assam, India

3.3.4 Basic services, assets and institutes

The focus group discussion (FGD) provided valuable insights into the health and veterinary services accessible to the residents of three selected villages: Rampur, Bamunigaon, and Dubjeni. It was observed that these villages are equipped with essential health infrastructure, including health centers, veterinary services, and veterinary pharmacies, which collectively contribute to the well-being of both human and animal populations in the area, as illustrated in Figure-18

However, there are significant disparities in the availability of specific services. For instance, livestock insurance is exclusively offered in Rampur, indicating potential gaps in risk management for farmers in the other villages. This could have profound implications for the economic stability of livestock-dependent households, particularly in the face of disease outbreaks or natural disasters that could jeopardize their livelihoods. In contrast, Bamunigaon is the sole village equipped with access to common veterinary medicines for cattle, which underscores an important limitation in Dubjeni, where despite having all other requisite health and veterinary services, residents face challenges due to the absence of both livestock insurance and accessible common veterinary medicines.

In terms of community infrastructure, the three villages have established basic market facilities

and communal spaces, including fair price shops and prayer halls, such as mandirs and namghars. However, market access varies significantly: while Dubjeni and Bamunigaon possess dedicated market spaces, Rampur lacks such facilities, hampering local economic activity and access to goods. Figure-19 highlights these infrastructural differences, which are critical for understanding the socio-economic landscape of the region.

Moreover, there is an absence of recreational spaces in all three villages, which may limit social cohesion and community interactions. Assessing the environmental and social infrastructure reveals that all three villages are endowed with water bodies, specifically wetlands (*beels*), that enhance the local ecosystem. Nonetheless, drinking water facilities are only available in Rampur and Bamunigaon, emphasizing a potential public health concern for residents of Dubjeni.

Interestingly, the villages are situated at a distance of approximately 4 to 7 km from the nearest forested areas, which may impact their access to forest resources, contributing further to socio-economic disparities. Figure-20, illustrates the community characteristics, highlighting both the environmental assets and the infrastructural gaps that need addressing to enhance the overall quality of life for the residents in these villages.

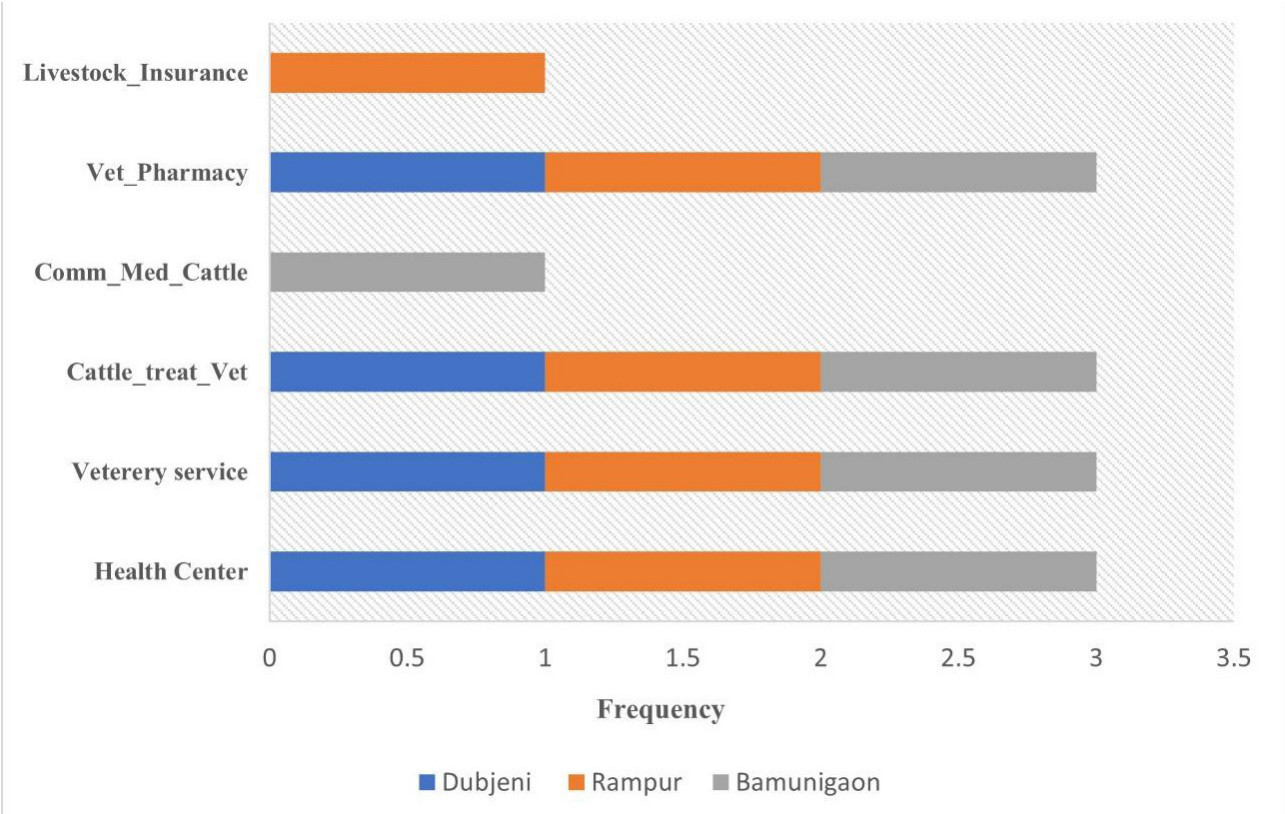


Figure-18. Village level Health and Veterinary Services present in the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

In conclusion, while the three villages demonstrate a foundation of basic health and veterinary services alongside market and community infrastructure, significant gaps exist in livestock insurance, common veterinary medicines, and market access, highlighting the need for targeted interventions to foster equitable development and enhance the resilience of local livelihoods.

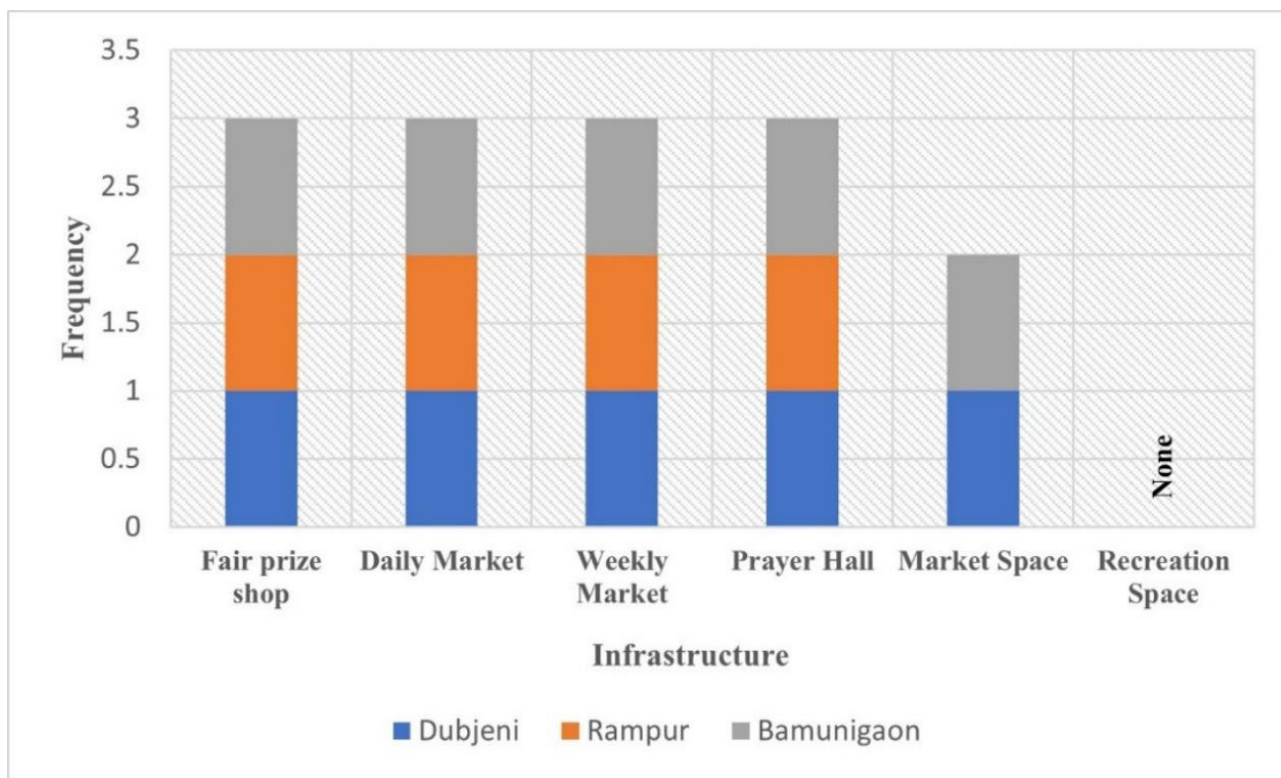


Figure-19. Village level Infrastructure facility present in the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

Among social categories there are Self Help Groups (SHGs), village committee and information and education institute in all the three villages, but there are no women organization, youth organization, community dumping site and community forest.

3.4 Information on vulture conservation

Comprehensive insights regarding the local vulture populations were obtained through Focused Group Discussions (FGDs) conducted across three villages, as illustrated in Figures 7 and 8. The observations indicate that the vultures, commonly referred to as "*Shagun*" by the local inhabitants, are predominantly sighted during the months of February and March. However, there is a discernible decline in their frequency of appearances within the studied locality.

According to the findings from the Focused Group Discussions (FGDs), respondents have identified only one species of vulture present in their region, specifically reported in the villages of Rampur and Bamunigaon. Notably, there have been no recorded sightings of vultures in Dubjeni village, suggesting a possible localized decline or absence in that area. In Rampur village, the most substantial observation noted was the simultaneous sighting of four vultures, which represents the highest record among the three villages surveyed (Figure-21).

The collected responses regarding vulture sightings were primarily recorded from Rampur and Bamunigaon, indicating that these villages may serve as critical habitats due to the availability of carrion. The absence of reported sightings in Dubjeni could imply that environmental or ecological factors may be influencing the local vulture population dynamics, warranting further investigation into habitat quality, food availability, and potential impacts of human activities on these scavenging birds. Overall, the trends observed call for a more profound understanding of these avian species' ecological roles and the conservation measures necessary to mitigate their decline.

The gathered data from respondents across all surveyed villages elucidates a consistent and concerning

trend regarding the local vulture populations. Specifically, respondents uniformly reported a lack of multiple vulture species within their respective localities, as well as an absence of both past and present nesting colonies and roosting sites, as illustrated in Figure-22.

