



Studying Inclusion Of Sustainable Linkages In The Celebrations Of Selected Traditional Festivals Of Assam

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ABSTRACT

The interaction between man and nature has always been a topic of exploration. It has shown to be the unbreakable link in the development of successful human civilizations across rivers in a way that is both sustainable and effective at meeting fundamental needs, that has effectively led to the inventions, and advancement of the human races. This is reflected in the arts, crafts, dietary patterns, and attire indicating evidence of ecocentrism being the basis behind evolution of the Bihu festival which is being studied. Circular economy quite often focuses on local production and consumption, but this is not a new concept in Indian culture and tradition as evident from various instruments, accessories that are used in Bihu. Finding these connections between traditions and sustainability is the main goal of this paper which includes evidence-based literature methods. In this study, various types of Bihu, its association with farming cycles and its close linkage with nature in terms of celebration, accessories, and musical instruments evolved from locally available material is explored. Literature and ground experience gathered during study suggests that the gatherings are one of the nodal centres for dissemination of information and intergenerational knowledge preservation at rural level. It is thus necessary to include the roots of our IKS well embedded in our day-to-day life into designing new approaches for community developments. From the findings, it can be safely stated that developmental policies recognising the sustainable connections in culture is the need of the hour to comply with international sustainability commitments.

Keywords – sustainability, Bihu, culture, Indian Knowledge System

I. INTRODUCTION

Human beings have an intricate relationship with nature from the time immemorial. Human civilizations have evolved around rivers, satisfied basic needs from nature and flourished with the help of nature. Hence, it is only imperative to show our gratitude towards the undeniable role nature plays in sustaining human civilizations. India is the best example justifying this. In addition to this, due to its geographical diversity, India exemplifies multiculturalism, making it the ideal location to research indigenous community engagement and embedded sustainability knowledge there too. As a result, it is a highly convenient approach to study and share the Indian knowledge system through art and festivals. It points out that the customs and rituals adopted in the culture contribute to the sustainable development of the area from the economic, social, and environmental perspective (Monakhova, 2020).

Ancient Indian texts often emphasise on this ideology. Thus, Indians are no exception when it comes to worshipping mother earth. Assam and its harvest festival - Bihu deserves a special mention in this context. The reflection of the arts, crafts, dietary patterns, and attire indicating evidence of ecocentrism is the basis behind evolution of the Bihu festival which is being studied. To offer a brief example, according to some interpretations (tai origin), the word Bihu is derived from 'boi' meaning rules of devotion and 'hu' that is cow, hence 'cattle worship'. (Barua, 2009)

To validate the aforementioned claim, we went through the United Nations 17 Sustainable Development Goals set in 2015. Following goals and their sub goals indicates the role of culture and traditional practices in achieving UN SDGs –

