

# Integrating Environmental Education Through Folkloric Practices: A Case Study Of The Greater Adjutant Conservation Movement In India

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## ARTICLE INFO

## ABSTRACT

Traditional practices and customs worldwide, deeply rooted in environmental reverence, form an intrinsic part of folkloric traditions. This paper explores the symbiotic relationship between folklore and environmental education, focusing on the conservation of Greater Adjutant Stork, the world's second rarest stork species. Endangered and confined to Assam, India, the stork's conservation journey is led by Dr. Purnima Devi Barman, a wildlife biologist integrating folklore into her efforts. The study examines the role of folklore, encompassing oral literature, material culture, social folk customs, and folk performing arts, in creating awareness and fostering community engagement for nature conservation. Barman's innovative approach involves the formation of the 'Hargila Army', a group of empowered women utilizing traditional weaving skills to weave the stork's motif on clothes. This not only enhances livelihoods but also spreads conservation messages globally. Folk performances, religious ceremonies, and storytelling are harnessed to change perceptions and integrate the bird into local belief systems. The study delves into the transformative impact of folklore on community attitudes, contributing to increased nests and a thriving population of the once-maligned Greater Adjutant.

**Keywords:** Folklore, Environmental Conservation, Greater Adjutant, Hargila, Dr. Purnima Devi Barman

## Introduction

Traditional practices and customs around the world are deeply related to the environment. Be it worshipping of trees, rivers, stones and mountains by the forest dwellers or considering celestial bodies as the origin of a community, societies have conserved the environment through folkloric traditions. The concept of 'Mother Nature' prevails in almost all human civilizations. Talking about the modern man, who believes in conserving the earth for the future generations, folklore could be a strong tool in this regard. The messages which are hard to disseminate could be easily poured inside communities through the use of folkloric components, be it a song, a dance, a drama or a popular custom. The Greater Adjutant Stork is the world's second rarest stork species, classified as endangered on the IUCN Red List (BirdLife International, 2016). It has been found that habitat loss, poisoning, and poaching have caused large declines in populations of this bird in South Asia, with the Brahmaputra valley in Assam in northeastern India now being the last stronghold for the species (Barman et al. 2020). Conservation initiatives taken up by a community in Assam (India) in a small hamlet of villages under the leadership of Wildlife Biologist Dr. Purnima Devi Barman have resulted in considerable increase of nests and the population of the endangered bird. It is interesting to note that Dr. Barman utilized folkloric elements in the form of folk songs, ritualistic practices as well as material culture like handloom and handicraft to create awareness among the community for conserving the bird. In fact, the bird which was

loathed for a long time is now loved by the villagers and even incorporated in their traditional practices. The present study aims at observing the relationship between folklore and ecology, understanding a people's project for conservation of nature and its resources and analysing the role of folklore in habitat restoration and conservation purposes. The study will focus on the folkloric methods being adopted in this journey of conservation of the Greater Adjutant and will reflect upon the many dimensions of how folklore could be a strong medium of nature conservation.

### **The Concept of Folklore**

Folk, as defined by Alan Dundes, is "any group of people, whatsoever, who share at least one common factor. It does not matter what the linking factor is — it could be a common occupation, language, or religion — but what is important is that a group is formed for whatever reason it calls its own" (Sarma, 2015). Lore, on the other hand, could be stated as every bit of knowledge treasured by a community and passed along generations either through word of mouth or behavioural patterns. Hence folklore encompasses anything and everything around us. Folklorists have divided folklore into four broad categories, which are - (i) Oral literature, (ii) Material culture, (iii) Social Folk Customs, and (iv) Folk Performing Arts. It is worth mentioning that these four categories do not reside in watertight compartments and exist in a mutually inclusive pattern. Also termed as verbal art, oral literature comprises all narratives, long and short, which make time travel through word of mouth. On one hand it consists of short anecdotes practised regularly in a society, like the folk tales, proverbs, rhymes, riddles, jokes etc. On the other hand, long narratives like myths, legends and epics constitute an important part of this category. All these forms are practised in folk speech and hence are closer to a society. Folk poetry or folk songs have their own share of variations. However not all oral literature is verbal, because human emotions expressed through non-lexical sounds in the form of chants, cries or laments also find place in oral literature. Material culture stands directly in contrast to oral literature because every material used by humans comes under its purview. It occupies a vast array of human living. House building techniques, farming and fishing tools, cooking, weaving folk arts, crafts and all other sorts of occupations are included in material culture. Social folk customs consist of very specific and localised forms of cultural performances like the rites of passage like that of birth, initiation, marriage and death. According to Dorson, general and special customs usually involve a physical action, a shared belief, and a material object (Dorson, 1982). Hence rituals, festivals, games, folk medicine and even folk religion can be grouped under the social folk customs of a society. The last division of folklore, which is folk performing arts, includes traditional forms of music, dance and drama. These are mostly forms of recreation and are generally accompanied by musicians playing folk instruments.