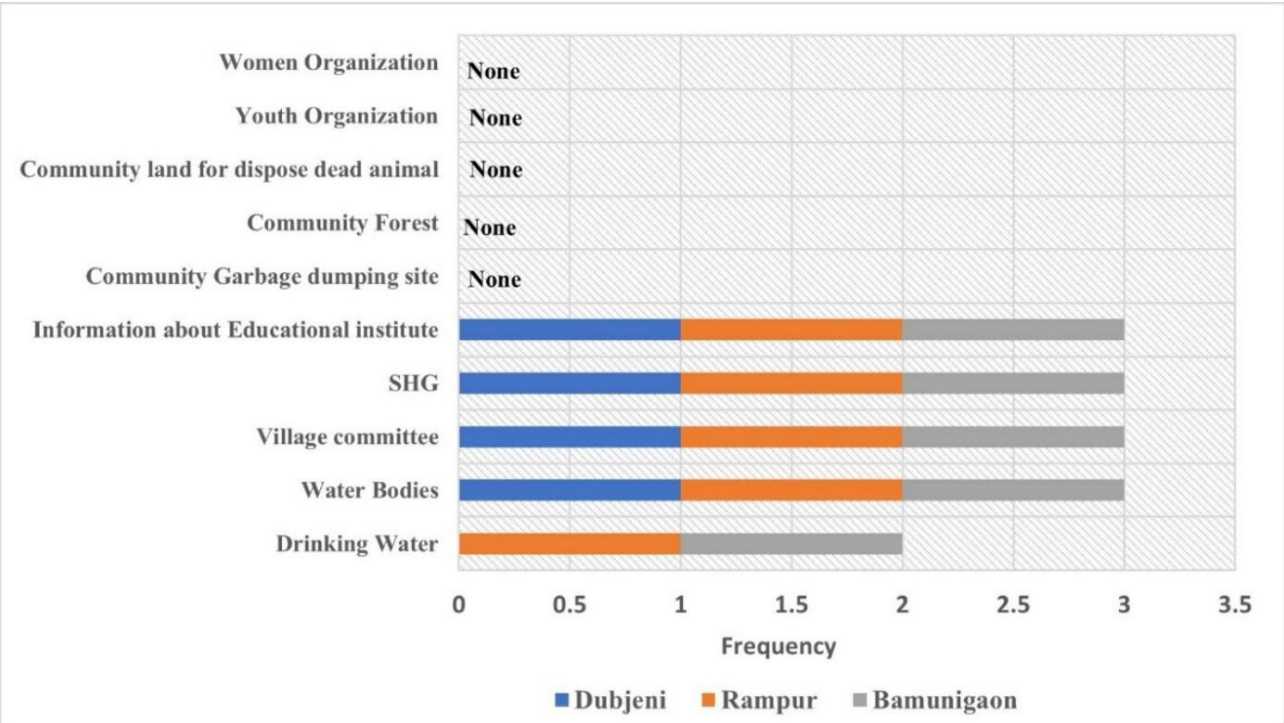


Figure-20. Basic Community Information (Env & Social) of the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

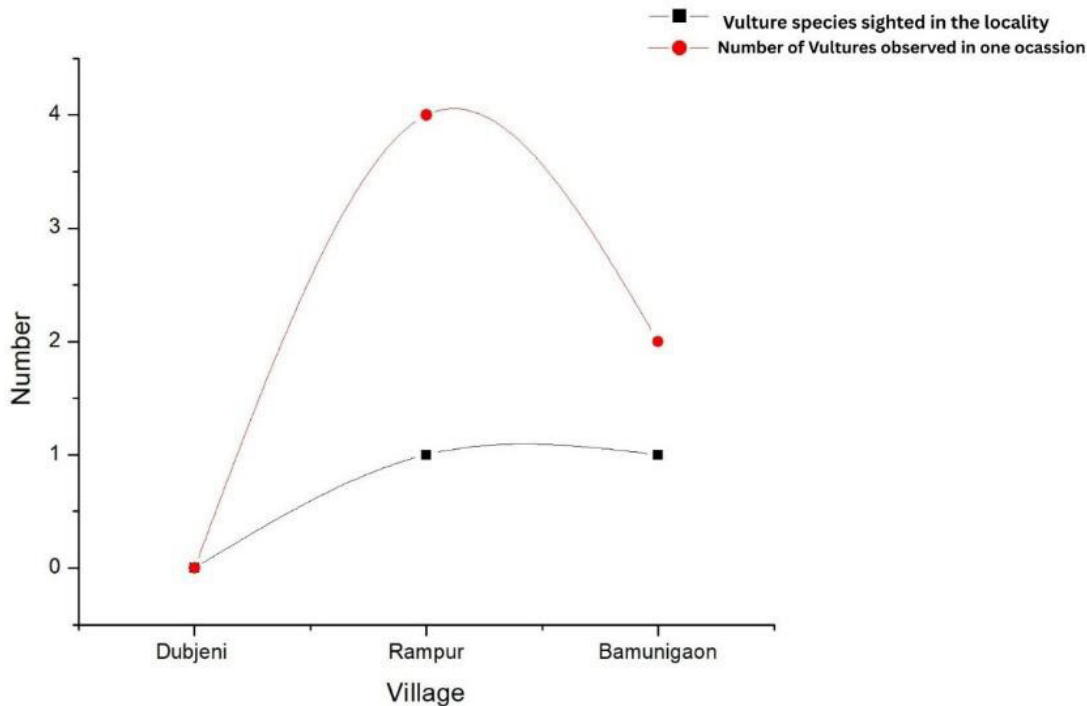


Figure-21. Vulture species and number sighting of the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

In greater detail, the villages of Dubjeni and Bamunigaon reported no observations of vulture nests. In contrast, Rampur village indicated that vulture nesting activity was noted approximately five years ago, suggesting a potentially transient presence of these avian scavengers. However, this singular instance of nesting does not negate the overarching trend, as all three villages conveyed a marked decline in vulture sightings over time.

This decline in vulture populations is particularly troubling, given the ecological importance of these birds in their roles as scavengers, contributing to the health of their ecosystems by facilitating the removal of carrion and thereby reducing the spread of disease. Furthermore, the absence of vulture nests and roosting sites could signify not only a detrimental shift in local biodiversity but also raise alarms regarding environmental changes, food availability, and the broader implications of ecosystem health. The reported decrease in sightings warrants further investigation into the underlying causes, including habitat degradation, food scarcity, and potential poisoning incidents, which are known contributors to vulture declines globally.



Residents reported that the hillock (shown with a red line) was a good vulture roosting ground. The *Gram pradhan* (Village Head) of Bamunigaon village claimed that the vultures were frequently seen till the vulture death occurred in 2020. He also mentioned that there were a few nests, but the nesting trees had disappeared, as had the vulture nest.

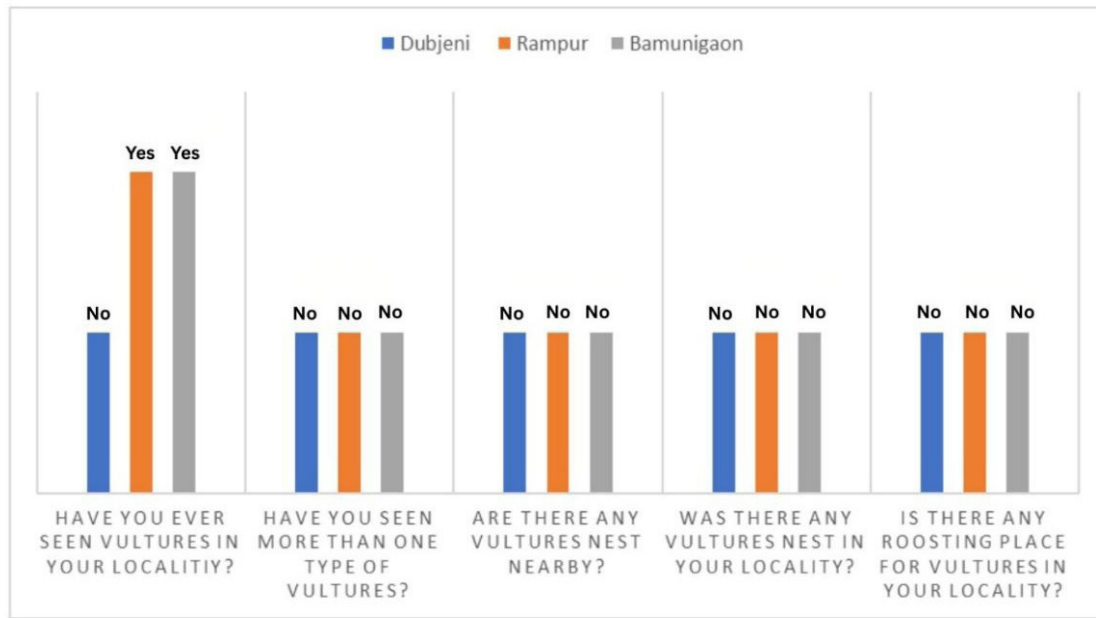


Figure-22. Vulture information across three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

3.5 Conservation challenges

The Focus Group Discussions (FGD) conducted in the villages of Dubjeni, Rampur, and Bamungaon were meticulously designed to gain a comprehensive understanding of the current landscape surrounding vulture conservation efforts. The primary objectives of the discussions included gauging community perspectives on vulture preservation, identifying key challenges, and addressing the impacts of feral dogs and livestock protection practices (Figure-23).

Notably, all participants acknowledged their prior engagement with discussions organized by the Bombay Natural History Society (BNHS) and local forest departments, emphasizing the recurring theme of vulture conservation in these community dialogues. The insights gathered from these respondents illuminated both shared experiences and unique localized challenges, thereby providing a nuanced snapshot of current realities and perceptions regarding vulture populations within these communities.

Feral dog presence was reported in all three villages, while jackals were specifically noted in Dubjeni. Dog bite incidents were predominantly registered in Rampur. Significantly, it was observed that there are no vaccination campaigns or effective control measures targeting feral dog populations across these villages. The trend in feral dog populations appears to evoke a sense of uncertainty among local residents, particularly given the inconsistent availability of rabies vaccinations at Public Health Establishments (PHEs). Remarkably, the villagers do not exhibit a heightened level of concern or proactive measures regarding the feral dog issue, possibly due to the absence of reported livestock fatalities resulting from dog attacks. Consequently, herders tend to allow their cattle to graze freely in nearby fields without implementing any protective measures.

The observed decline in vulture populations and sightings in these areas can potentially be attributed to several anthropogenic factors, including poisoning, habitat destruction resulting from construction activities, deforestation, and the practice of carcass burning (Table-5). These findings underscore the critical need for integrated approaches that involve community engagement, effective management strategies for both feral dogs and livestock protection, and heightened conservation efforts directed towards the preservation of vulture populations.



The team visited the site where vultures died in the Bamunigaon village on the railway line after getting poisoned by the suspected pesticide poisoning. The team was accompanied by the *Gram pradhan* of Bamunigaon village.



The site in which vultures were killed due to the poisoning in the recent past, located in the Kamrup District of Assam, India.

