



Cover Page



INDIGENOUS KNOWLEDGE AND PRACTICE OF RABHA COMMUNITY AND SUSTAINABLE DEVELOPMENT

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Abstract:

This study aims to determine the indigenous knowledge of the Rabha community and reveal its consistency with the Sustainable Development Goals (SDGs). The study area is located in the Northern part of West Bengal. The researcher has selected Dhupguri block from the district of Jalpaiguri and data has been collected from three Rabha villages I) Gosairhat forest village, II) Melabasti and III) Khuklung Basti. The researcher has used open-ended questionnaires, interviews and participatory observations for the data collection. The study reveals that Indigenous medicinal knowledge and Indigenous organic farming techniques of the Rabha community positively influence SDG 3: Good Health and Well-being. However, killing animals and consuming meat Rabha people have severely undermined SDG 3. Through traditional weaving and crafting, women become self-sufficient and self-reliant which is consistent with Goal 5: Gender equality. Also, their innovative fishing and farming tools remain are consistent with Goal 9: Innovation and Infrastructure. Moreover, their ancient Fishing culture is damaging the Aquatic ecosystem which is consistent with Goal 14: Life below water moreover, they cut small and large trees for livelihood and damage the forest which is affected by Goal 13: Climate actions.

Keywords: Indigenous Knowledge, Sustainable Development, Rabha Community.

INTRODUCTION:

Over the past few decades, environmental degradation has become a common concern for humankind. In this situation, if we have to protect our existence, we should need to protect our environment and, in that scenario, sustainable development plays a vital role. The SDGs were set up in 2015 by the United Nations and are intended to be achieved by the year 2030. There is a need to understand the triple interdependence of economic, social and environmental factors and integrate them into decision-making in governments and the private sector (Brundtland, et al., 2012). All countries need to perform respective duties and obligations in environmental governance, in joint efforts to plan economic development, social progress and environmental protection to realize mutual wins and sustainable development of the world and to create an Earth homeland for harmonious co-existence of humankind and environment (Jianping L. et al., 2013). Indigenous technical knowledge and traditional practices have a valuable contribution to make to the management and sustainable use of natural resources (GoZ, 2009). Their traditional faith, values and beliefs indirectly help in the conservation of forest resources (Breidlid, A., 2009). Indigenous people can provide valuable input about the local environment and effectively manage its natural resources (Langil S., 1999). The United Nations Conference on Sustainable Development (UNCSD, 2012) announced the development of the World Indigenous Network (WIN) for connecting Indigenous peoples and local communities around the world to share their traditional knowledge and experiences to better manage their environments and support sustainable livelihoods. Although, various national-international provisions and laws have been enacted for protecting indigenous knowledge.

Indigenous knowledge:

Indigenous knowledge in this study refers to the knowledge that gathers a community by a cumulative process and transmits it generation by generation, which is what they believe and practice in their daily life. Indigenous knowledge is deeply rooted in the relationship of people with nature and community (Sultana et al., 2018). According to the researcher,

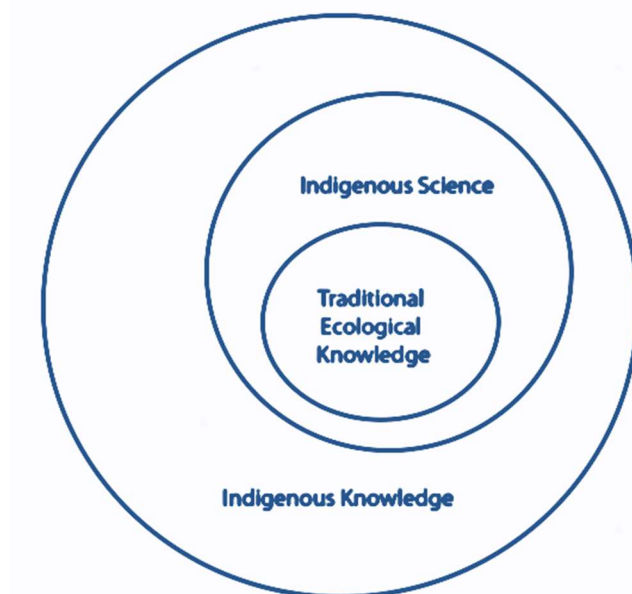


Cover Page



indigenous knowledge is what the people of the Rabha ethnic community collectively inherited from their ancestors and which is being passed on from one generation to the next.