Folklore influences social norms and values. These norms are nothing but the offshoots of traditional knowledge systems practised by indigenous communities in their natural ecosystems. Culture and ecology are inseparable entities. It was during the 1930s and 1940s that Julian Steward, an American anthropologist, developed the term 'Cultural Ecology' (Tucker, 2013). It is said to be the first influential approach to the study of the close relationship between folklore or culture and ecology or environment. The term Cultural Ecology examines the influences of ecology on culture and also provides causal explanations in this regard. According to the theories of cultural ecology, individuals do not adapt, but culture does. Hence this branch of folklore studies has been dealt with by people working in different fields like anthropology, archaeology, sociology, geography, gender studies, behavioural studies and many more, leading to development of approaches like ethno-ecology, political ecology, human behavioural ecology, and the ecosystems approach.

### **Birds in Folklore**

Birds have been an important element of folklore around the world. They have been messengers of peace, carriers of love, symbols of courage and even storytellers par excellence. It is recorded of King Edward, the First of England, that on a certain solemn occasion in the year 1304, his investiture as a knight, two swans decorated with gold nets were brought in, and he thereupon swore an oath to the God of Heaven on these swans (Kay, 1898, p. 179). The swan is considered as an embodiment of the highest virtues in Indian fables. The swan also finds place in ancient Indian literature composed in Sanskrit and Pali where it has been termed as hamsa. However, according to European dictionaries of those languages, the name hamsa refers not only to a swan but also a goose and a flamingo. Poets like Kalidasa have included the bird in literary pieces. The swan is the vehicle of Brahma, the creator in Hinduism and Saraswati, the Goddess of knowledge and wisdom. On the other hand, the goose is believed to be reborn as Boddhisattva in Buddhist jatakas (Vogel, 1962, p. 2). Birds like the owl and the peacock are also vehicles of Indian Gods and Goddesses.

Oral literature of any language is always filled with narratives from nature. Elements from the environment constitute a major chunk of oral literature. Lullabies and romantic songs are incomplete without the mention of some bird. Indian epic Ramayana speaks of the mythical bird Jatayu, which played an instrumental role in informing Rama about his kidnapped wife Sita's whereabouts. Indian Roller (*Coracias bengalensis*) is believed to be the form of Lord Shiva in Hindu mythology due to its blue throat. In most of the tribal societies, birds are considered to have connections with the 'other world'. For example, in the Rabha tribe in India, the guests bring wooden kingfishers, woodpeckers, pythons, etc. mounted on a bamboo pole during

the funeral ceremony called Pharkanti. These wooden birds are called manchalengka and are used while singing and dancing during the ceremony. For the primitive men, birds were as important as heavenly entities which they worshipped, like the sun, moon and stars, rainbow and northern light, dawn and sunset, thunderstorm and the winds (Kay, 1898, p. viii). We find etymological stories around the world where the origin of mankind is attributed to a bird's egg. For example, in north-eastern parts of India, a myth from the Karbi tribe speaks of the eggs laid by a mythical bird Wo Plakpi, out of which come the first men – a Naga (Naka), a Kachari (Ramsa), a Khasi (Chomang), an Assamese (Aham) and a Karbi (Datta et al., 2015, p. 19).