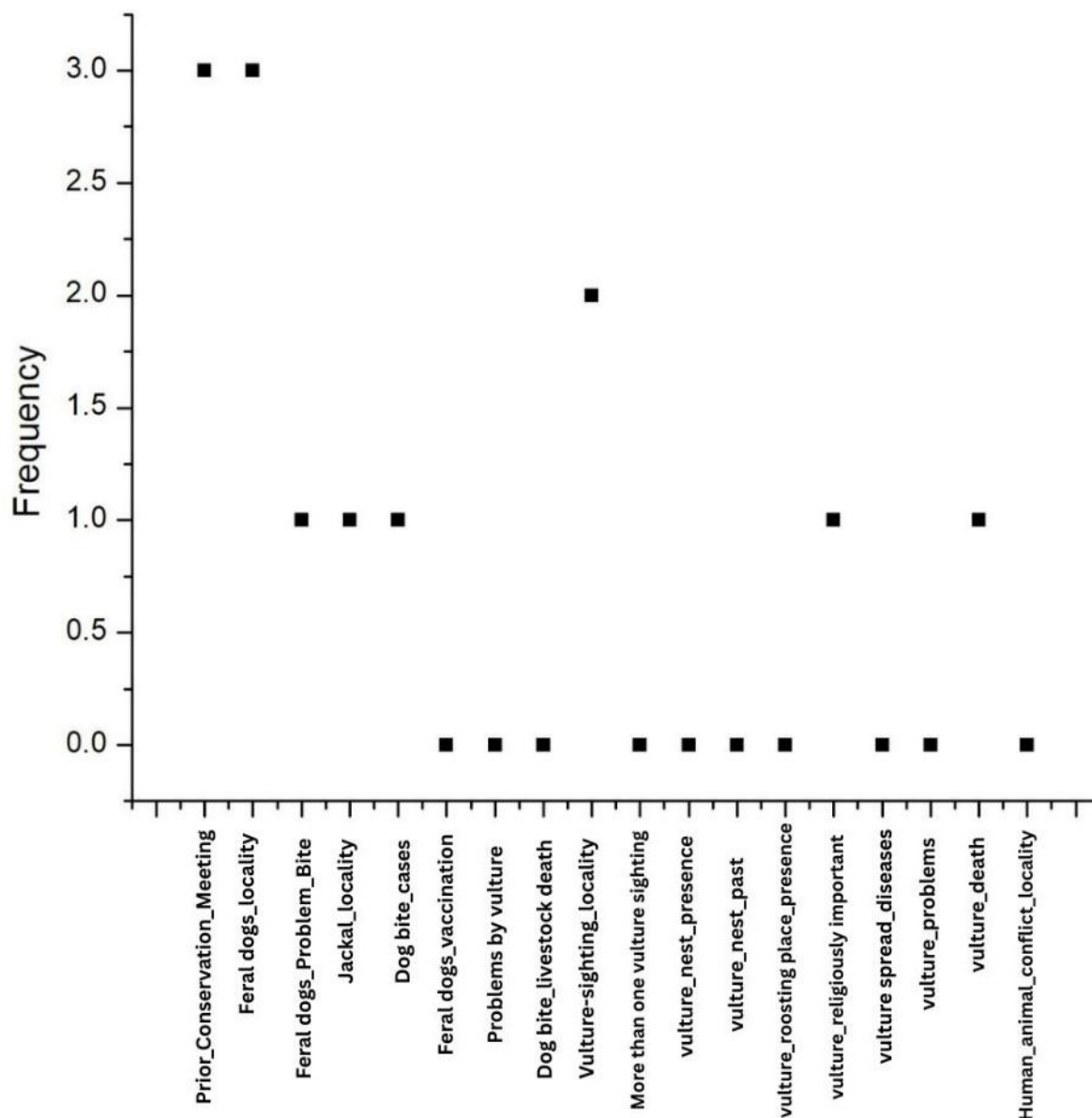


Figure-23. Response on conservation challenges across three villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

Visited the vulture death sites near Nahira of the Kamrup District of Assam

- Key participants: President, Headmaster, Asst Headmaster, Dr Dipankar Lahkar, Dharanidhar Boro, Prasanna Kalita, Esha Mitra and Nitul Kalita
- Venue: Different locations in Kamrup district within the project villages
- Key discussion point:
 - Interacted with villagers while visiting recent vulture death sites.
 - We joined the dots of the vulture fatality sites in our project villages and surrounding places in Kamrup district, estimating a 30-kilometer radius.

Table-5. Village-level comparative on threats to vultures (community perceptions) across three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

Villages/ questions	Threats/key challenges for vultures	How communities can contribute to vulture conservation?	What is the trend of feral dog population in your locality?	What are the issue you notice in your area that may threatned vultures?	Are there any vulture death cases happened in your locality, and if so what caused them?	Any human animal conflet occuring in your locality?
Dubjeni village	Poisoning	Awareness	Normal	Construction	No	No
Rampur village	Tree felling	No idea	Increasing	Carcass burning	Accidental poisoning	No
Bamunigaon village	Poisoning Food	Stop tree felling	No idea	Construction	No	No

The analysis revealed a markedly high positive response rate in Rampur village, quantified at 47%. This statistic underscores the village's significant impact on the variance structure identified through Principal Component Analysis (PCA) (Figure-24).

The eigenvalue decomposition of the PCA revealed that the first principal component (PC1) accounted for an impressive 78.56% of the total variance within the dataset. This strongly indicates that PC1 encapsulates the predominant trends and variations among the observed variables. In addition, the second principal component (PC2) explained 13.24% of the variance, while the third principal component (PC3) contributed a further 8.20%. Collectively, these first two components account for over

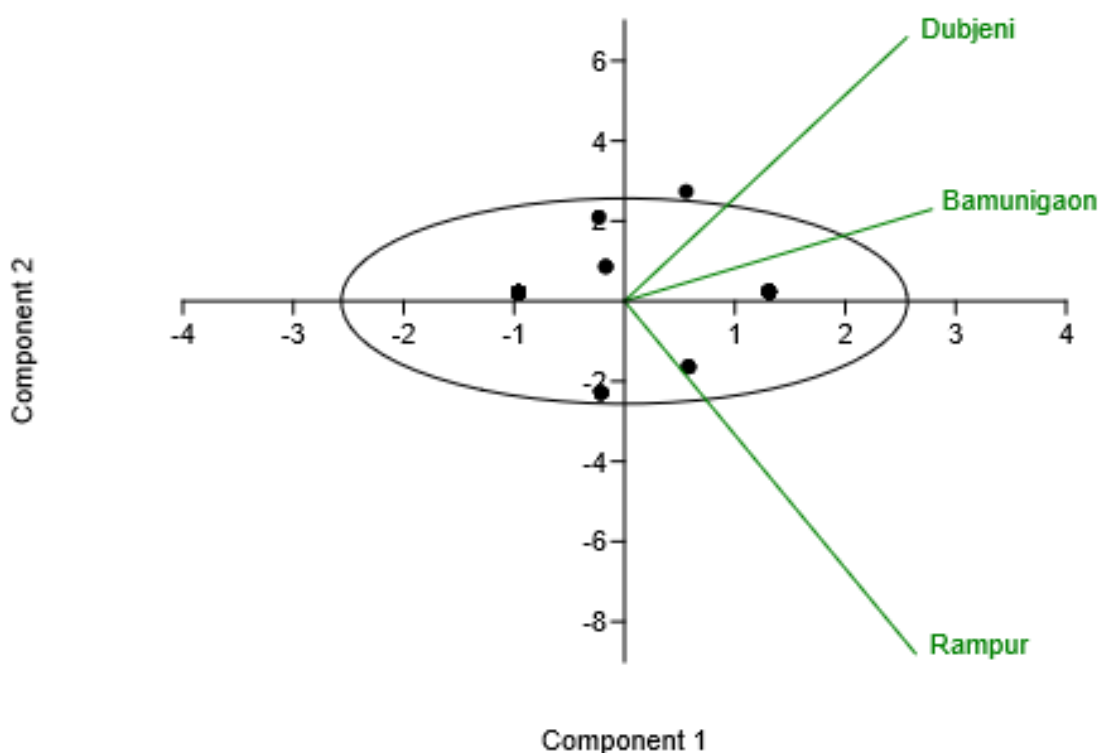


Figure-24. Village-Level Variation in FGD Responses across three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

91% of the total variance, providing a highly effective two-dimensional representation of the underlying structure of the data.

The comparative analysis of response patterns across the three villages suggests a general similarity in their responses. However, Rampur village emerges as a distinctive case, exhibiting a slightly heightened propensity for positive responses. This differentiation may reflect unique socio-economic, cultural, or environmental factors influencing the villagers' perceptions and engagements, warranting further investigation to elucidate the underlying causes of this variance.

Conclusion:

The Focus Group Discussions (FGDs) conducted across three distinct villages have yielded critical insights into community knowledge and perceptions regarding local ecological and conservation issues. The profiling of each village, coupled with an exploration of prevailing livelihood practices, has significantly contributed to the formulation of effective future conservation strategies. Notably, the three villages exhibit comparable socio-economic and environmental characteristics, with a predominant agrarian lifestyle serving as a common thematic thread.

In a comparative evaluation, the village of Rampur demonstrated a more favourable disposition towards conservation initiatives, while Bamunigaon displayed a more heterogeneous landscape in terms of community perspectives and practices. The socio-infrastructure framework across the villages was generally rudimentary: Rampur notably lacks a market facility, while all three villages exhibit a deficiency in recreational spaces. Despite these inadequacies, health and veterinary services are available in each village; however, the distribution of livestock insurance and access to essential veterinary medications remains inconsistent and uneven.

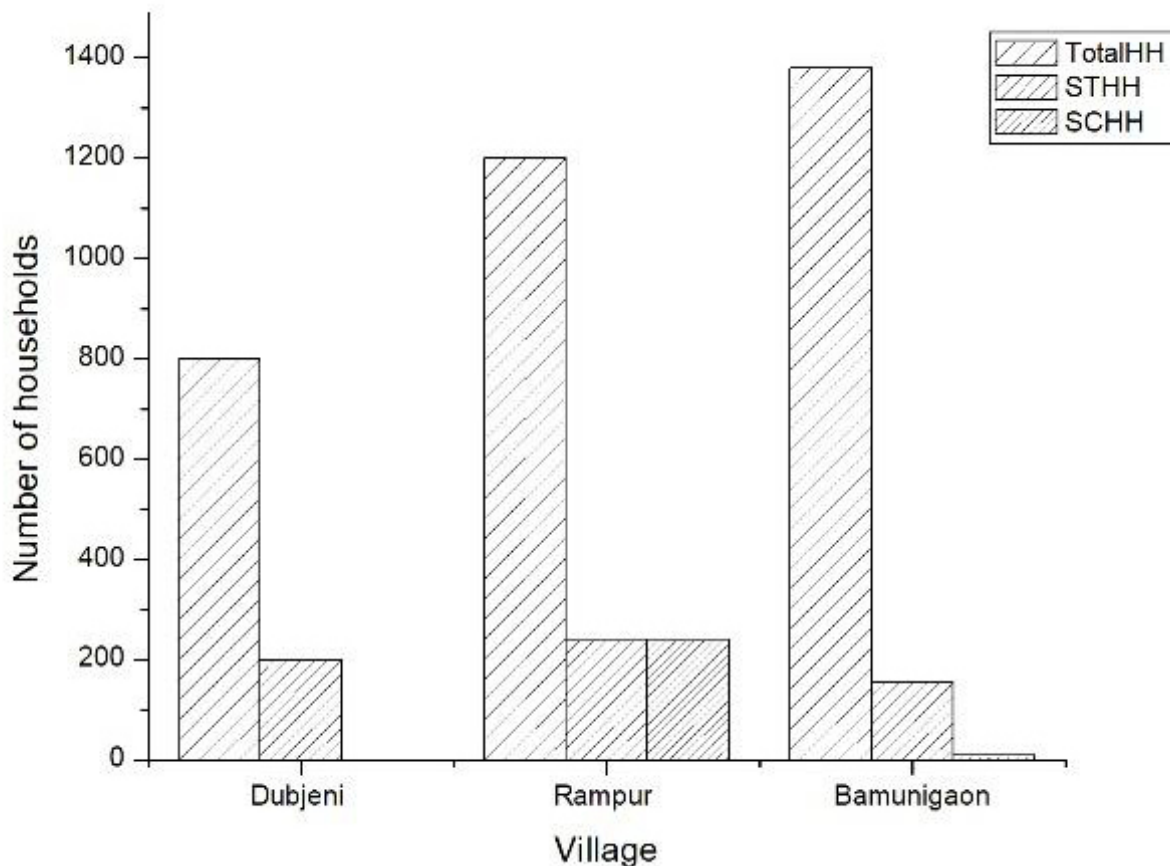


Figure-25. Total number of households present in the three priority villages viz. Dubjeni 2 No. Balaudhi, Rampur (2no Rampur village) and Bamunigaon using Focused Group Discussions (FGD) located in the Kamrup District of Assam, India (2025).

Community members expressed a significant understanding of vulture conservation, indicated by their prior participation in conservation programs organized by the Bombay Natural History Society (BNHS) and the local forestry department. Residents reported a conspicuous absence of nesting and roosting sites for vultures, with sightings largely restricted to the villages of Rampur and Bamunigaon. The villagers have observed a troubling decline in vulture populations, attributing this trend primarily to anthropogenic activities such as construction, deforestation, and the burning of animal remains.