Figure-1: Concept of Indigenous Knowledge



Source: <http://www.fnesc.ca/wp/wp-content/uploads/2019/08/2.0-Part-One-Foundations-Indigenous-Knowledge-Indigenous-Science.pdf>

Sustainable Development:

It is a development which protects our environment by the use of minimal natural resources and emphasis on to use of more renewable energy and less harm to the environment. Rabha ethnic people use this knowledge to preserve natural resources for future generations and consistently promote development regarding economic, social, and environmental sustainability. In this regard, the United Nations has mentioned 17 sustainable development goals.

Table-1: 17 Sustainable Development Goals

Economic sustainability	Social sustainability	Environmental sustainability
Goal 8: Decent work and economic growth Goal 9: Innovation and infrastructure Goal 10: Reduce inequalities Goal 12: Responsible consumption	Goal 1: No poverty Goal 11: Sustainable cities and communities Goal 16: Peace and justice Goal 7: Renewable energy Goal 3: Good health Goal 4: Quality education Goal 5: Gender equality Goal 2: No hunger	Goal 15: Life and land Goal 14: Life below water Goal 6: Clean water and sanitation Goal 13: Climate action
And Goal 17: Partnerships for the goal		



Figure-2: Economic, Social and Environmental sustainability



Source: <https://www.stockholmresilience.org/images/18.36c25848153d54bdba33ec9b/1465905797608/sdgs-food-azote.jpg>

Rabha Community:

Rabha Ethnic community refers to a community or a group of people who determine their own culture, language or dialect, common race, religion and ideology. Rabha belongs to the Tibeto-Burman community habited in the Indian states of West Bengal, Assam and Meghalaya. In West Bengal Rabha people are found in Jalpaiguri, Cooch Behar and Alipurduar districts.

Table-2: Distribution of Rabha population

Census year	Total population	S.T population	S.T (%)	Population of Rabha	Rabha in total S.T's (%)
1961	1359292	354741	26.10	4506	1.27
1971	1750159	428595	24.49	6578	1.53
1981	2214871	491791	22.20	4196	0.85
1991	2800543	589225	21.04	5282	0.90
2001	3401173	641688	18.87	10244	1.60
2011	3872846	731704	18.89	12586	1.72

Source: Census reports of India (1961-2011)

• Genesis of Rabha community:

Rabha is one of the popular ethnic communities in India. Genealogically they are rooted in Mongoloid community. The Mongol community comes from Mongolia, located in Asia and between north Russia and south China. Some researchers proposed that the Rabha community is linked with the Tibeto-Burman language community among the four language communities (Indo-Aryan, Sino-Tibetan, Austro-Asiatic and Dravidian) and they linguistically belong to the sub-family within the Sino-Tibetan family comes from Tibet. They primarily inhabited lower Assam and different districts of West Bengal. Some of them are found in the Garo hills of Meghalaya and Dooars. According to Allen (1903), the Rabhas are a section of the Bodo race and appear to be an offshoot of the Garos. They are similar to the Bodo community same as Garos, Kachari, Hajong, Kocha and others. According to Hodgson (1880), the Rabhas belong to the great Bodo family. Dalton's (1872) opinion is that the Rabhas and the Hajongs are branches of the Kachari race and are connected with the Garos.

RATIONALE OF THE STUDY:

Many studies also suggest that Traditional Ecological Knowledge is increasingly seen more as an efficient and practical tool for forest management by involving the local communities (Tynsong et al., 2017). Tribal people of North East India use wild plant resources for innumerable uses such as food, medicine, dye, weather forecasting, and craft. Therefore, Traditional Ecological Knowledge and related practices are the instruments for promoting cohesion between the ecosystem and human well-being (Harisha et al. 2015). Indigenous people and their knowledge about nature are highly interconnected with their ecosystem. By recognizing indigenous knowledge that promotes sustainable development, we can integrate it into our education system and improve the relevance of our curriculum. Therefore, this research is highly helpful for the present and the Rabha community's indigenous wisdom will be very beneficial for sustainable development.