Parts of birds like the feathers and meat are used in many tribal societies for purposes like social rituals, making of folk medicines, and even match making for marriages. For instance, two cocks are made to fight with each other to foresee if a marital relation would last or not among the Rabha tribe in India. On the other hand, the Nagas regard hornbill to be a symbol of national identity. However, it has been observed that the birds associated with religious connotations around the world mostly include peacock, cuckoo, owl, swan, goose, eagle, woodpecker and dove. Scavenger birds find no place anywhere in mythologies as a symbol of goodness. Just as folk-tales have attached the concept of being 'dirty' with the crow, so is the case with any other bird feeding on carcass.

## **The Greater Adjutant and its Conservation in India**

### **Introduction of the Bird**

The Greater Adjutant (*Leptoptilos dubius*) shares its genus with two other birds, which include the Lesser Adjutant of Asia and the Marabou Stork of Africa (Gill & Rasmussen, 2003). This stork family is called Ciconiidae. The Greater Adjutant is characterized by features like a wedge-shaped bill, a bare head, and a large pouch in the neck. During daylight hours, it soars in thermals alongside other high flyers like the vultures, most of them being scavengers. It mainly feeds upon carrion and offal. Vertebrates such as fishes, frogs, rodents, and reptiles are also eaten by the bird. The Greater Adjutant navigates through shallow lakes, drying lake beds, and garbage dumps. Although it loves living singly or in small groups but in winters, during the breeding season, it gathers in colonies. These high-flying birds prefer building their nests in tall trees like *Alstonia scholaris* and *Anthocephalus cadamba* (Barman et al, 2020)

This bird, which had association with Indian mythology as the bird-figure Garuda, had found importance in British India. In the 19th century, the significance of the Greater Adjutant in Calcutta extended beyond its ecological role, prompting legislative measures to protect the species. While largely undisturbed, these birds occasionally fell victim to hunters seeking their meat for use in folk medicine. Celebrated for their scavenging capabilities, they were even featured in the logo of the Calcutta Municipal Corporation. An act was enacted imposing a substantial fine of fifty rupees for anyone causing harm to or killing these birds. Reflecting its cultural importance, the city of Calcutta incorporated the Greater Adjutant into its coat of arms through two patents issued on 26 December 1896 (Chaudhuri, 2002, p. 25). This emblem featured two adjutant birds gripping serpents in their beaks, adorned with an Eastern Crown as supporters. During this historical period, captured birds, likely originating from Calcutta, found their way to European menageries, further contributing to the bird's global recognition and significance. During this period, the birds, recognized for their resilience, were known to feed on partially burnt human corpses disposed along the Ganges River.

### **Conservation Story of the Greater Adjutant in India**

In India, there are many instances like 'Narmada Bachao Andolan' (Save the River Narmada) and the 'Chipko Movement' when large scale environmental campaigns were carried forward through community participation and utilization of folkloric elements. There are many conservation stories from the state of Assam (a state in the north-eastern part of India) as well. For instance, the Borbhuin Chetia Gaon, a remote hamlet in Sivasagar district of Assam, has been a safe haven for hornbills (Bhonde, 2016). These birds have become a part of the daily lives of the villagers and everyone is engaged in conservation of the bird colony. The villagers hold the hornbills sacred and desist from doing anything that might harm or disturb them. They believe that hornbills are harbingers of peace and prosperity for the entire area. The people of the village have planted fruit bearing trees like banana and papaya in their backyards for the birds' food. They also offer meat to the hornbills. Moreover, tall nesting trees of hornbills like silikha, jori are not cut down. The village has even won a Green Award for the conservation efforts. The villagers have launched a signature campaign under the banner of Assam Bandhu, a voluntary organisation, for carrying the message of conservation beyond the village (Bhonde, 2016).