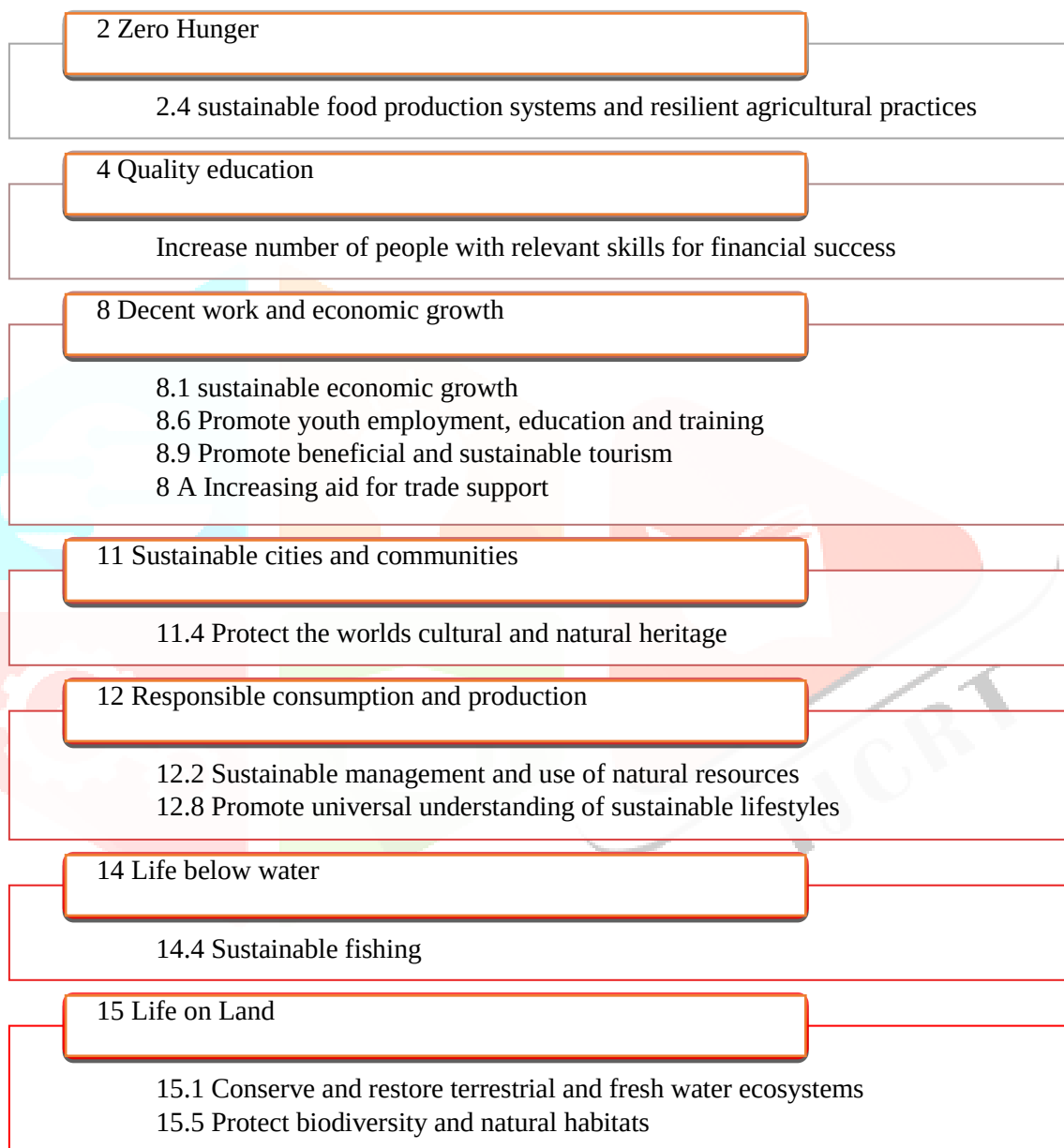


Figure 1: Linkage between SDGs and culture and traditional practices

In essence, art and culture are integral to achieving the Sustainable Development Goals by fostering awareness, cultural preservation, education, empowerment, economic growth, environmental sustainability, peace, and social cohesion. Their ability to engage diverse communities and communicate universal themes makes them powerful tools in advancing the global sustainability agenda.

II. METHODOLOGY

This qualitative research paper is aimed at an in-depth exploration approach, interpretive in nature. Evidence based literature method was followed while writing this paper. Online selective interviews clubbed with ground experience was used as an interpretation tool along with evidence from secondary literature.

The online interview was conducted in the year 2017. Ms. Babita Baruwati, from Assam, who is currently working as an Open Innovation Manager, India at Unilever. The interview was conducted to get the insights of Bihu dance and festivals including rituals, trends and community interactions.

The field visit was carried out in the year 2020 during the month of January. The interviews and personal interaction with the Karbi community were conducted during the visit. Some data was also taken with the help from the NGO Aaranyak. It is a leading wildlife NGO working in close association with local communities, based in Guwahati. It was founded by Bibhab Kumar Talukdar. It is a Scientific, Industrial Research and frontline environmental organization of India. It works all over the eastern Himalayan region on nature conservation, natural resources management, climate change, disaster management and livelihood enhancement of marginalized communities through research, education and advocacy.

Finally, the information from numerous primary and secondary sources were combined, and additional interpretive contributions were made in light of practical experience. Secondary data was collated from over a rich resource of more than 57 research publications, 29 reports, and 38 books and 7 popular media and research articles published in regional and national languages and national online repositories.

III. BIHU FESTIVAL CELEBRATION

Bihu is celebrated by all the Assamese irrespective of their caste, class, creed or race, faith, religion. Celebrated thrice over the agricultural year, this festival is marked to celebrate particular stages of cultivation of paddy - an important crop of Assam. It has three phases aligned with the agrarian calendar.

1. Phase 1 - Springtime Bohag Bihu is celebrated in mid-April after the seeds of “Ahu” (autumn rice paddy) is sown and before the seedlings of “Sali” (winter rice paddy) are transplanted. It is around the *chaitra sankranti*. It lasts for seven days marking the Assamese new year and preparation of the field for cultivation. This time of the year brings joy, sense of fulfilment and celebration to the people whose life is integrally connected with the natural cycles. This time of the year symbolises rejuvenation for mother earth accompanied by the melodious sound of Cuckoo. Rituals in Rongali Bihu are to appease the forces of nature and the five elements - life-earth/ soil, forest, water, air and the sky. (Choudhury, 2014)
2. Phase 2 - Autumnal Kati Bihu is celebrated in mid-October. It is celebrated around the *Ashwina Sankranti*. During this period of the year, Assam faces scarcity of food. Kati Bihu symbolises empty granaries and shortage of food supplies. It is celebrated for worshipping god before farmers initiate preparations for an abundant harvest.
3. Phase 3 - Magh Bihu of winter is celebrated in mid-January around *Pausha Sankranti*. It is also called Bhogali Bihu, the festival of food. This festival marks the matured stage of harvesting. After the hard work of months together, this time marks enjoying the benefits. Feasting and relaxing after the labour of multiple months is the feature of Magh Bihu. (Cultural Bandwagons, 1982)