OBJECTIVES OF THE STUDY:

1. To recognize the indigenous knowledge and practice of the Rabha community.
2. To study the indigenous knowledge and practices of the Rabha community consistent with sustainable development.

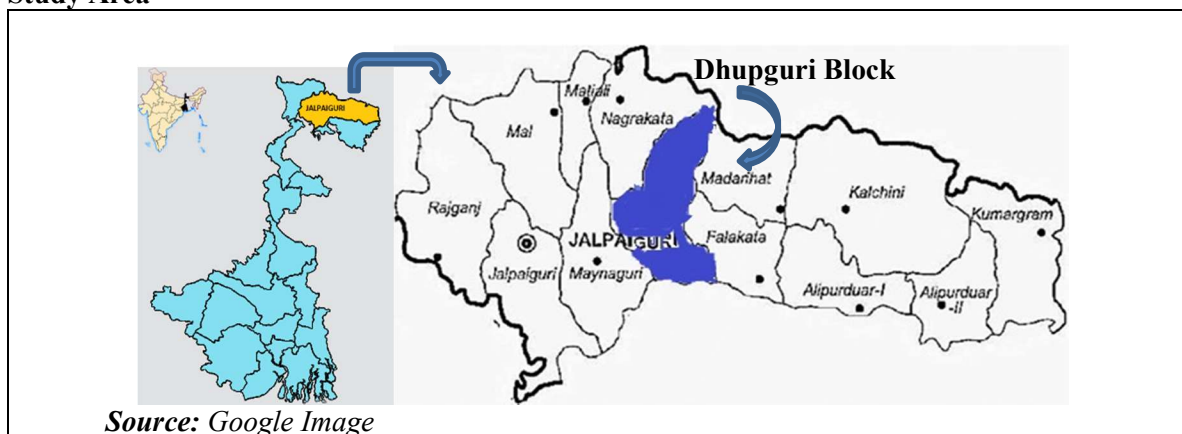
METHODS AND PROCEDURE OF THE STUDY:

An ethnographic research approach has been used to explore the role of indigenous knowledge in sustainable development and a cross-sectional survey method for the present study.

• Study area:

The present study area is located in the Northern part of West Bengal. The researcher has selected Dhupguri block from the district of Jalpaiguri for data collection and data has been collected from three Rabha villages I) Gosairhat forest village, II) Melabasti and III) Khuklung Basti. The nearest Police station of villages is Dhupguri near about 20 to 25 Kilometres from the villages. The latitudinal extension is from 26°15'47" North to 26°59'34" North and the longitudinal extension is from 88° 23' 02" East to 89° 07'30" East and villages spread over an area of 3386.18 square Kilometres.

Figure-3: Study Area



Source: Google Image

• Population and Samples:

The population is here the entire residents of these three villages. All the Rabha people living in these three villages are the population of the study. However, to achieve the objectives of the present study, the researcher has purposefully selected the sample based on their gender, age, and qualifications. The sampling distribution is shown in the table.

**Table-3: Age and Gender wise distribution**

Age \ Gender	18-35 years	36-60 years	Above 60 years	Total
Male	20	20	20	120
Female	20	20	20	
*Access population and working sample				

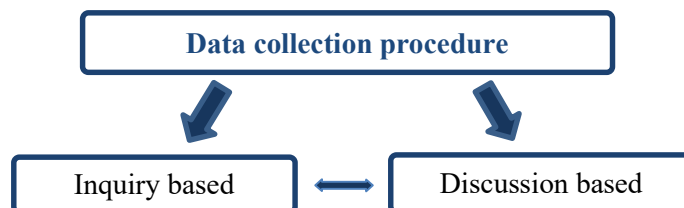
Tools and techniques used in data collection:

The researcher used open-ended questionnaires, interviews and participatory observation for the data collection. Secondary data has been collected from the Rabha Developmental Council office and different books. The data was collected in two phases-

I. Inquiry-based and

II. Discussion based

Through the inquiry, the researcher has collected data on existing Indigenous knowledge, their culture and thoughts which are Rabha people's practices. In the discussion phase, the researcher analysed and discussed the data, and revealed the role of Indigenous knowledge in sustainable developmental goals (SDGs).