The Greater Adjutant is locally referred as 'Hargila' in Assamese, the state language of Assam. The bird derives its name from the Assamese words 'har' meaning bone, and 'gila' meaning swallower. Dr. Purnima Devi Barman, a wildlife biologist affiliated with Aaranyak, an esteemed Indian wildlife conservation organization, reflects on her childhood memories of encountering Greater Adjutants in the rural landscapes of Assam. Following the completion of her M.Sc in Zoology from Gauhati University, Barman embarked on a profound journey, choosing *L. dubius* as the focal point for her Ph.D. in wildlife biology in 2007.

Her research led her to the villages of Dadara, Pacharia, and Singimari in the Kamrup district of Assam, where she discovered a disheartening reality. The population of the Greater Adjutant was dwindling in the area due to the destruction of nesting trees by local communities who viewed the Hargila as unclean and worthless. This revelation sparked an immediate sense of responsibility and urgency for Barman, propelling her into a solitary crusade for the conservation of this misunderstood bird.

Observing that the birds primarily nested in trees on private properties, Barman recognized the need to bridge the gap between human communities and the avian species. The pervasive disdain for the Greater Adjutant, fueled by its unpleasant odor and incessant cries, coupled with a lack of awareness regarding its endangered status, fueled Barman's determination to initiate a transformative one-woman campaign.

In the face of a dire situation, where protected areas for the birds were nonexistent, and conservation efforts were predominantly focused on charismatic megafauna like rhinos, tigers, and elephants, Barman made a courageous decision. Temporarily setting aside her Ph.D. thesis, she dedicated herself to instilling a sense of ownership and pride among the villagers, recognizing that this endeavor was more challenging than scaling a towering 90-foot bamboo structure to observe the intricate nesting behaviors of the birds.

Barman took help of local people, teachers and school students for her mission to save the habitat of the bird. She took a series of traditional approaches in this regard. She knew that it was necessary to establish public relations among the villagers and folklore was the best method to establish quick communication. On World Wetlands Day, through the help of teachers at a local school, Barman displayed slide shows. It was the same school where most of the tree owners sent their children. The kids went back home with the messages of conservation, chanting their praises for the Hargila and urging protection of nesting trees. They received goodies like free coffee mugs featuring images of the bird, which is a comparatively newer method of public relation.

As Barman began getting calls from villagers whenever Greater Adjutants fell from their nests, she understood that the attitudes of the villagers were gradually changing. Now Barman was able to collect the fallen birds and send them to the Assam State Zoo for care and, hopefully, eventual release. The chicks that get into trouble, that villagers and police save, are housed by the Assam State Zoo and released wherever large flocks of adults are found, mostly in garbage dumps. Each such release is a happy day for Barman. With so few wetlands left in Assam, the birds have adapted to foraging in the massive dump on the outskirts of Guwahati, Assam's largest city.

In time, Barman became affectionately known as 'Hargila Baideu' i.e. Stork Sister to the locals. She says, "Since 2010, not a single nesting tree has been cut down in the areas where we do our outreach work. It is estimated that there are now about 550 Greater Adjutants in Kamrup District alone."

Trailblazing grassroots conservation work of Dr. Purnima Devi Barman has gained international attention and has received support from the Conservation Leadership Program (CLP) and the Mohamed bin Zayed Species Conservation Fund. Her work is being rewarded in terms of increased nest numbers, breeding success, and mass awareness among communities and government stakeholders. Barman earned an India Biodiversity Award, given by the Indian government in partnership with the UN Development Programme. She also received a Royal Bank of Scotland's Earth Hero Award. The Green Oscar has been awarded to her in recognition of her untiring conservation work.

### Literature Review

Out of the studies which deal with the exploration of birds in folklore around the world, Ingersoll (1923), in his book titled "Birds in Legend, Fable and Folklore" has woven a rich tapestry of ornithological content ranging from how birds evolve into National Emblems, the folklore of bird migration, the place of Birds in Christian Tradition and Festivals, Birds as Symbols and Badges, along with some Indian stories based upon birds. While commenting that birds do exist in folklore around the world, Ingersoll adds that primitive men regarded birds as supernaturally wise and regarded them with great respect. Yet the respect also was done "with apprehension, for they might utilize their knowledge to his harm" (Ingersoll, 1923, p. 4). This signifies that birds were also treated as omen and some of them were even loathed by men.