Different tribes of Assam call it with different names such as Bihu, Bi-hau, Bisu, Pisu etc. However, the intention behind celebrating it remains the same. It assimilates different tribes like - Mishing, Tiwa, Moran, Kochari, Bodo, Dimasa etc. As there is diversification in the name of Bihu, it also brings in different communities together. As a melting pot of culture, Assam fuses communities that trace their origin to Aryavarta, Tibeto-Burmans, Ahoms, Dravidians and Austric people as well (Choudhury, 2014).

IV. HISTORICAL BACKGROUND OF BIHU

Historically, Assam was occupied by tribal races who were directly dependent on nature to satisfy their basic needs. Bihu originated as a festival giving ritualistic basis to be grateful to nature and continue satisfying increasing demands of food with the growing population.

Mythologically, it is associated with the myth of Bordoisila who was supposed to be the daughter of Assam. It is believed that she got married and visits maternal house once a year when spring Bihu is around. It is considered to be a female spirit. The people of Assam experience a violent storm which marks the beginning of Bihu and another strong storm after her departure which is devastating. The word Bordoisila means a storm girl. Sikhla means girl and Bordoi means storm. It originated from Bodo language (Gogoi, 2019).

In the Hindu mythology, this festival is associated with the creation of the musical instrument 'Dhol'. It is believed that Lord Krishna gave the seed of Cham tree to Narada who sowed it on earth in Kali Yuga. After the tree grew, Biswakarma cut it down and Sukmal gave the trunk a shape of Dhol. Thus, the festival marks the descent of musical instruments of heaven on the Earth.

Ancient Sanskrit texts like Atharva veda mention about Bisuvan, Vishnu Purana mentioning Bisuva might also be the early references to Bihu. Recently, attempts have been made to trace the origin of this festival to Tai origin. (Gogoi, 2019)

V. BIHU RITUALS

There are 40 different types of rituals performed during the festival. There is explicit traditional cuisine with medicinal value served as a part of the ritual. Bihu being an agrarian festival, rituals about agrarian activities are performed. Some of them are-

1. Washing agrarian equipment
2. Washing and cleaning of cattle and
3. Putting lighting in Sali-paddy (type of rice) fields at the panicle initiation stage to protect crops from pests etc. (Neog, 2020)

VI. CONNECTION / INCLUSION OF ENVIRONMENT WITH -

6.1 AAHARYA ELEMENT

Aaharya element comprises but not limited to make-up, hair, jewellery and costume (here, attires) and accessories. The "*Gamucha*" is one of the most easily recognizable cultural symbols of the Assamese and is an integral part of almost all socio-religious ceremonies. It is considered as an honorary piece of cloth commonly used for felicitation in Assam. Traditionally, the women used to apply mehendi (hands completely coloured instead of designs) extracted from locally available *jetuka* (*Lawsonia inermis*) plant and *barhamathuri* (*Magnolia sphenocarpa*) plant. To decorate the hair, women used to adorn their buns with orchids locally called 'kopou' (*Rhynchostylis retusa*, also called foxtail orchid). Three types of *kopou phool* are found in Assam – *kopou phool*, *mota kopou* and *bhatou phool*. In old times, when there was no make-up or alike accessories were not customary, women used to chew new buds of *barhamathuri* with betel nut to give a darker shade to lips and tongue during the Bihu festivities which served as a natural lipstick (my government, 2022).

Assam is the home of several types of silks, the most prominent and prestigious being "*Muga*", the natural golden silk exclusive only to Assam. Apart from "*Muga*", there are other two varieties called "*Paat*", a creamy-bright-silver coloured silk and "*Eri*", a variety used for manufacturing warm clothes for winter. (Culture of Assam, 2020) Along with the traditional Mekhala chador / sador, a *Riha* is still worn as part of the Assamese bridal trousseau and in other indigenous traditional events like Bihu. The Bihu dress is *Muga* and *Mekhela Sador* (golden silk, two-piece traditional dress of Assam) covered by red and green floral motifs and the red blouse. Men wear *Muga dhoti-kurta* and tie a *gamusa* (turban) on their head. This particular costume displays the culture of Assam as a whole. The Red colour is the symbolic representation of life, and *muga* silk emphasises on sericulture for which Assam is very famous. (Choudhury, 2014)

The "*Jaapi*" is a traditional conical hat from Assam which is made from tightly woven bamboo and/or cane and "*Tokou paat*" (*Trachycarpus martianus*), a type of large palm leaf. The word "*Jaapi*" derives

from *Jaap* meaning a bundle *Tokou* leaves. Plain "*Jaapi*" is used by farmers for protection from the sun and rain while working in the fields, while ornate "*Jaapi*" is worn as a status symbol by Assamese royalty and nobility. (Culture of Assam, 2020)