Figure -5: Data collection procedure**RESULT AND DISCUSSION:****Indigenous Knowledge and Practice of Rabha Community:****Knowledge of Medicinal plants:**

The people of Rabha people are largely dependent on plant-based indigenous medicines. Some specially experienced people in the village know the use and benefits of various plants. they can prepare medicines for various diseases. Such experienced people are called 'Kabiraj'. They treat almost everything with medicinal plants, like fever, cold cough, headache, blood sugar, blood pressure, kidney stones and even COVID-19 treatment. If any part of the body is broken, they treat it without X-ray and make the patient completely cured. Not only humans but any other animals or their cattle are treated by such experienced people or 'Kabiraj'. They are Physicians as well as Veterinarians both. On the other hand, some experienced people also treat plants. They make various medicines at home and apply them to the roots, and leaves and make any plant healthy. They use cow urine, cow dung, neem juice etc. as fertilizers and pesticides.



Cover Page



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Table-4: Detail description of medicinal plants available in the village

Sl. No.	Local Name used by Rabha	Common Name	English Name	Scientific Name	Uses
1.	Taru Kalai Chak	Aarhar Kalai	pigeon pea	Cajanus cajan	This leaf is crushed and the juice taken on an empty stomach is beneficial in jaundice.
2.	Kella Har Chak	Mutha grass	Purple Nutsedge	Cyperus rotundus	Eating the juice of this grass gives the benefits of common sorghum.
3.	Ban Bhaduri	Gandha Madal			Taking the juice of this leaf is beneficial for diarrhoea. In case of reluctance to eat, consuming this leaf is beneficial.
4.	Supari Chak	Peyara leaves	Guava leaves	Psidium guajava	Juice of new guava leaves taken on empty stomach is beneficial in diarrhoea.
5.	Narsingh Chak	Narsingh leaves	Curry leaves	Murraya koenigii	Leaves juice of this plant reduces the effect of flatulence in the stomach. The juice should be consumed after crushing the leaves. It is useful for gas.
6.	Jarnani	Jarnani	Jarnani		Applying the juice of the leaves of this plant stops bleeding. A very useful folk medicine for Ravads.
7.	Guella	Guella	Guella		Applying the bark of this tree on the burnt areas or cuts is beneficial.
8.	Rashuni	Rashuni shak	toothache plant	Acmella oleracea	Boiling the bark of this plant and feeding it with hot water is beneficial when the toilet is blocked.
9.	Mansingtok	Mansingtok	Mansingtok		In case of TB, the root of this plant is beneficial.
10.	Chikan leaves	Chikan leaves	Chikan leaves		Eating the leaves of this plant is beneficial if women are not menstruating.
11.	Rokto tej	Rokto tej	Rokto tej		Its tuber mixed with water is beneficial in Dysentery.
12.	Kaila leaves	Kale	Leaf cabbage	Brassica oleracea	Mix the juice of this plant with water, will get benefits for jaundice.
13.	Harin Koch	Harin Koch	Harin Koch		The tuber of this plant is mixed with 200 grams of mustard oil and 1 to 2 grams of mulberry is mixed together and fried. When the oil becomes 25 grams, it is beneficial to apply on sore throat or wound.



14.	Bijal Ghanta	Bijal Ghanta			The leaves of this plant ground to a paste with water and mixed daily with 'tal mishri' is beneficial for irregular menstruation in women.
15.	15. Saad Ora-	15. Saad Ora	Saad Ora		This plant's roots, chinibare leaves, white parts of pineapple leaves, kathal leaves, mix together and grind it with rice powder, make it into a cake and cover it with a cloth and dry it. After that, if a smell comes out, mix it with Hariya and feed it Indigestion is beneficial.
16.	Sungari Buti	Sungari Buti-	Sungari Buti-	Sungari	The leaves of this plant are beneficial in killing poisonous insects.
17.	17. Sulthi	Vish Kathali	Febrifuge plant	Solanum virginianum	If the leaves of Sulthi tree, Kanssha, tree are rubbed together on half of the forehead, the pain will be reduced if the betha is applied on the opposite side.