The observed decline in vulture sightings stands as a stark indicator of the pressing need for focused conservation initiatives. It underscores the imperative for enhanced community awareness and the urgent implementation of measures to mitigate threats to vulture populations, such as carcass poisoning and habitat disruption. In light of these findings, it is essential to galvanize efforts towards the development of targeted strategies that not only protect vulture populations but also foster ecological resilience in the region. Through collaborative engagement with local communities, conservation organizations can play a pivotal role in safeguarding these vital avian species and their habitats.

3.6 Additional visits

3.6.1 Introduction

On February 2, 2025, a team visited two villages to learn about their perspectives on vultures, increase awareness about their rapid decrease, and investigate potential threats to their existence. Dubjeni village (Balasiddhi-2) and Takardia village were visited and interacted with the village leaders. A structured questionnaire survey was undertaken in both villages to gather information about people's attitudes toward vultures.

3.6.2 Dubjeni village, Kamrup District, Assam

Name of the Village Head: Gulok Kalita

Summary observations

- **Perception on the population decline of vultures:** The village head mentioned that vultures were once common in the area, but their numbers have significantly decreased over time. The main reason attributed to the decline was accidental poisoning and loss of natural habitat.
- **Understanding about the issue:** The head of the village stated that residents have a poor awareness of the impacts of poisoning on vultures. They have suggested conducting an extensive awareness campaign to educate communities about the problem of vulture population decline in their locality. They also pledged their support for the awareness drive in their neighborhood.
- **Vulture Presence:** The sightings of the vultures are regarded extraordinary in their locality. The head of the village stated that vultures were formerly a regular visitor of their village but are now only seen infrequently.

3.6.3 Takardia village, Kamrup District, Assam

Name of the village head: Mr. Bipul Kalita

Summary observations

- **Perception on the population decline of vultures:** The village head mentioned that vultures were once common in the area, but their numbers have significantly decreased over time.
- **Understanding about the issue:** The villagers believe that the decline in vulture populations can be related to a variety of issues, including poisoning, habitat degradation, and possibly a lack of food availability. The head of the village admitted that there was a lack of coordinated vulture conservation activities in the region, which could have helped alleviate some of these problems. The villagers admitted that the most significant threat to vultures in Takardia is poisoning, which is caused by local farmers' use of chemicals and pesticides. Habitat loss was also mentioned as a factor leading to the vulture population's decline.
- **Vulture Presence:** Vultures are occasionally spotted, but their numbers have decreased. The village head stated that sightings have grown rare, and there is a general lack of understanding about how frequently vultures should be seen in the area.



Interactions with the local communities including the village head of Takardia village, Kamrup District, Assam, India (02 March 2025).



Photograph of the interaction with the female collective in No 1 Jiapur village, Kamrup District (2025).

- The village headman and community leaders reported that two years ago, there was a major incident happened in which many vultures perished from poisoning.

In conclusion, the locals indicated significant contributing factors to the widespread fall of vulture populations in their communities. Both villages voiced concern about continued risks to vulture populations, such as unintentional poisoning and habitat loss. Based on the data collected, the following recommendations can be made:

- Conduct awareness initiatives in villages to educate locals about the ecological importance of vultures and the consequences of poisoning. This could include collaborative program with the local institutions including schools, community centres and religious places.
- Work with farmers and local communities to encourage the safe use of chemicals and pesticides. Introduce options that are not harmful to vulture populations, such as safe carcass disposal procedures.
- Collaborate with local authorities to launch vulture conservation initiatives in these villages. This could include habitat restoration, vulture population monitoring, and teaching locals on vulture-friendly behaviours.
- Continue to collect data on vulture numbers and poisoning events through community-based monitoring modules particularly through engaging local communities and institutions.

3.6.4 Interaction with the female collectives of No 1 Jiapur, Kamrup District

- **Key participants:** President, Headmaster, Asst Headmaster, Dr Dipankar Lahkar, Dharanidhar Boro,

Prasanna Kalita, Esha Mitra, Nitul Kalita, Madhab Kalita, female representatives of the No 1 Jiapur village

■ **Venue:** Madhab Kalita's house in No-1 Jiapur village

■ **Key discussion point:**

- The female collective has unanimously agreed that the vulture nest has completely disappeared from their village. However, vultures occasionally visit their village.
- Carcass poisoning: Two women members admitted that they put poison on a goat carcass killed by feral dogs, but no vultures were present, resulting in no casualties. They also recognized that they had unwittingly carried out retaliatory poisoning, which might result in the killing of vultures. Our discussion yielded and conveyed to these women's collectives the issue of carcass poisoning, which causes vulture deaths in their surroundings. At the end of the discussion, everyone promised not to use any poison on the dead animals and to spread the message in their communities via Self Help Group meetings and the Mahila Committee (a female-led village-level institution).
- Problem of dog- The women's collective reported economic losses due to dog attacks on their goats. One of the female collective members reported that she had lost four goats in the past one year. Because there is no compensation system in place, people become enraged and partake in the positioning of carcasses in order to retaliate for the economic loss to dogs.
- Problem of carcass disposal- Female group stated that there is no carcass disposal field available in the village because vultures have become infrequent visitors to their area. As a result, individuals frequently toss their dead bodies on the riverbed or wetlands. They deposited their dead animals on riverbanks or near bodies, and they occasionally saw vultures feed on them. The female collective unanimously stated that a food scarcity for vultures may emerge mostly because there are fewer cattle deaths as a result of increased veterinary care, and death cattle often get buried.
- Opportunities: The women's collectives are keen to assist raise awareness concerning vultures in their communities. They also like acting as stewards to protect the only remaining vultures by ensuring food safety.

CHAPTER-4

FORMATION OF VULTURE CONSERVATION NETWORK (VCN)

Vultures play an indispensable role in the ecosystem by facilitating the removal of carrion, thereby maintaining ecological balance and reducing the spread of diseases. However, vulture populations in Assam have witnessed alarming declines due to habitat degradation, poisoning, and the unavailability of food sources. The conservation of vultures in Assam necessitates strong engagement from local communities, particularly youth, to foster a sense of stewardship towards these vital scavengers. Recognizing the pivotal role of community involvement in conservation efforts, Aaranyak has initiated the formation of the Vulture Conservation Network (VCN). Here we outline the objectives and strategies employed by VCN, inspired by successful precedent models such as the Dolphin Conservation Network (DCN) and Elephant Conservation Network (ESN).

Aaranyak has spearheaded the establishment of the Vulture Conservation Network (VCN) to cultivate a dedicated cadre of volunteers committed to vulture conservation. Members of this network, referred to as *Sagun Mitra* (Friends of Vultures), are mobilized based on self-willingness, esteem and intrinsic motivation. This grassroots approach not only empowers individuals but also enhances local ownership of conservation efforts.

The formation of the VCN draws heavily from the frameworks of the Dolphin Conservation Network (DCN) and Elephant Conservation Network (ESN). These initiatives have successfully established information-sharing networks, fostered a culture of knowledge exchange through awareness campaigns, and served as a conduit between local communities and governmental agencies. By leveraging these existing models, the VCN aims to develop a similar structure that emphasizes collaboration, education and community engagement.

The VCN focuses its efforts on several key activities:

- Awareness and Sensitization Initiatives: Implementing educational programs and community outreach efforts to raise awareness about the ecological importance of vultures. These initiatives are designed to dispel myths about vultures and encourage positive perceptions among local populations.
- Knowledge Sharing: Establishing platforms for dialogue among community members, experts, and local government representatives. This facilitates the exchange of ideas and best practices in vulture conservation. The VCN actively distributes dedicated Information, Education and Communication (IEC) materials throughout the project area. These resources are tailored to inform the public about vultures' ecological roles, threats they face, and the importance of their conservation.
- Community Involvement: Engaging local communities in field surveys and conservation activities. This hands-on approach fosters a sense of action among participants and promotes a long-term commitment to conservation efforts.

The establishment of the VCN represents a significant step towards enhancing vulture conservation efforts in Assam through community engagement. By mobilizing volunteers as *Sagun Mitra* and implementing effective awareness and education strategies, Aaranyak is laying the groundwork for a sustainable conservation model that aligns with the ecological and cultural fabric of the region. For further information on the Vulture Conservation Network and its initiatives, please visit <https://aaranyak.org/division/vulture-conservation-initiative>

Sagun Mitra (Friends of Vulture) initiative

The declining populations of vultures in Assam necessitate a robust strategy for conservation, hinging on community engagement and local stewardship. The Sagun Mitra initiative is a pivotal effort aimed at mobilizing dedicated individuals termed "Sagun Mitras" to champion vulture conservation through education, vigilance and community collaboration.

The term "Sagun Mitra," which translates to "Friend of Vultures," embodies individuals who are dedicated

to promoting vulture conservation in various capacities. These individuals act as knowledge disseminators, community liaisons and active participants in vulture rescue operations. To effectively unify these passionate individuals under a cohesive framework, the Sagun Mitra initiative was conceptualized and developed. Goals of the Sagun Mitra Initiative:

- **Community Vigilance:** Mobilize *Sagun Mitra* to monitor vulture populations and report any incidents of injury or death, thus serving as an early warning system for conservation practitioners.
- **Assist in rescue and rehabilitation:** Train *Sagun Mitra* to assist in the rescue of injured or distressed vultures, working closely with local wildlife authorities.
- **Bridging Gaps:** Foster communication and cooperation between community members and government line departments involved in wildlife and environmental conservation.
- **Cohesion and Solidarity:** *Sagun Mitra* to share a common commitment to vulture welfare, thus enhancing collective action and resource sharing.



Assam News

Workshop held in Guwahati to promote vulture conservation and awareness

Aaranyak, in partnership with the Assam Science Technology and Environment Council (ASTEC) and with support of Oriental Bird Club (OBC) organised a workshop



Empowering solidarity and resilience: The 'Sagun Mitra' logo for safeguarding the vultures in their natural habitat"

To lay a strong foundation for the Sagun Mitra initiative, a brainstorming workshop was conducted, engaging a diverse group of stakeholders. Participants included:

- Vulture experts from the state
- Local conservationists
- Birdwatchers and nature enthusiasts
- Environmental educators
- Students and researchers

This interdisciplinary dialogue facilitated the establishment of a cohesive group dedicated to vulture conservation and solidified the framework for the initiative's implementation.

The workshop yielded the following critical outcomes:

Formation of a Dedicated Task Force: A progressive group of professionals and volunteers was formed to oversee the implementation and sustainability of the Sagun Mitra initiative. This group serves as both a support network and advisory body, drawing upon expertise from various disciplines.

Development of Educational Materials: Information brochures, posters, and digital media were created to raise awareness about vultures and the importance of their conservation. These materials were tailored to the local context, ensuring accessibility and relevance to communities.

Branding and Identity: A unique logo was designed to symbolize the Sagun Mitra initiative, fostering identification and pride among participants. This branding initiative serves to engage the public and enhance

the visibility of conservation efforts both within Assam and beyond.

Engagement with Government and Non-Governmental Organisations: The initiative has actively sought partnerships with both government and non-government institutions to amplify efforts and share resources. This collaboration ensures a multisectoral approach to vulture conservation, combining local knowledge with institutional support.

We are strongly optimistic that the *Sagun Mitra* initiative exemplifies a comprehensive and community-driven approach to vulture conservation in Assam. By harnessing the dedication of local volunteers and fostering collaboration among diverse stakeholders, the initiative strives to create a sustainable framework for long-term conservation efforts. Through ongoing education, vigilance and community engagement, the *Sagun Mitra* initiative aims to not only protect vultures but also promote an ethos of ecological stewardship that can benefit other species and ecosystems in the region.



Demonstration of communication techniques by the Experts during the awareness and sensitization initiative on vulture conservation for volunteers of the vulture conservation network.