Assamese ornaments (*Axomiya gohona*) are one of the most important parts of Assamese culture. It is generally made of gold termed as "*Kesha Xoon*" or raw gold. Some of the popular traditional Assamese jewellery include earrings with exquisite *Lokaparo*, *Keru*, *Thuriya*, *Jangphai*, *Long Keru*, *Sona* or *Makori*; an array of necklaces including *Golpata*, *Satsori*, *Joon biri*, *Bena*, *Gejera*, *Dholbiri*, *Doogdoogi*, *Biri Moni*, *Mukuta Moni*, *Poalmoni*, *Silikha Moni* and *Magardana*, and diversified rings including *Senpata*, *Horinsakua*, *Jethinejia*, *bakharpata* and others. The jewellery is typically hand-made, and the designs mostly depict flora and fauna treasures of the region. For example, in *Lokaparo*, there is a pair of pigeons sitting opposite to each other. *Joon biri*, is worn as a necklace and earrings are of Crescent moon shaped. Similarly, *Dholbiri* resembles the dhol instrument made from locally available wood.

6.2 FOOD

Assamese cuisine majorly emphasizes the importance of green leafy vegetables. Depending on the region and culture, a particular dish is made during the festival, notably on Goru Bihu or Saat Bihu, using 7, 12, 100, or 107 bitter green leafy vegetables. This ceremony is known as 'Satsaki'. It is widely held that eating the dish helps avoid a number of ailments all year long. Dhekia, Tikoni Barua, Nefafu, Bon Jaluk, Kosu, Bhedailota, Brahmi, Narsingha, Khutura, Kolmou, Mosundori, Mandhanian, Pasotiya, Chirota, Bhekuri, Puroi, Bokphul, etc. are a few examples of the green leafy vegetables used to prepare Satsaki. Scientific research has supported both the widespread belief and the medicinal values of eating these green leafy vegetables. (my government, 2022). This ritual is known as 'Khungkha' by Bodos and 'Sapta Ras' by Koch-Rajbongshis. Members of Tai Ahom community also prepares the dish called as eshoebi-dhsaak (a dish including 101 species of herbs / green leafy vegetables) during the celebration of Goru Bihu serves as a representation of the enduring heritage of Assam's diverse and abundant herbaceous culinary practises. (Borah, 2023). Over the course of time, there has been a significant decline in the importance of the agrarian sector, which currently contributes just one-fifth of the state's income. This trend highlights the gradual disappearance of the traditional Assamese way of life, where the act of gathering exhoebi-dhsaak in a festival morning has become increasingly unattainable. Thus, a revival of this tradition has become a very crucial step so as to protect and preserve the endemic as well as local flora of this region.

Table 1: Medicinal uses of Plants used during festival

Plant (Local name)	Scientific name	Medicinal Property	Usage during festival
Dhekia	<i>Diplazium esculentum</i>	Traditionally used for the prevention or treatment of several diseases such as diabetes, smallpox, asthma, diarrhoea, rheumatism, dysentery, headache, fever, wounds, pain, measles, hypertension, constipation, oligospermia, bone fracture, and glandular swellings	Delicacy in food
Tikoni Barua	<i>Smilax zeylanica</i> L.	Stems are used as a toothbrush which is considered useful against toothache. They also used in urinary complaints and in dysentery, and roots are taken as tonic	New shoots or young leaves are eaten as vegetable
Nefaphu	<i>Clerodendrum colebrookianum</i>	Diabetic friendly, reduce hypertension	Vegetable mix during festival
Puroi	<i>Basella rubra</i>	Pulped leaves used as poultice to treat	Vegetable