In "Bird Gods", Charles de Kay describes how birds like the woodpecker, cuckoo, peacock, swan, owl, swan and eagle have been celebrated in world folklore. Among these, the goose has found a special place in Indian literature and epics (Vogel, 1962). Kay's comment "the marvellous tale of the share birds have had in the making of myth, religion, poetry and legend may do somewhat to soften these flinty hearts and induce men to establish and carry out laws to protect especially the birds" (Kay, 1898, p. xviii) holds the importance of folklore in conservation of nature and its species.



It is important to look upon ethno-ornithological practices worldwide to understand the environmental management systems based upon traditional and local ecological knowledge. This knowledge should not be sidelined, particularly when species of interest to conservation inhabit landscapes that local people own or have rights to use (Bonta, 2010). While describing conservation-friendly ethno-ornithology Bonta explains how ethno-ornithological knowledge has already been incorporated within conservation realm, “in a largely unheralded fashion”, citing case studies from Honduras, the USA, New Zealand and the Arctic region A discussion of methods. It is also important to note that “Local people from extremely diverse backgrounds who are brought into conservation begin to speak a common language and, to a certain extent, their very contribution to this discourse is a factor in shaping it” (Bonta, 2010, p. 14). The Greater Adjutant was originally widespread from Pakistan through northern India, Nepal, Bangladesh, Myanmar, Thailand, Laos, Vietnam, and Cambodia. However, its population faced a drastic decline due to various factors, including loss of habitat, felling of the nest-trees, pollution and land filling in the wetlands, poaching, and environmental contaminants (Barman et al. 2020). Limited knowledge of Greater Adjutant breeding sites in India was available until a survey in 1989–1990 in Assam, which identified 75 sites, with the largest colony having 31 nests in private forest areas of villages and suburbs (Barman et al. 2020). Presently, these storks are found only in Assam and Bihar in India and Cambodia. The conservation program's effectiveness is evident through the significant growth in nesting colonies within the Dadara, Pacharia, and Singimari villages of Kamrup District, Assam. Reports show that the number of nests in the area underwent a massive increase from 28 in 2007–08 to 208 during the 2019–20 breeding season, establishing it as the world's largest breeding colony of Greater Adjutant Storks (Barman et al. 2020).

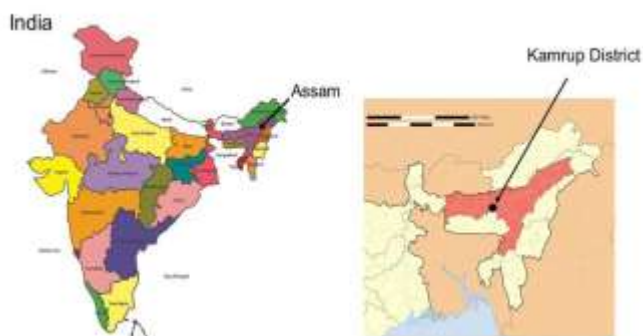
The conservation initiative prompted communities in Dadara, Pacharia and Singimari villages to cease felling nesting trees since 2010. The colony, housing about 650 storks, is now recognized as the largest known Greater Adjutant nesting colony, surpassing the count from a survey conducted in the 1994–1995 breeding season and the 1996 nonbreeding season (Singha et al. 2003). The colony recruits an average of 75 birds annually into the breeding population, and 85 rescued young birds have been released. Active involvement of village women, economic support for livelihoods, integration of Hargila conservation into local festivals and belief systems, and collaboration with school students and young people have contributed significantly to the program's success. This community conservation model has also been incorporated into the school curriculum in India. Initially disliked due to its association with slaughterhouse waste, the Greater Adjutant Stork is now embraced by the local community, symbolically integrated into their village religious ceremonies, and considered a cherished part of their locality.