Cyclorally in Sivasagar highlights urgent need for vulture conservation

GUWAHATI, NOV 19 /--/ Leading biodiversity conservation organisation Aaranyak, in collaboration with the Eco Club of Na-Katani High School and through Ballaghat,



organised a cycle rally to draw public attention to the alarming decline in vulture populations and promote vulture conservation awareness. Seventy students and teachers participated enthusiastically in the rally held under 'Shogun Mitra (Friends of Vultures)' Initiative of Aaranyak on November 18. Carrying placards and awareness messages, the participants highlighted the critical ecological role vultures play

in maintaining a healthy environment, according to a Press release. The rally began at the premises of Na-Katani High School and proceeded through Ballaghat, Bagharachuk, Fakum Harmati Garh, Na-Katani Makum, Koj-Jan, Chiripuriya, and Bokabil village before returning to the school. Prior to the flag-off, environmental enthusiast Hiren Dutta and school headmaster Dipok Arandhara lit ceremonial lamps before a portrait of Assamese cultural icon Late Zubeen Garg, honouring his memory on his birth anniversary. The rally is part of a series of vulture

conservation awareness initiatives being carried out across Assam under Aaranyak's Vulture Conservation Initiative. The event was coordinated by Aaranyak's Member Hiren Dutta, symbolising the organisation's ongoing commitment to conserve the species. Following the rally, a meeting was convened under the presidency of Padum Salkia, President of APCU, Sivasagar district. The programme initiated with a welcome address by headmaster Deepak Arandhara, after which environmental activist Hemant Tye delivered a keynote speech emphasising the duties and responsibilities of citizens in protecting vultures and conserving biodiversity. Aaranyak's Member Hiren Dutta said, 'Every living being on earth has value and purpose. When a species disappears, the loss may not seem significant at first glance, but it is an irreparable one. End

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Assam: 'Hogun Mitra' campaign in Sivasagar educates future stewards on vultures

Assam: 'Hogun Mitra' campaign in Sivasagar educates future stewards on vultures

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11 Oct 2025 21:20 IST



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Assam News

'Hogun Mitra' campaign in Sivasagar educates future stewards on vultures

Leading biodiversity conservation organisation Aaranyak has been conducting awareness programmes under its Vulture Conservation Initiative across vulture-inhabited areas of Assam since last year.



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How Assam's Community Leaders Are Driving Vulture Conservation Efforts

Representatives from the Bombay Natural Heritage Society and Aaranyak recently conducted an awareness campaign in Chhaygaon, Assam, to involve participation of the village community in protecting dwindling vulture populations



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Aaranyak :শগুন সংৰক্ষণত গাওঁবুঢ়া সকলক জড়িত কৰাৰ পদক্ষেপ

কামৰূপৰ ছয়গাঁও বাজুৰ চহৰত শগুন সংৰক্ষণৰ প্ৰথমটো অভিযান আৰম্ভ

by publisher - August 26, 2025 in News, Assam Reading Time: 1 min read

The newspaper has highlighted the awareness campaigns conducted by the Sagun Mitra in different parts of Assam.

A. Nest Guardianship initiative

The population augmentation of resident vulture species in Assam presents an urgent need for the protection of the remaining nests. Our extensive long-term fieldwork has revealed a critical challenge: a significant number of vulture nests are situated within private property boundaries or are hosted on trees owned by individual landholders. This intimate relationship between vulture nests and land ownership underscores the necessity of involving local stakeholders in conservation efforts. Engaging these individuals is paramount for the sustainable protection of the dwindling vulture population in Assam.

To address this issue, we have initiated the *Nest Guardianship Initiative*, aimed at identifying and motivating private landowners who are custodians of these vital nesting trees. The initiative serves to foster a sense of responsibility and stewardship among individual nest tree owners, encouraging their active participation in vulture conservation strategies.

In the Sivasagar District of Assam, we have collaborated with district authorities to formally recognize and felicitate individuals who own nesting trees. This recognition is intended to integrate their efforts with governmental conservation programs, thereby amplifying the impact of local actions on broader conservation goals. Moreover, we have acknowledged and celebrated distinguished community members who have displayed exceptional commitment to vulture nest conservation within their localities. These individuals are now integral to the *Nest Guardianship Initiative*, serving as both role models and advocates in their communities.



NEST GURDIANSHIP



A logo 'Nest Guardianship dedicated for the protection of the last remaining nests of vultures in their natural environment.



Sagun Mitra recognised Assam Gaurav Awardee Mrs Phuleswari Dutta from Dhakuakhana For her notable contribution to protect vulture nests in her backyard garden in Dhakuakhana, Lakhimpur District, Assam.

It is worth noting that, at present, no vulture nests exist within our current project villages. However, we remain optimistic that through robust community mobilization and education efforts, there is potential for the revival of vulture nesting colonies in the future.

The larger goal of the Nest Guardianship initiative is fostering a collaborative conservation culture in which both vultures and community stakeholders can thrive symbiotically. This approach not only seeks to protect existing nests but also paves the way for the restoration and emergence of new breeding sites in the region.



Sagun Mitra recognised nest tree owners in Na Barmura village, Saikhowa ghat, Tinsukia District of Assam.

ASSESSMENT OF THE DOG POPULATION

General overview

The intricate behavioural patterns and population dynamics of feral dogs play a critical role in vulture conservation. Feral dogs, often found in agricultural fields specially after harvesting, are known to exhibit predatory behaviours toward livestock, leading to significant economic losses for local cattle herders. In retaliation to these predation events, herders use chemicals, such as Carbofuran (*Furadan*), to eliminate the feral dogs by poisoning the carcasses of livestock that they may have attacked. Unfortunately, this practice inadvertently poses a severe threat to vulture populations, which rely on carrion as a primary food source.

The introduction of these toxic substances has dire consequences, particularly due to the toxicity of Carbofuran specially in Assam. Carbofuran, is categorized by the World Health Organization (WHO) as a Class Ib pesticide, indicating that it is highly hazardous. This pesticide is known for its potent neurotoxic effects, which can also lethally impact vultures consuming the poisoned carrion. Given these facts, the use of these chemicals not only fails to address the issue of feral dog populations but also exacerbates the decline of vulture species, which are already facing other ecological threats.

The relationship between feral dog behaviour, livestock protection strategies and vulture conservation underscores the necessity for more sustainable and ecologically sensitive approaches to wildlife management. Efforts should focus on developing alternative, non-toxic methods for managing feral dog populations or protecting livestock that minimize collateral damage to non-target species, particularly vultures. Moreover, raising awareness about the ecological importance of vultures and the detrimental impact of toxic substance use can aid in fostering more informed and conservation-oriented practices within agricultural communities. Therefore, balancing livestock protection with strategies that ensure the survival of vulture populations is crucial for maintaining biodiversity and ecosystem health.

A comprehensive survey conducted across three villages—Milanpur, Rampur and Bamunigaon revealed a notable prevalence of feral dogs within these communities. The findings indicate that these canines were

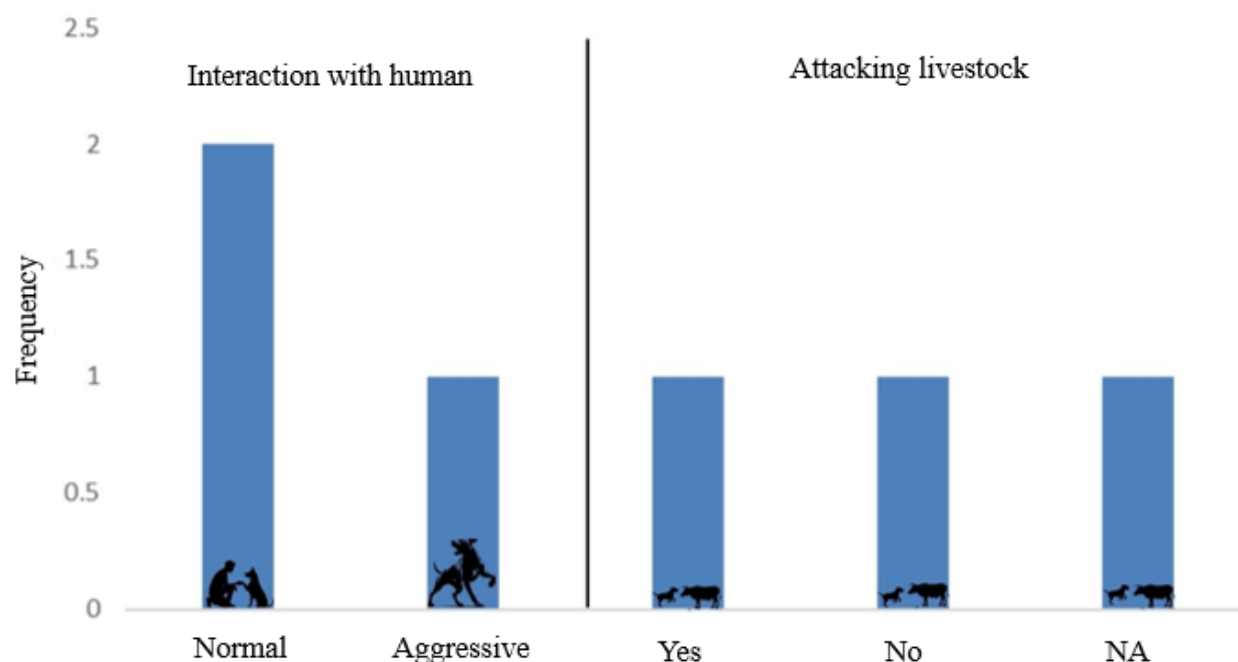


Figure-26. Behavioural pattern of feral dogs across three villages Milanpur, Rampur and Bamunigaon of the Kamrup District of Assam, India (2025).

generally in good health, suggesting successful adaptation to their environments. It is particularly noteworthy that 67% of the feral dog population exhibited normal, non-aggressive interactions with humans, reflecting a potential for coexistence. However, the survey also highlighted that 33% of the dogs demonstrated aggressive behaviour, which raises important concerns regarding public safety and the management of feral dog populations.



Discussion with the *Gram Pradhan* (village headman) of the Naktha village and other members of the village on the death of vultures and related issues (2025).

The *Gram Pradhan* (village headman) of Naktha village, Sri Kanak Kalita informed us that the villagers have been having major problems with feral dogs. They frequently killed calves of cows and goats. There is no compensation mechanism in place for cattle losses, which could lead to poisoning instances. However, no one is taking action to regulate these stray dogs. The people also informed us that no compensation is provided for the loss of their cattle. The dog normally lives in a pack of seven to ten and is quite hostile.

On March 12, twelve Himalayan Griffons were killed in Duwapara, Dhighalkuchi (Near Naktha village), under the circle Chhaygaon of the Kamrup district. Two Himalayan Griffons were safely rescued and treated. However, a few more birds, possibly with minor poisoning, flew away and may have fallen down if the poison hit them. We visited the place on 13 March 2025 and discussed the incident with the local people and the concerned forest department. We also contacted the Bombay Natural History Society's Vulture Conservation Breeding Centre (VCBC), which treated the injured vultures.

In addition to the interactions with humans, the survey documented that a significant portion of the feral dog population 33% was involved in incidents of aggression towards livestock, specifically cows and goats, within agricultural fields (Figure-26). This behaviour poses an economic threat to local farmers and could impact livestock welfare, necessitating further investigation into the root causes behind such aggressiveness.

The data gathered from this survey emphasizes the need for effective management strategies that address both the welfare of the feral dogs and the safety of local communities and livestock. It also highlights the importance of ongoing monitoring and research to better understand the dynamics of feral dog populations in these rural settings and to formulate appropriate interventions.