		boils and sores. Cooked roots used to relieve diarrhoea, or as paste for swellings. Flowers used as an antidote for poisoning. Juice from berries applied as eye-drops for conjunctivitis	mix during festival
Bokphul	<i>Sesbania gradiflora / agati grandiflora</i>	bacterial infections, inflammation, fever, rheumatic swellings, ulcers, nasal catarrh, nyctalopia, cephalalgia, febrifuge, diarrhoea, gastralgia, dyspepsia, and to cure scabies	Vegetable mix during festival
Bhekuri	<i>Solanum violaceum</i>	asthma, dry cough, catarrh, colic, flatulence, worms, and fever	Vegetable mix during festival
Bon jaluk	<i>Oldenlandia diffusa / Hedyotis</i>	- Used against viral fever, acne, boils, and other skin ailments - it is used to treat carbuncle, cellulitis, scrofula, and other external diseases, as well as pneumonia and pulmonary infections - Topically, it is applied as a blood vitalizing herb to treat injuries, and for treatment of snake bite. - It helps cure itching of the skin, ringworm infections, eczema. - For eczema, grind the leaves and stem and add some vermilion (sindoor) and mix well and apply it on the area. Should be used daily for 15-20 days.	Vegetable mix during festival
Kosu	<i>Colocasia esculenta</i>	used for treatment of various ailments including asthma, arthritis, diarrhoea, internal haemorrhage, neurological disorders, and skin disorders	Vegetable mix during festival
Bhedailota	<i>Paederia foetida</i>	- home remedy for gastrointestinal problems like diarrhoea, chronic dysentery, dyspepsia etc. - used for treating rheumatic pain, neuralgia, paralysis, any inflammation and fertility problems	Vegetable mix during festival
Brahmi	<i>Bacopa monnieri</i>	memory improvement, insomnia, epilepsy, and as an anxiolytic	Vegetable mix during festival
Narsingha	<i>Murraya koenigii (L.)</i>	- anthelmintics, analgesics, digestives, and appetizers in Indian cookery - The green leaves of <i>M. koenigii</i> are used in treating piles, inflammation, itching, fresh cuts, dysentery, bruises, and oedema. - The roots are purgative to some extent	Vegetable mix during festival
Khutura	<i>Amaranthus spinosus</i>	- used as an expectorant and to relieve breathing in acute bronchitis. - it is also used as a sudorific, febrifuge, antidote to snake poison, galactagogue, and to treat	Vegetable mix during festival

		menorrhagia. Some tribes in India apply <i>Amaranthus spinosus</i> to induce abortion	
Kolmou	<i>Ipomoea aquatica</i>	it is used against piles, and nosebleeds, as an anthelmintic, and to treat high blood pressure	Vegetable mix during festival
Mosundori	<i>Houttuynia cordata</i>	- Extract is used in ameliorate cancer, inflammation, viral and microbial infection - Also used against pneumonia	Vegetable mix during festival
Mandhani a	<i>Eryngium foetidum L</i>	It possesses a wide range of ethnomedicinal uses including treatment for burns, earache, fevers, hypertension, constipation, fits, asthma, stomach ache, worms, infertility complications, snake bites, diarrhoea and malaria	Vegetable mix during festival
Pasotiya	<i>Vitex negundo</i>	Leaves have anti-inflammatory properties. It cuts down pain, it's grinded and applied to fractured limbs for analgesic property. It's steamed and eaten in raw form to improve appetite too	Vegetable mix during festival
Chirota	<i>Swertia chirata</i>	<i>Swertia chirata</i> is a bitter tonic, carminative, laxative, antipyretic, febrifuge, anti-periodic, anti-inflammatory, stomachic, and anthelmintic. - It is used in treating piles, skin diseases, ulcers, and diabetes.	Vegetable mix during festival
deeghloti	<i>Litsea salicifolia</i>	- Oil extracted has antimicrobial and Insecticidal property - traditionally used for curing various gastro-intestinal ailments (e.g., diarrhoea, stomach ache, indigestion, and gastroenteritis) along with diabetes, oedema, cold, arthritis, asthma, and traumatic injury.	the cattle are washed and gently beaten with twigs of this plant
Makhiyoti	<i>Flemingia strobilifera</i>	- Oil extracted has antimicrobial and Insecticidal property - traditional medicine to treat epilepsy, hysteria and fever	the cattle are washed and gently beaten with twigs of this plant

6.3 DANCE AND SONGS

Bihunaach, Bihunaam and Bihubadya give aesthetic feeling to the festival of Bihu. (Choudhury, 2014). Songs sung and dance performed during the festival of Bihu has a typical rhythm and is gender neutral. Also, men perform a dance called Hunchari marking the speciality of the Bihu dance.

Bihu is essentially a community dance involving both men and women. generally, women dance in peculiar formations like semicircles, circles or lines. Men with instruments occupy the central position and eventually enter in the women's formation in a synchronized pattern. Use of wrist, waist and abdominal movements in a fluid manner is the characteristic feature of this dance. There are different forms of this Bihu dance across the state like - Moran Bihu, Deori Bihu, Mishing Bihu, Jeng Bihu, Rati Bihu etc. Also, depending on the season and festival, the name of this dance also changes.

Rati-Bihu is held at night in the forest. A group of grown-up girls and a group of grown-up boys participate by maintaining decent distance. The group of girls performs Bihunach, sing Bihunam and plays three typical traditional musical instruments - Toka, Gogona and Hutuli. The group of boys sing Bihunam and play three other kinds of typical traditional musical instruments. Bihu-dhol, Mohor Xinor Penpa, and Pati-tal.