### Methodology

The research methodology chosen for this study is a comprehensive approach that integrates case study analysis, field visits, and interviews to delve into the intricate fabric of the Hargila Conservation efforts. Imbued with a commitment to gaining a nuanced understanding, the researcher embarked on a journey to explore the Dadara, Pacharia, and Singimari nesting areas nestled within the Kamrup district. Venturing beyond the confines of theoretical abstraction, the researcher sought to enrich the study by immersing in the actual landscapes where Hargila Conservation efforts unfold. This involved on-site field visits during February 2023 to witness and document the dynamic initiatives taking root in these crucial nesting areas. The research's qualitative depth was further enhanced through a series of interviews, strategically conducted to capture diverse perspectives. Members of the Hargila Army, whose tireless dedication forms the backbone of conservation endeavours, became integral participants in this exploration. Additionally, the researcher engaged with young college students working for Hargila conservation, tapping into the reservoir of youth insights that often harbour innovative perspectives. To complement these on-the-ground interactions, a telephonic interview was conducted with Dr. Purnima Devi Barman, a key figure in the realm of Hargila conservation. This deliberate blend of in-person interviews and remote discussions ensured a well-rounded synthesis of voices and perspectives, enriching the methodology with a diverse array of first-hand accounts and expert insights. Through this meticulous and multi-faceted approach, the research methodology not only seeks to unravel the intricacies of Hargila Conservation efforts but also strives to encapsulate the essence of the human and environmental dynamics at play in these vital nesting areas.

### The Study Area

The area chosen for study is Dadara, Pachariya, and Singimari villages of the Kamrup District of Assam, where the project of Greater Adjutant conservation has been undertaken by Dr. Purnima Devi Barman. Dadara, Singimari, and Pachariya (26°13.31'9" N and 91° 37.58'6" E) are three adjoining small villages approximately 12 km from Guwahati city (Barman et al, 2020). A large number of wetlands surround the villages, making food available for the birds. The Guwahati garbage dump, a feeding area for Greater Adjutants in the non-breeding season, is about 14 km from the villages. It is situated on the north bank of the Brahmaputra River. It is located 5.6 KM from District headquarters Amingaon at National Highway 427 (Fig 1).



**Fig 1** Location of study area in Kamrup District in Assam, India. Maps from India Map with States Clipart ([https:// www.clipart.email/clipart/india-map-with-states-clipart-232537.html](https://www.clipart.email/clipart/india-map-with-states-clipart-232537.html)) and Creative Commons by PlaneMad/Wikimedia ([https://commons.wikimedia.org/wiki/File:India\\_Assam\\_locator\\_map.svg](https://commons.wikimedia.org/wiki/File:India_Assam_locator_map.svg)).

### Research Findings

Dr. Purnima Devi Barman's outreach programme started off with bringing women together through cooking competitions and religious ceremonies. This was because she had to convince the village women to protect the nesting trees on their land. More than 70 women joined the conservation efforts and Barman formed the 'Hargila Army' (Fig 2) with women designated as soldiers of nature. The Hargila Army is a self-help group of 70 women, mostly recruited from families that own nest trees, and all armed with expert weaving skills.



**Fig 2** A member of the 'Hargila Army' holding a Certificate of Appreciation for her contribution

Dr. Purnima Devi Barman established 'Hargila Army Pathshala' or schools for training up the women in conservation and skill development. Her concern was to make the women empowered through their age-old techniques. Thus she chose weaving. She provided them with high-tech handlooms and high-quality yarn to ensure livelihood opportunities. Barman set up the 'Hargila Learning & Conservation Centre' at a local school (Fig 3). This centre is equipped with television where documentaries of conservation are shown to the students. It also has posters, stories, and many other materials depicting the shades of a Hargila's life.