Population status

To assess the status of feral dogs in the Milanpur, Rampur, and Bamunigaon villages, we employed Focus Group Discussions (FGDs), along with consultations with the *Gram Pradhans* (village heads) and other knowledgeable elder community members. These discussions provided invaluable insights into the demographic composition and behavioural patterns of feral dogs across the three villages.

In our analysis of the demographic structure of the feral dog populations, we observed notable differences among the villages. Milanpur exhibited a relatively balanced adult male-to-female ratio, alongside the highest proportion of puppies, representing a significant 40% of the local dog population. This suggests a conducive environment for breeding and may indicate an increasing feral dog population in the near future if left unmanaged.

In contrast, Rampur village displayed a unique demographic profile characterized exclusively by adult dogs, with a gender distribution of 30% male and 40% female. The absence of puppies in this village may reflect limited breeding opportunities or possible impacts of environmental factors, community management





Photograph depicting the interaction with the female collective in No 1 Jiapur, Kamrup District (2025).

practices or human-dog interactions that warrant further investigation.

Bamunigaon, on the other hand, had the smallest feral dog population among the three villages, the male-to-female ratio skewed towards males and only 10% of the total population were puppies. This disparity in puppy representation may indicate a lack of reproductive opportunities.

Collectively, these findings underscore the importance of understanding the age and gender dynamics of feral dog populations as part of any comprehensive management strategy. The differences observed among the three villages warrant tailored intervention approaches that consider local conditions and community attitudes towards feral dogs. It is imperative that future research explores the factors contributing to these demographic variations and develops evidence-based strategies for managing feral dog populations in a manner that accommodates the welfare of the dogs while ensuring the safety and wellbeing of human communities.

- The female collective has unanimously agreed that the vulture nest has completely disappeared from their village. However, vultures occasionally visit their village.
- Carcass poisoning: Two women members admitted that they put poison on a goat carcass killed by feral dogs, but no vultures were present, resulting in no casualties. They also recognized that they had unwittingly carried out retaliatory poisoning, which might result in the killing of vultures. Our discussion yielded and conveyed to these women's collectives the issue of carcass poisoning, which causes vulture deaths in their surroundings. At the end of the discussion, everyone promised not to use any poison on the dead animals and to spread the message in their communities via Self Help Group meetings and the Mahila Committee (a female-led village-level institution).
- Problem of dog- The women's collective reported economic losses due to dog attacks on their goats. One of the female collective members reported that she had lost four goats in the past one year. Because there is no compensation system in place, people become enraged and partake in the positioning of carcasses in order to retaliate for the economic loss to dogs.
- Problem of carcass disposal- Female group stated that there is no carcass disposal field available in the village because vultures have become infrequent visitors to their area. As a result, individuals frequently toss their dead bodies on the riverbed or wetlands. They deposited their dead animals on riverbanks or near bodies, and they occasionally saw vultures feed on them. The female collective unanimously stated that a food scarcity for vultures may emerge mostly because there are fewer cattle deaths as a result of increased veterinary care, and death cattle often get buried.
- Opportunities: The women's collectives are keen to assist raise awareness concerning vultures in their communities. They also like acting as stewards to protect the only remaining vultures by ensuring food safety.

CHAPTER-6

EXTENDED WORK

The vulture conservation program of Aaranyak is dedicated to fostering awareness and facilitating outreach activities across different parts of Assam with a particular focus on areas harboring vulture nests. Our primary objective is to identify and safeguard the last remaining nesting colonies, motivating and empowering local communities to engage in conservation efforts. To date, we have successfully engaged over 20 families, which have nested in their private lands. A notable example is Smt. Phuleswari Dutta, a resident of Dhakuwakhana in the Lakhimpur district, who has taken remarkable strides in protecting six nests of the critically endangered White-rumped and Slender-billed vultures within her small backyard forest. Her dedication to conservation has been recognized at the state level, culminating in the prestigious Assam Gaurav Award conferred by the Government of Assam.

Recognizing the importance of fostering the next generation of conservationists, Aaranyak actively promotes involvement among youth across Assam. We strive to instill a sense of responsibility and engagement in vulture conservation through educational programs, workshops, and hands-on activities designed to inspire young individuals to become stewards of biodiversity.

Aaranyak, a local organization deeply embedded in the local communities, is committed to reversing this trend through comprehensive conservation strategies that prioritize community involvement. Our strong grassroots presence including volunteers, members, staff and well-wishers' enables us to mobilize resources effectively and engage communities in meaningful ways.

Our continuous efforts, in collaboration with government and non-government organizations, will be critical in safeguarding the future of vultures in Assam and the broader northeastern region of India.

1. Awareness and sensitisation campaigns

We empowered conservation minded people working in different sections to organise at least seven awareness and sensitisation campaigns in Sivasagar and Lakhimpur district of Assam targeted more than 600 individuals directly. The details of the campaigns are available in Table-6.

Table-6. Awareness and sensitisation campaigns organised on vultures in the Sivasagar and Lakhimpur Districts, Assam utilised funding support received from OBC and Aaranyak.

Sl No	Date	Venue	No of participants	Remarks
1	18 October 2024	Dikhoumukh College, Sivasagar	60 (teachers and students)	NA
2	14 November 2024	Na Katani High School, Sivasagar	80 (teachers and students)	The programme was coordinated by Mr. Dipak Arandhara, Head Teacher
3	22 November 2024	Geleki Triveni High School, Sivasagar	85	The programme was coordinated by Uddipta Gogoi, local conservationists.
4	23 November 2024	Nazira Bartal High School, Sivasagar	110 (Teachers and students)	NA
5	04 December 2024	Mogarhat Gyan Bikash High School, Sivasagar	90 (Students and teachers)	The programme was coordinated by Achinta Borthakur (Editor, Kalugaon Press Club) and Joyjyoti Gogoi (Reporter, ND25)

2. Nest identification

Members of the *Sagun Mitra* under the *Nest Guardianship* initiative conducted a series of surveys to identify nesting locations of the Critically Endangered resident vultures in the Tinsukia, Sivasagar and Lakhimpur districts of Assam from December 15 to January 15, 2025. The team successfully identified a total of 12 active nests in *Bam Rajabari* area within the Demow area of Sivasagar District, 6 nests in Dhakuwakhana of Lakhimpur District and 2 nests—one each in Bhubankhal and Na Barmura—located in Saikhowa Ghat area of Tinsukia District. This data is critical for ongoing conservation efforts and underscores the importance of monitoring the nesting habits of these vulnerable avian species. While one nest of the White-rumped Vulture in Bam Rajabari area was found damaged (Table-7).

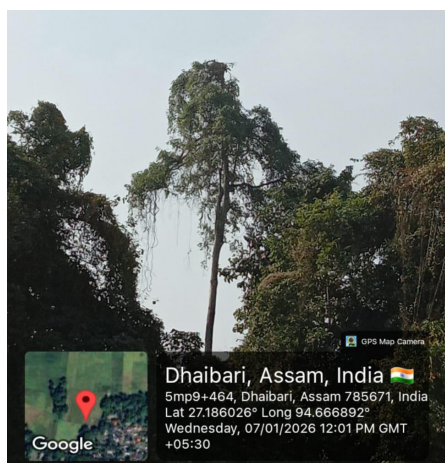
We have systematically documented nest activity and verified the nesting status and parental care behaviors. Alongside our nest surveys, we engaged with the owners of the nest trees and local community stakeholders to promote the protection of these nests. Our VCN maintains regular communication with both nest owners and community stakeholders across all identified nesting sites.

We continue to search for additional nesting locations and are optimistic that Assam may host approximately 40-50 active nests. However, a significant issue has emerged during discussions with community stakeholders: cultural shifts have impacted the availability of food sources for vultures, posing a substantial conservation challenge.

Our VCN has reported instances where nests have been left unoccupied for extended periods, as both adult vultures leave in search of food. This absence has heightened vulnerability to nest predation by species such as the Large-billed Crow, Common Crow, and various other predatory birds and mammals. Addressing these challenges is critical for the conservation of vulture populations in the region.

Table-7. List of the vulture's nests identified in the Tinsukia, Lakhimpur and Sivasagar Districts of Assam, India (2025-2026).

Name of the Area	Nesting Species	No of nest	Status
Bam Rajabari, Sivasagar	White-rumped Vulture	09	Active, incubating on 15 Jan 2026
Bam Rajabari, Sivasagar	Slender-billed Vulture	03	Active, incubating on 15 Jan 2026
Bam Rajabari, Sivasagar	White-rumped Vulture	01	Damaged, due to unknown reason on 15 Jan 2025
Koharghat area, Dhakuwakhana, Lakhimpur	White-rumped Vulture	05	Active, incubating on 23 Dec 2025
Koharghat area, Dhakuwakhana, Lakhimpur	Slender-billed Vulture	01	Active, incubating on 23 Dec 2025
Bam Rajabari, Tinsukia	White-rumped Vulture	02	Active, incubating on 10 Dec 2025





Nesting trees of the Critically Endangered vultures identified during the surveys

3. Vulture Interpretation center

Aaranyak, in collaboration with Dakhin Kamrup Vidyapith High School in Mirza, Kamrup District, Assam, has reached a significant consensus to establish the first vulture interpretation centre in the state. The school administration has recognized that this initiative will enhance students' knowledge about vultures and the broader aspects of natural ecology, while also providing a platform for inter-school collaboration and interaction.

All necessary formalities for this project have been successfully completed. The architectural design of the interpretation centre is finalized, and the construction work has been entrusted to a skilled local craftsman. We anticipate that the centre will be fully operational by the first week of February 2026 (Figure-27).

4. Installation of hoardings

Following comprehensive consultations with various stakeholders and members of the community, a decision has been made to erect several large-scale hoardings in areas of high foot areas within the project site. These hoardings have been meticulously designed with a focus on clear and accessible language,



Figure-27. The photograph displayed some of the anticraft materials that has been developing for the first vulture interpretation center in Assam.

ensuring that the information conveyed is not only easily understandable but also thought-provoking. The intent behind this communication strategy is to evoke a sense of awareness and encourage deeper reflection beyond superficial observations.

The installation of these hoardings was achieved through a collaborative effort involving key local entities, including the local administration, law enforcement agencies, the forest department, bazaar committees and our conservation partners. This multi-stakeholder approach underscores our commitment to fostering community engagement and promoting awareness of critical environmental issues. With this we aim to create impactful visual messages that resonate with the public and inspire proactive engagement in conservation efforts.

Through this initiative, we seek not only to inform the community but also to cultivate a culture of stewardship for vultures that encourages individuals to participate in vulture conservation.

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Annexure-1

Media outreach of the project activities

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Annexure-2

Some of the activity photographs

















Annexure-3

Summary of work proposed and accomplishments

Sl. No	Proposed work	Accomplishment
1	Drivers of carcass poisoning by pesticides and veterinary NSAIDs are understood.	We have conducted extensive discussions with community members, government line departments, Panchayati Raj Institutions, educational institutions, local herders and veterinarians to document the current threats to vultures in the project areas. Our findings indicate that there is no evidence of the use of non-steroidal anti-inflammatory drugs (NSAIDs) banned by the Government of India in any form at the project site.
2	Interviews completed across the area of interest in 6 months of inception. Target number of herders: 50. Target number of veterinarians: 5-8.	During the Focus Group Discussion with the <i>Gram Pradhans</i> , community stakeholders, women's collectives and both youth and elderly residents of Bamunigaon, Dubjeni 2 No. Balaudhi and Rampur (2 No. Rampur village), it was revealed that nearly every household owns livestock, albeit on a modest scale, typically ranging from three to ten animals. This insight prompted us to reassess our initial approach. We subsequently engaged with approximately 30 households that are rearing more than four livestock. Additionally, we successfully established communication with two veterinary practitioners to discuss the use of NSAIDs for animal health management.
3	Understanding of the main socio-economic drivers behind poisoning of livestock carcasses.	We have conducted interviews and one-on-one discussions with community members, together with our outreach initiatives, focus group discussions and other strategic engagements. During these conversations, it was revealed that many households have lost their livestock due to dog attacks. In retaliation, some individuals admitted to using Carbofuran (Furadon) to kill the dogs responsible for these attacks. One important finding from our discussions was the absence of a register for the sale and purchase of Carbofuran, commonly known as Furadon, among vendors. We strongly recommend the implementation of a buy-and-sell register at the government level. This mechanism could facilitate tracking and accountability, helping to identify the source in the event of pesticide poisoning incidents if occur in any part of Assam.
4	Survey data on the availability of toxic NSAIDs (diclofenac, nimesulide, flunixin, aceclofenac, ketoprofen) from undercover pharmacy checks in the study area.	We also surveyed two veterinary stores in the project localities and found no evidence of the sale of NSAIDs that are banned by the Indian government.