Importance given to the natural habitat around this time is the main theme of songs sung during the festivities. Flowers described in the songs are seasonal, however, descriptions of birds and fish are not seasonal. In the Bihu songs, descriptions of birds and other wild animals that are frequently seen in the area are common. Numerous songs use startlingly lyrical and intense language to illustrate observations of nature. One such song refers to the frugivorous green imperial pigeon (*Ducula aenea*) as "the phantom of the fig tree," which not only describes its feeding behaviour but also makes an elliptical reference to its deep, booming call, which is likely what gave rise to the term "phantom."

A host of other birds are also mentioned in the Bihu songs. These include the river tern (*Sterna aurantia*), shikra (*Accipiter badius*), barbet (*Megalaima spp.*), spotted dove (*Streptopelia chinensis*), ruddy shelduck (*Tadorna ferruginea*), Kalij pheasant (*Lophura leucomelanos*), Asian koel (*Eudynamis scolopacea*), Indian cuckoo (*Cuculus micropterus*), purple swamp hen (*Porphyrio porphyrio*), blue whistling thrush (*Myophonus caeruleus*), munia (*Lonchura spp.*), crow (*Corvus splendens* / *C. macrorhynchos*), myna (*Acridotheres spp.*), magpie-robin (*Copsychus saularis*), sunbird (*Aethopyga spp.*) and black-necked stork (*Ephippiorhynchus asiaticus*). Several types of fish (*xâl, xol, xingi, sengâ, homi, boralî, bâlisondâ, eleng, dorikonâ, nâro, bato, rou, citai*) are also referred to in the songs, thus emphasising the influence that the landscape has on the particular cultural form. Plants which are considered to be the auspicious ones, during the Bihu festivities are with high productive capabilities during that particular season. For example- *Tora, Kachu* plants which are auspicious as they are highly productive with climate and habitat corresponding to the Bihu festivities. (Barua, 2009)

6.4 INSTRUMENTS

Total seven musical instruments are accompanied by Bihunach and Bihunam, and are called Bihubadya. They are - Bihu-dhol, Mohor Xinor Penpa, Toka, Gogona and Hutuli, Pati-tal and Baanhi. Out of these, the first five are prototypical and made of locally available materials.

From the shape and sound of Xutuli, it can be deduced that this instrument imitates birds. It is made of sticky soil. In Assamese culture during the festival of Bohag Bihu, Xutuli has an importance of its own. Initially, the cowherding boys (Gorokhiya lora) used Xutuli as a toy, because of ease of construction. Xutuli is played by both boys and girls in Bihu, but most importantly Xutuli is an indispensable part of Jeng Bihu and Bihuwati dances, and predominantly played by girls. The Karbi community calls it Torlit and it is made in the imitation of the sound of the cicada to invoke rain. The Karbi young boys play the Torlit to amuse in their slash-and-burn cultivation. The Rabha community calls it Gugubela or Gugumela and is made of sticky soil in hemispherical shape. It is played by cowherds in the leisure time of cultivation.

This device is an excellent illustration of utilizing the nearby resources. Because Assam sits in a flood plain and has a plentiful supply of clayey soil, it is used to make this instrument. Similar instruments are also used in areas like the Gulf of Mexico (instrument named Aztec Oceania), and Peruvian death whistle having similar soil features.

The **dhol** is traditionally made of a wooden barrel with both ends covered with animal skin. This two-sided instrument can be played either with bare hands or bamboo sticks. The **Gogona** is a musical instrument used in Bihu that is played by holding it in the mouth. Its origins can be traced back to Mongolian culture and it is made from bamboo, requiring skilled craftsmanship. There are different types of Gogona named after their size, such as Lihiri Gogona, Rmdhon Gogona, and Xaliki Gogona. **Khol** is another type of percussion instrument that resembles dhol. The instrument is crafted out of clay, featuring a smaller head on one end and a larger head on the other. **Pepa** is a musical instrument that is essential to the Bihu festivities. It is crafted from buffalo horn, with a small bamboo pipe inserted into it. The instrument emits a piercing sound and is often utilized to signal the start of an event. (Parashar, n.d.)