**Fig 3** The 'Hargila Learning and Conservation Centre' at Dadara village

Religion or belief systems are important attributes of folklore and these shape the psychology of a community. It is interesting to note that the hard work of Dr. Purnima Devi Barman has been so profoundly felt by the local communities, that people have not hesitated to change their very way of life. Women celebrate the 'Panchaamrit' ceremony or Baby Shower for the Hargila and pray for the safety of the mothers along with their nestlings. This is an amazing effect to observe conservation of a species entering into the religious life of people. Prayers for the well-being of the bird have been composed by local women and practised regularly in the 'Naamghar' (community prayer hall) and temple gatherings. One such prayer is as follows –

I arrived at company of good people  
I sat down to sing devotional songs (naam)  
I heard the words of the Hargila  
Which are like drops of nectar.  
The Hargila builds nests on tall trees  
We should not cut these down  
Autumn is the season of laying eggs  
They build the nests during this season

The pledge taken by the Hargila Army says that “We are going to be the Hargila Army! Protector of the Tree! Protector of the Bird! Our duty is to weave the stork's motif on the cloth!” This itself is a reflection of the belief system of the community, which lays great importance on pledges and oaths.

When women were organised under a single umbrella called the 'Hargila Army', they not only felt a sense of oneness but this also instilled self-confidence in them. They have performed 'naam prasanga' or religious prayer songs on public stages with the theme of Hargila conservation. It is quite interesting to note how a simple form of folk singing has been instrumental in changing people's perspective towards their ecology.

Women empowerment was another offshoot of this conservation mission. As local women have been skilled weavers, Barman secured a government donation of high-tech handlooms and high-quality yarn for her 'Hargila Army'. This led to financial freedom for the poor weavers, who are now busy weaving Hargila motifs on traditional Assamese clothes (Fig 4). These clothes are also being exported and have earned international recognition. Dr. Barman carefully employed an important component of material culture, which is weaving, for dual purposes. Apart from empowering the local women, the clothes travel worldwide spreading the story of the Hargila.



**Fig 4** Use of the Greater Adjutant as a motif in traditional clothes by weavers of the Hargila Army

Not only clothes but Dr. Barman has also ventured into designing traditional jewellery inspired by the Hargila motif. A designer from Assam and a leading woman entrepreneur, Pallavi Hazarika has designed Assamese traditional silver jewellery with the Hargila motif and has helped in spreading the word.

Barman also took inspiration from the culture of storytelling. She has designed and composed animated stories for children which are based upon the Hargila. These stories are narrated through posters in the contact classes held in the 'Hargila Learning and Conservation Centre' (Fig 5). Moreover, mask making and using it in different forms of folk performing arts might have inspired Dr. Barman to use large sized Hargila masks for awareness programmes. These masks are very colourful and generally can be worn like a hat.



**Fig 5** Comic stories based on the Greater Adjutant created by Purnima Devi Barman and her team

(This is the story of a Hargila named Diya. She is speaking about how she had fallen down from a tree top when she was just three months old and how a little girl had saved her life. The comic story tries to create awareness about Hargila conservation among children and young adults)

### Conclusion

Manab Das, a young student engaged with Hargila conservation in Dadara village says that ‘contrary to only 27 nests in 2007, the area has more than 250 nests in 2023. We are now working in the Morigaon habitation of Hargila as well.’ This statement is a testimony of the fact that the mission has borne fruits and people are happily engaged with it. On the other hand, Charu Das, a ‘Hargila Mitra’ (Friend of the Greater Adjutant) reiterates her pledge of conserving the bird. She says, ‘Whatever work we might have at home, one call from Hargila Baidew and we are ready to move’. Dr. Purnima Devi Barman says that she is very pleased at how attitudes toward the Greater Adjutant in Kamrup District have changed and how awareness has sprouted from the grassroots. But at the same time, she admits that much more needs to be done. She hopes to begin a planting program to replace ageing nesting trees. Moreover, she wants to expand her work to other areas of Assam where most of the nesting trees have been cut down. She also dreams of establishing a rescue centre devoted to the Greater Adjutants. She hopes that one day the protection of the Greater Adjutant in Assam would be ranked as highly as the conservation of charismatic species like rhinos, tigers and elephants.

### Acknowledgement

The researchers would like to thank Dr. Purnima Devi Barman, who had not only talked about the conservation project but also arranged for key people at Dadara village, making the field studies smooth. We also express gratitude towards members from the Hargila Army and young students involved in conservation of the Greater Adjutant, for helping during the field visits.

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