Sl. No	Proposed work	Accomplishment
5	Identification of specific NSAIDs posing ongoing threats to vulture populations.	No evidence was found.
6	Quantification of pharmacies still selling harmful NSAIDs, providing actionable data to inform targeted conservation strategies.	No evidence was found.
7	Number of pesticide poisoning incidents identified in the study area.	During the project phase, we identified an incident of pesticide poisoning. On 12 March 2025, twelve Himalayan Griffons were found dead in Duwapara, Dhighalkuchi , within the Chhaygaon circle of the Kamrup district. Fortunately, two Himalayan Griffons were safely rescued and treated. However, a few more birds, likely experiencing minor poisoning, flew away. We visited the site on 13 March 2025, to discuss the incident with local residents and the relevant forest department officials. Additionally, we reached out to the Bombay Natural History Society's Vulture Conservation Breeding Centre (VCBC), which provided treatment for the injured vultures.
8	Number of VCN members enrolled. Targeting minimum 20% of herders surveyed to participate in the VCN.	We have enrolled xx VCN during project phase and make them online @www.aaranyak.org
9	Number of sensitization events and number of participants.	Overall, we executed 22 outreach programs across 19 villages under the initiative titled " <i>Sagun Xarakhanr Xankalpa Jyatra</i> " (Conservation Movement of Vultures). These efforts successfully engaged a total of 1,058 participants, comprising 574 females and 484 males. Additionally, these programs effectively touch a representative of 64 villages within the Kamrup District of Assam, India.
10	Number of incidents related to vulture poisonings documented by VCN.	On 12 March 2025, an incident of pesticide poisoning was recorded by VCN in Duwapara, located in Dhighalkuchi village.
11	Two community consultations, one stakeholder meeting conducted to identify a common place for carcass disposal.	

Sl. No	Proposed work	Accomplishment
12	Survey data on the availability of toxic NSAIDs (diclofenac, nimesulide, flunixin, aceclofenac, ketoprofen) from undercover pharmacy checks, building on and complementing BNHS's ongoing monitoring efforts and aligning with the broader conservation goals of Saving Asia's Vultures from Extinction (SAVE).	We have conducted surveys in two veterinary drug stores and no evidence was found.
13	Identification of ongoing NSAID threats, crucial for safeguarding vultures, especially with upcoming releases from the Rani breeding centre, within dispersal range of the study area.	No evidence was found.
14	Data on pharmacy sales of harmful NSAIDs, informing targeted conservation strategies that support both BNHS's and SAVE's initiatives to protect vultures from poison baits and NSAIDs, ensuring a unified approach to vulture conservation in the region.	We have conducted surveys in two veterinary drug stores and no evidence was found.
15	SOP for managing the common place for carcass disposal.	We have drafted a Standard Operating Procedure (SOP) that was developed in collaboration with community stakeholders, experts and our in-house biologist. The draft is included with this report for review.

Annexure-4

Protocol for vulture Safe feeding ground (Draft)*version: V0 Date of creation: XX, 2025*

1. Introduction

The vulture populations in Southern Asia, particularly in Northeast India, have experienced a catastrophic decline due to accidental poisoning. The populations of resident vultures of India, especially the vultures that fall under the genus *Gyps* have plummeted by up to 99%. This decline is primarily due to primarily Non-Steroidal Anti-Inflammatory Drugs (NSAID) livestock herders poisoning animal carcasses to control feral dog populations, inadvertently killing vultures that feed on these carcasses. Since the food of the vulture is the prime reason for their catastrophic decline, therefore safety of their food is utmost priority.

The decline in the number of vultures in Assam two and a half decades ago has had a profound impact on cultural features, particularly the community's means of disposing of carcasses. The lack of vultures has reduced a few rural professions, including "skinners," who used to deskin the carcass and leave the rest for the vultures. Furthermore, Assamese culture used to dispose of their dead animals in a common area, leaving it open for vultures. However, due to the significant decline in the vulture population, they now prefer to bury their deceased animals, potentially less carcass available for surviving wild population.

In this initiative, we would like to revive those cultural linkages and formulate an integrated sustainable approach to safeguard vultures and ensure its food safety.

2. Vulture safe feeding sites will play

- They will help revive the socio-cultural traditional values about vulture.
- They will ensure safe food amidst decreasing food supply
- Help breeding and recolonisation of vultures and thus back to historical breeding sites.
- They will provide sites for awareness and research opportunities for young generations.

3. Objectives

- Ensure availability of safe food to declining vulture populations and support breeding and recolonization.

4. Establishment of management committee

- Involving different stakeholders, the project implementation team formed a committee to oversee operations of the vulture safe feeding zone.

5. Method of site selection

- Close to the active nesting sites (10-30 km aerial distance).
- Availability of perching trees in the immediate vicinity of the vulture safe feeding zones.
- A safe distance from the settlement, preferably a common place where communities used to dispose of their dead animals.
- Community consultations and willingness using principles of Free, Prior and Informed Consent (FPIC) as suggested by IUCN, including the land owner, village institution(s), village head (Grampradhan), local administration, forest department and VCN.
- Followed by FPIC and willingness, MoA is developed between the owner of the land and village institution(s).

6. Structure of vulture safe feeding site

- An open field with no overhead wires or similar aerial obstacles for at least 500 m.
- The core vulture safe feeding zone will be enclosed using fencing.
- Setting up a protocol for cleaning and maintaining hygiene will be developed in consultation with the community consultations.
- Erection of a high-rise platform (machan) for monitoring.
- Building a pool to provide a reliable supply of water.

7. Carcass collection and handling

- Establishment of a network of carcass donors including individuals, cattle sheds and other available sources.
- Ensuring harmful NSAID and chemical free carcass using available guidelines and verified sources.
- Verified the status of the carcass by Village Head/PRI Member/Barefoot veterinarian (Gomitra) in presence of a VCN/VDP.
- Detailed documentation of the carcass including source of the carcass, 15 days history of the animal before death.
- Engaging local skinner to ensure the flesh available for the vultures.

8. Stakeholder involvement

- Utilization of the village level institutional framework including PRI, VCDC, VDP, village development committee.
- Engagement of veterinary department and forest department.

9. Monitoring and evaluation

- Establish a scientific monitoring method for observation of carcass and feed vultures.
- Establishment of monitoring methods for safety and hygiene.
- Establishment of an operational mechanism to dispose/utilization of the leftovers.
- Establishment of the evaluate mechanism to measure the effectiveness of vulture safe feeding zone and its impact in reducing vulture exposure to diclofenac and subsequent mortality.

What to measure	Indicator	Means of verification	When	Who will monitor
Carcass available at the site	Amount of carcass in kg per months available for the vultures	Register entry	Weekly	Site manager / caretaker
Safety and hygiene	Execution of the safety & hygiene standard	Register entry	Daily/weekly	Site manager / caretaker

Overall operations of feeding site	Execution of the operational guidelines	Register entry	Daily/weekly	Project management for first 3 years
Monitoring of vultures at the feeding site	No of vultures visiting the site for feeding	Filling out of datasheet	While feeding	Researcher/ biologist

Annexure-A

Form- Carcass Information

- Name of 'Vulture Safe Feeding Ground'.
- Date and time of carcass/es donated.
- Weather (sun, clouds, wind, etc.).
- Name and contact details of person/organization donating carcass/es.
- Types of carcass/es donated and approximate weight.
- Date of death.
- Cause of death.
- Was the animal treated for any disease? if yes, with what.

I hereby declare that the carcass donated to the (name of the vulture safe zone) vulture feeding zone has not been treated with any NSAID medicines like _____ in the last seven days and is not contaminated with any chemical. The carcass is safe for vultures to the best of my knowledge.

Name and signature of donor	Name and signature of recipient
-----------------------------	---------------------------------

Annexure-B

Form- Monitoring of feeding vultures

- Name of 'Vulture Safe Feeding Ground'.
- Date, time and duration of observation
- Weather (sun, clouds, wind, etc.)
- When did vultures come in to feed after providing the carcass(es)
- How much food present at the feeding site

- Number of vultures coming down to feed
- What species of vultures present
- What age groups and numbers in each age group i.e. adult, sub-adult, immature and first year
- Any special behaviour observed
- Was the carcass finished and if so, what time frame

Name and signature of the observer

Date of the observation

Annexure-5

Dog Survey form



Census form for Feral Dogs, 2025

Date sheet No:	
Name of the observer(s):	
Date:	

Sl No	Location and Area Name	Adult Male	Adult Female	Puppies	Body Conduction	Interaction with human	Remarks

Annexure-6

Focused Group Discussion



Data Sheet No.....

Focus Group Discussion (FGD)

Date:	
Place:	
Venue of the FGD:	

1. Village level information

- a. Name of the village:
- b. Meaning of the name of the village:
- c. GPS Locations (you may take a photograph with geo-coordinates)
- d. Year of establishment of the village:
- e. District:
- f. Development block:
- g. Name of the forest Division nearby:
- h. Name of the Panchayat/VCD:
- i. Distance to the forest -
- j. Community garbage dumping site (Yes/No)
- k. Community dead animal disposal site (Yes/No)
- l. Where do you dispose of dead animals?
- m. Total Household (HH) in the village:
- n. HH with ST categories:
- o. HH with SC categories:
- p. HH with other categories:
- q. Name of the communities living in the village:
- r. Total population and % Male and Female:
- s. Education level: below 101/12 standard/above 12 standards
- t. Major livelihood (if not actual, use %)
 - i. No of HH engage in Homestead gardening:
 - ii. No of HH engage in paddy cultivation:
 - iii. No of HH engage in handloom:

- iv. No of HH engage in Handicraft:
- v. No of HH engage in Govt job:
- vi. No of HH engage in Private job:
- vii. No of HH engage in wage earning:
- viii. No of HH engage in animal husbandry:
- ix. No of HH engage in NTFP collection:
- x. No of HH having khuti
- xi. No of HH having cow
- xii. No of HH having buffalo
- xiii. No of HH having goat
- xiv. No of HH having pet dogs
- xv. No of HH engage in any other
- u. Basic services
 - i. Source of drinking water
 - ii. Fair price shop
 - iii. Health center
 - iv. Daily market
 - v. Weekly market
 - vi. Veterinary service
 - vii. Who provides treatment if your cattle fall sick?
 - viii. What are the common medicines do you use to treat your cattle?
 - ix. Where do you purchase the veterinary medicines?
 - x. Are your livestock insured? (Yes/No)
- v. Village level asset
 - i. Community hall -
 - ii. Community forest -
 - iii. Community land for disposing dead animal -
 - iv. Water bodies (beel/wetland, grazing land, fishery, any other etc.)
 - v. Prayer Hall (Temple, Namghar, Mosque, Church etc.)
 - vi. Playground -
 - vii. Market space
 - viii. Recreation space
- w. Village Institute
 - i. Village committee (Yes/No)
 - ii. If yes get the information
 - iii. Youth Organisation (Yes/No)
 - iv. Women organization (Yes/No)
 - v. SHG (Yes/No)
 - vi. Information about education institute (LP/MV/HS/College)
- 2. Information on vultures
 - a. General overview