VII. ECOLOGICAL SIGNIFICANCE

Brahmaputra valley undergoes transition every 2 months due to its tropical, wet climate. Assam is known for its fertile land, agriculture and livestock raising practices; and thus, the Bihu festival, its culture, ecological set up and rituals are centred around the ideas about the promotion of agricultural prosperity, the transition of the seasons, and the mode of living in a rice growing society in a tropical, floodplain ecosystem. Needless to say, this festival crosses all the boundaries of society and communities by having parallel forms of Bihu throughout the state including the social groups Bodos, Mishings, Râbhâ and Lâlungs (Barua, 2009). Clearly, the rituals and songs developed for Bihu festivals show the demarcations of seasonal changes, ecological landscapes and resource availability across the year. Bohag Bihu (Bohag month) which is also an Assamese new year comes around April, that is the pre-monsoon period and marks the gradual transition from dry winter to hot and humid summer. This new year also indicates the new season for most of the plant's germination and reproductive cycle. As the forests and grasslands are still pleasant and penetrable, the landscape becomes conducive (before monsoon regrowth) for celebration. Another aspect of this festival is worshipping the cattle by tending and bathing them on the day of 'Garu-Bihu'. The cattle are given preeminent respect and are considered auspicious because of their community interaction with respect to farming and providing milk products and other byproducts. A special yagnya (fire ritual) is also held on this day to worship their role in the ecosystem. Bodo community of western Assam, used to devote each day of Bihu for honouring a specific domestic animal, thus stressing the important role these animals played in the everyday life of the community. It's possible that the reason why some plants, such as *deeghloti* (*Litsea salicifolia*) and *makhlyoti* (*Flemingia strobilifera*), were used to pat cattle on the day of Garu-Bihu had less to do with their easy accessibility in the habitat and more to do with their insecticidal powers.

Post Bohag Bihu, Kati Bihu comes in the month of October – November, which is the middle of the crop cycle. It is not celebrated like a festival, due to less availability of food resources. It is believed that in this season, the flora and fauna become less active as opposed to Bohag Bihu or the harvest season. The locals hence light the lamp in front of the tulsî and in the fields as a symbol of worship for obtaining good crop yield. (Barua, 2009). According to scientific evidence, the illuminated lamps attract insects from the paddy fields, which then become prey to the fires of these lamps. This improves crop health while also deterring insects. During uttarayan, the third Magh Bihu is celebrated marking the post-harvest season. During this festival, the dried banana leaves, bamboos, straws are offered in the holy fire which is suggestive of agricultural waste management and nutrient recycling in the soil to end the agricultural cycle. In order to ensure that economically significant trees and plants yield fruit profusely, straw is tied to their bases on the eve of Magh Bihu. A couplet is recited at the moment of tying. Assam still practices this custom today. A sentence with the wish for rapid growth may occasionally be written on a nahor (*M. ferrea*) tree leaf and then stuck to the house's roof or other surfaces.

Another glaring illustration of the connection between the cultural form and daily life is the frequent naming of regional flora, vegetables, and fruit within the lyrical expression. The intake of such plants demonstrates that, even if the society is mostly built on settled agriculture, dietary variety is supported by the area's ecosystem. Many of these plants are not necessarily cultivated but instead grow wild in the area.

VIII. SOCIAL GATHERINGS - TOOL FOR INFORMATION DISSEMINATION AND INTERGENERATIONAL KNOWLEDGE PRESERVATION

Social interactions especially during Bohag Bihu and Magh Bihu includes sharing of delicacies, their recipes, folklores, passing of traditional knowledge and also a great way to protect the ancient wisdom. It will not be incorrect to state that the cultural practices and social gatherings contribute to the exchange of thoughts, ideas and ancient stories imbibed in the Assamese culture. These exchanges act as a mode of knowledge dissemination, encouraging participation and passing of inherited customs to stimulate community action pertaining not only to preserve the art and culture but also promote and encourage philosophy of this tradition.

IX. CIRCULAR ECONOMY

The circular economy advocates for sustainable production, reasoned consumption, efficient waste management, all while fighting for the well-being of individuals. The deeply rooted Bihu culture, can be connected to the concept of a circular economy in several ways:

- **Sustainable Agriculture Practices:** Bihu is an agricultural festival celebrated by the Assamese to mark the different phases of the farming calendar. It promotes sustainable and organic farming practices, emphasizing the importance of maintaining the fertility of the land. These practices align with the principles of a circular economy, where the focus is on **regenerative agriculture and minimizing waste**.
- During Bihu, people often wear traditional Assamese attire and use handmade products. This supports local artisans, thereby strengthening the **local economy**. The evolution and development of traditional designs of attires, accessories, instruments and all the articles and objects used as a part of culture and traditions promotes **eco-design** by valuing products (eco-friendly) that are crafted with locally sourced sustainable materials and methods. These sustainable practices are encouraged locally as well as globally and thus are enhanced across generations, which is an exact contrast to **programmed obsolescence**.
- As mentioned earlier, The Kati Bihu is associated with limited availability of resources, the ways of celebrating this are in accordance with the season, **resource optimization, responsible consumption, and reducing waste materials** so as to be in harmony with nature.
- All the rituals, along with food delicacies are evolved based on seasonal variations in the plants, vegetables, flora and fauna of the environment. Since ages, the focus is given not only on preparing traditional seasonal recipes but also encouraging and sustaining these eco-conscious practices.
- Assam is known for its rich tradition of handloom and handicrafts, including silk production. A circular economy encourages the preservation of traditional craftsmanship and the utilization of local materials. The Bihu culture's emphasis on handcrafted textiles and artisanal skills is aligned with this concept by **promoting local, sustainable production**.
- Often, one product / byproduct can be a resource for other business, for example, Xutuli made from clay, artifacts made from used bamboo sticks, pepa instruments made from buffalo horn or softened buffalo dung etc. Such and similar practices are the great example of one of the pillars of the circular economy which is, **Industrial (rural) ecology**. This pillar deals with linking several economic actors in order to optimize the use of resources in a given territory
- **Community Engagement:** Bihu celebrations bring communities together to celebrate and share in cultural traditions. Nowadays, these festivals have opened new horizons in the form of global festivals for attracting tourists from different parts of the world. This new sense of community participation is leveraged to promote local circular economy and sharing of resources within and outside of the community.