- i. Have you ever seen vultures in your locality? Yes/No
- ii. If seen, how many species?
(Please show the photographs and ask him to identify with at least local name)
- iii. How many vultures have you observed in a single occasion.
- iv. Have you seen more than one type of vultures at a time. (Yes/No, if Yes ask the number and then show the photographs to identify)
- v. What do you name vultures in your locality? (ask the local names)
- vi. What is the trend of vultures in last 5 years in your locality.
(Increasing/decreasing/stable/extinct etc.)
- vii. Which month generally you see vultures in your locality?
- viii. How often vultures seen in your locality in last one year (Every week, A few times a month, A few times a year, Never)
- ix. Are there any vulture's nests nearby? (Yes/No)
- x. Was there any vulture's nest in your locality (Yes/No) (if yes how many)
- xi. When did you last saw a vulture nest in your locality.
- xii. Is there any roosting place of vulture near your locality? (Please get the details, if possible, visit the place and gate photographic evidence, name of tree and height and distance from settlement etc.)
- xiii. Why vultures visit in your locality? What attracts them? (Discuss the relevant covariate like dead of cattle etc. that might attract them)
- b. Conservation challenges
 - i. Have you attended any meetings on vulture conservation in your area?
(Yes/No)
 - ii. Who organized the meeting, and when was it last held?
 - iii. Do you know what was the reason behind that meeting?
 - iv. Are there any feral dogs in your village?
 - v. What are the problems you are facing due to the feral dogs?
 - vi. Is there jackal in your village?
 - vii. What are the dog bite cases in your village?
 - viii. Is there rabies vaccine freely available in your nearest PHE?
 - ix. What is the trend of feral dog population in your locality?
 - x. Are there any vaccination campaigns for feral dogs happened?
 - xi. Do people take action against them?
 - xii. Do you think vultures cause any problems
 - xiii. Why do you think now a days vulture are not seen very often?
 - xiv. Where do your cattle graze?
 - xv. Are there any dog bite-related livestock deaths in your area?
 - xvi. How do herders protect their cattle while grazing?
- c. Community observation/perception
 - i. Are there are threats for vultures that you are aware of?
 - ii. Are they religious or culturally important?

- iii. Do you think vulture may spread disease?
- iv. Do they create problem? (please note the story that they explain)
- v. What are the key challenges you see for vultures?
- vi. What types of wild animals and birds frequent your area?
- vii. What are the issues you notice in your area that may threatened vultures?
(loss of nesting tress, pesticide use, carcass burial etc)
- viii. What actions do you believe should be taken to benefit vultures?
- ix. How communities can contribute to vulture conservation. (Please ask
about their perception)

Informal question just discuss:

- 1. Are there any vulture death cases happened in your locality.
and if so, what caused them?
- 2. Is there any human-animal conflict occurring in your locality.
if yes please explain.

Annexure-7

Knowledge Survey Form



Data Sheet No.....

Knowledge survey form

Pre Survey / Post Survey

1. How many species of vultures have you seen in your localities?
(আপোনাৰ অঞ্চলত আপুনি কিমান প্ৰজাতিৰ শগুন দেখিছে?)
2. What is the principal food of vultures?
(শগুনৰ প্ৰধান খাদ্য কি?)
3. Do you think there is enough food available for vultures?
(বৰ্তমান শগুনৰ বাবে পৰ্যাপ্ত খাদ্য উপলব্ধ আছেনে?)
4. Why are vultures disappearing?
(শগুন কিয় নোহোৱা হৈ গৈ আছে?)
5. How can we conserve vultures?
(আমি কেনেকৈ শগুন সংৰক্ষণ কৰিব পাৰো?)
6. Are you aware about any medicine and pesticide that harms vultures?
(শগুনক ক্ষতি কৰা কোনো ঔষধ আৰু কীটনাশকৰ বিষয়ে আপুনি জ্ঞাত নেকি?)

Date:

Place:

Name of the interviewer

Annexure-8

Vulture death cases recorded in Assam

Date	District in Assam	Place	No. of infected vulture	Total death	Species involved	Broad reason
2 March 2014	Kamrup	Borihat		10		Suspected Poisoning
2015	Lakhimpur	Dhakuakhana		28		Suspected Poisoning
2016	Kamrup, Nalbari, Barpeta, Dhubri, Tinsukia, Jorhat	NA	200	200	Gyps vultures	Chemical pesticide (Carbofuran)
16 March 2016	Darrang	Udmari Village		6	Himalayan Griffon	Suspected Poisoning
5 April 2016	Kamrup	Hardiya Village		20		Suspected Poisoning
25 March 2017	Lakhimpur district	Dhakuakhana	50	20	Long-billed, Slender-billed	Chemical pesticide (Carbofuran)
18 March 2018	Sivasagar district	Magarahut	36	36	Gyps vultures	Chemical pesticide (Carbofuran)
23 April 2018	Sivasagar district	Jamurigaon	18	18	Slender billed	Chemical pesticide (Carbofuran)
3 September 2018	Sivasagar district	NA	50	50	Gyps vultures	Chemical pesticide (Carbofuran)
26 October 2018	Sivasagar district	NA	32	32	Gyps vultures	Chemical pesticide (Carbofuran)
31 March 2019	Sivasagar district	Panidihing	70	37	Himalayan Griffon, White backed, Slender billed	Chemical pesticide (Carbofuran)
1 April 2019	Sivasagar district	NA	29	29	Gyps vultures	Chemical pesticide (Carbofuran)
16 February 2020	Kamrup district	Bamunigaon		10		Suspected Poisoning
21 April 2020	Sivasagar district	Dichangmukh	33	19	Gyps vultures	Chemical pesticide (Carbofuran)
21 January 2021	Tinsukisa district	NA	34	34	Himalayan Griffon, White backed, Slender billed	Chemical pesticide (Carbofuran)
9 February 2021	Tinsukisa district	Ghurmara	28	20	Gyps vultures	Chemical pesticide (Carbofuran)
21 February 2021	Lakhimpur district	Dhakuakhana	4	4	Gyps vultures	Chemical pesticide (Carbofuran)
15 April 2022	Kamrup district	Nalapara	36	23	Gyps vultures	Chemical pesticide (Carbofuran)
3 March 2022	Dibrugarh district	NA	36	36	Himalayan Griffon	Chemical pesticide (Carbofuran)
17 March 2022	Kamrup	Chaygaon	100	100	Gyps vultures	Chemical pesticide (Carbofuran)

23 January 2023	Sivasagar district	Panbecha village		25		Chemical pesticide
1 February 2023	Majuli	Zengraimukh		16		Suspected Poisoning
25 February 2023	Lakhimpur district	Bagichagaon		6	Himalayan Griffon	Suspected Poisoning
7 April 2023	Kamrup	Chaygaon		4	Himalayan Griffon	Suspected Poisoning
5 March 2024	Kamrup	Tatibama, Palashbari		9	Slender billed	Chemical pesticide (diclofenac)
8 April 2024	Sivasagar district	Balighat Baghorchuk	30	30	White backed,Himalayan Griffon	Suspected Poisoning
2 May 2024	Kamrup district	Guimari		8	White backed,Himalayan Griffon	Suspected Poisoning
5 March 2025	Kamrup district	Jaji Village		12	Himalayan Griffon	Suspected Poisoning
12 March 2025	Kamrup	Palashbari	25	15		Suspected Poisoning

Annexure-9

No of students conducted academic achievements through the project activities

A total 28 students conducted their BSc dissertation work under the project activities. The name of the students and name of their academic institutions are mentioned below:-

Sl. No	Name of students	Name of College
1	Hirak Jyoti Kakati	Arya Vidyapeeth College (Autonomous), Guwahati
2	Madhurjya Prasad Dutta	Arya Vidyapeeth College (Autonomous), Guwahati
3	Beauty Pegu	Arya Vidyapeeth College (Autonomous), Guwahati
4	Ponkhee Bora	Arya Vidyapeeth College (Autonomous), Guwahati
5	Chinmoyee Rajbongship	Arya Vidyapeeth College (Autonomous), Guwahati
6	Chinmoy Saikia	Arya Vidyapeeth College (Autonomous), Guwahati
7	Parishmita Kalita	Arya Vidyapeeth College (Autonomous), Guwahati
8	Bindiya Mahato	Arya Vidyapeeth College (Autonomous), Guwahati
9	Subhra Jha	Arya Vidyapeeth College (Autonomous), Guwahati
10	Antima Jaiswal	Arya Vidyapeeth College (Autonomous), Guwahati
11	Suman Ram	Arya Vidyapeeth College (Autonomous), Guwahati
12	Aditi Das	Arya Vidyapeeth College (Autonomous), Guwahati
13	Bhabna Sarma	Handique Girls' College, Guwahati
14	Disha Bhagawati	Handique Girls' College, Guwahati
15	Bishakha Dutta Baruah	Handique Girls' College, Guwahati
16	Susma Boro	Handique Girls' College, Guwahati
17	Parlita Talukdar	Handique Girls' College, Guwahati
18	Diya Hazarika	Handique Girls' College, Guwahati
19	Banashree Das	Handique Girls' College, Guwahati
20	Deepsikha Das	Handique Girls' College, Guwahati
21	Jarna Siddika	Handique Girls' College, Guwahati
22	Maishringdi Hapila	Handique Girls' College, Guwahati
23	Mahanaz Priya Laskar	Handique Girls' College, Guwahati
24	Rishita Mahanta	Handique Girls' College, Guwahati
25	Krishna Haloi	Guwahati College, Guwahati
26	Barnali Bangthai	Guwahati College, Guwahati
27	Ruchee Chaudhury	Guwahati College, Guwahati
28	Mira Murari	Guwahati College, Guwahati

Outreach materials



বিষমুক্ত খাদ্যই বচাব শগুন

লাহী ঠুটীয়া শগুন (Slender-billed Vulture) ৭৩০-৮৭০ হে আছে

শগুনে জলাতঙ্ক, চৰকা ৰোগ, এনথ্ৰাক্স, পাৰ্ভো ভাইৰাছ আদি বেমাৰ নিয়ন্ত্ৰণ কৰে।

খাদ্যত হোৱা বিষক্ৰিয়াই শগুনৰ অস্তিত্ব
সংকটাপন্ন কৰি তুলিছে। এনে ঘটনাই
আমাৰ অঞ্চলৰো সুনাম নষ্ট কৰে।



শগুনে অতদিনে আমাৰ উপকাৰ সাধিলে,
এতিয়া সিহঁতক সহায়ৰ প্ৰয়োজন।

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**TITLE: ENSURING PROTECTION OF VULTURE USING
SENSITIZATION, AWARENESS AND INVOLVEMENT OF MULTI-
STAKEHOLDER APPROACHES IN KAMRUP DISTRICT, ASSAM**



INTERNSHIP REPORT

*Submitted in partial fulfilment of the requirement for the FYUGP 5th Semester
Final Examination, 2025 under Gauhati University*

Under the supervision of

Dr. Dipankar Lahkar

Assistant Director at Aaranyak, Guwahati, Assam

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Shahana Ahmed**

FYUGP BSC 5th SEMESTER

Department: Botany

Handique Girls' College

Session: 2024-25

PROJECT REPORT

On

"VULTURE CONSERVATION AND AWARENESS"

In partial fulfillment for the award of the degree

Of

BACHELOR OF SCIENCE, FYUGP

Year 2023-2027

DEPARTMENT OF ZOOLOGY

Guwahati College,

Bamunimaidan

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B.SC.-5th SEMESTER

Submitted to:

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Technology, Govt. of India**

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