By integrating circular economy principles into Bihu celebrations and daily life, Assamese communities are contributing to a more sustainable and regenerative approach to economic and cultural practices.

X. CONCLUSION

Even though many practices are not followed completely in the contemporary era, these traditions and rituals have travelled across several generations through the means of art, dance and music. Thus, we can conclude that art plays a crucial role in storing the vast ocean of cultural information which needs to be revived in order to propagate their seeds and build an ecologically and sustainably conscious community.

As a result, when developing new community development plans, it is crucial to fully incorporate the fundamental components of Indigenous Knowledge Systems (IKS) into the very fabric of our daily existence. The data reported here indisputably confirm that it is necessary to design policies that not only recognize but also actively harness the long-lasting links found within our cultural legacy. These policies act as a link between our cultural heritage and our international obligations, which is clear given the current context of global sustainability commitments. Therefore, acknowledging and incorporating IKS into our strategy as we negotiate the challenging landscape of sustainable

development is not just prudent; It is a moral and strategic requirement, that facilitates a harmonic convergence of history, community well-being, and our shared global goal of a sustainable future.

XI. ACKNOWLEDGEMENT

We extend our heartfelt gratitude to the Karbi Anglong community of Kohora village, Assam, for generously sharing their invaluable knowledge of their art and culture, which enriched this research significantly. We also wish to acknowledge the contributions of the Department of Environmental Studies, S K Somaiya College, whose faculty members provided crucial insights that shaped the direction of this study. A special note of thanks goes to Dr. Babita Baruwati, Scientist, whose expertise and guidance were instrumental in deepening our understanding of the culinary traditions and Bihu culture of Assam. Lastly, we express our profound appreciation to the cultural lineage of Assam, whose living heritage continues to inspire and inform this research.

XII. CITATIONS

- Barua, M. (2009, August). The Ecological Basis of the Bihu Festival of Assam. *Folklore* 120, JSTOR, 213-223.
- Borah, I. (2023, September 20). The Sentinel. *Evolution of Bihu and sustainability questions*. Assam, India.
- Choudhury, P. (2014). The Fruitful and the Fulfilled: Looking at Adi Rasa and Shringar Rasa in the Folk Aesthetics of Bihu. *Rupkatha Journal*.
- *Culture of Assam*. (2020, December). Retrieved from <https://assam.gov.in/about-us/391>.
- Cultural Bandwagons. (1982). *Economic and Political Weekly*, 1729-1730.
- Gogoi, R. (2019). Origin and Background of Bihu Festival (Spical Emphasis on Ronagali Bihu). *International Journal of Multidisciplinary Research and Publications*, 20-21.
- Monakhova, M. (2020). *Festivals as a sustainable development tool: Case study of Teriberka, Russia*. Dissertations and Theses @ UNI. 1046.
- my government. (2022, April). *Significance of Flora in Bohag Bihu*. Retrieved from <https://blog.mygov.in/significance-of-flora-in-bohag-Bihu/>.
- Neog, D. P. (n.d.). Glorious Intangible Heritages of Bihu-festivals.
- Parashar, S. (n.d.). *Traditional variations of instruments*. Retrieved from <https://www.theindegenuous.org/post>.
- UN. (n.d.). *Department of Economic and Social Affairs Sustainable development*. Retrieved from <https://sdgs.un.org/goals>.

XIII. BIBLIOGRAPHY

- Bayable, D. Traditional Folk Media for Environmental Communication and Preservation in Guna Community, Amhara, Ethiopia. Preprints 2020, 2020110570. (<https://doi.org/10.20944/preprints202011.0570.v1>)
- Sarmah, D., & Goswami, J. (2023). Bihu: The Intangible Cultural Heritage of Assam (Special emphasis on Rongali Bihu. *Journal of Research in Humanities and Social Science*, 11(8), 172-176.
- Yemer, D. B. (2020). Traditional Folk Media for Environmental Communication and Preservation in Guna Community, Amhara, Ethiopia.

XIV. E-REFERENCES

- National library of medicines - <https://www.nlm.nih.gov/>
- E flora of India - <https://efloraofindia.com/>
- India biodiversity portal - <https://indiabiodiversity.org>
- Assam state portal - <https://assam.gov.in/citizen/427>