Agriculture:

The main livelihood of the Rabha people of this region is agriculture. Paddy is the main crop of Rabhas. In addition, corn and jute cultivation is also done sporadically in some places. Paddy planting and harvesting is generally completed between July-August to November-December. Rabha people cultivate various winter crops like potatoes, green vegetables, different root vegetables etc. Besides, they cultivate betel nuts in the open area around the houses. Betel nut (Supari) is cultivated mainly for own use and sale. They earn a substantial amount of money every year from betel nuts; a family earns at least 20 thousand to 30 thousand rupees annually. Rabha villages are mostly surrounded by forests; their settlements are mainly built near forest areas. That's why various wild animal attacks are often seen in villages. Their agriculture is greatly disrupted by wild animal attacks. The Rabha people use both modern and traditional tools for farming.

Table-5: Indigenous tools used in farming

Equipment/Tools used in farming		
English Name	Local name	Uses
Wooden Plough	Langol	A type of wooden device is used to loosen the soil of the cultivated land by using a yoke on the neck of the two cows or by pulling it by the person himself.
Yoke	Jongal	A tool used to pull the plough in cultivated land on the shoulders of two cows.
Spade	Kodal	It is a tool made of iron or steel with a long bamboo handle. It is used to dig the soil or soften the cultivated land.
Sickle	Khasi/Kachi	It is a sharp harvesting tool made of steel or iron with a handle made of bamboo or wood.



Spud	Khontha/Khurpi	It is a type of flat sharp instrument which is mainly made of iron or steel. It is mainly used for digging, clearing grass or weeds and sometimes sowing seeds in the soil. This tool is used for removing tuberous crops like potatoes, kachu (<i>edible root</i>), ginger, garlic etc. from the soil.
Small size spade	Bashila	This tool is also used for the same purpose as spud but is comparatively heavier. Besides, this tool is used for digging the soil, cutting dry wood, bringing out any crops deep in the soil, etc.
Harrow	Moi	It is used in preparing land for cultivation. It is a bamboo tool used for levelling the high and low land after ploughing. It is tied to a cow and one has to stand on it. It equalizes the high and low lands in the weight of the individual.
Spud	Khonta	This tool is made of iron or steel with a bamboo handle and used for digging the soil.
Heavy knife	Sikha gobda/Dao	It is a sharp weapon made of iron or steel with a wooden or bamboo handle. It is mainly used for cutting various things such as cutting trees, clearing forests and for various domestic purposes. It is also widely used while making various things with bamboo.
Sharp knife	Sikha khukhri/Vojali	It is used in the same way as a knife but is much lighter in comparison.
Axe	Ruwa/Kural	This triangular-shaped tool is made of iron or steel with a long bamboo or wooden handle. This heavy tool is widely used for cutting big trees or dead trees to collect firewood.

Fishing tools:

Fishing is one of the occupations of the Rabha people. Mainly they fishing during the rainy season when canals and rivers are full of water. Besides, all the rivers which have water throughout the year like the 'Nonai' river near 'Melabasti' and 'Khoklong', they collect fish from there. They collect shrimp fishes from rivers or small water bodies by using tools such as 'Palao' and 'jakoi' (small fishing gear), 'khalai' (fish container), pare (pot lid), 'polo' (plunging basket), 'chhoreng' (big fishing gear), 'Dingri' or 'Tepa' (fishing device placed in front of the stream of water). Moreover, they use a special type of net called 'parangi net', khewali net etc.

They sing and dance to different kinds of songs while fishing. During the monsoon season, when the flooded water in the canals, rivers, and paddy fields; many fish are hunted there using fishing nets such as Naga jal and Chhapi jal, Dheki jal, Mushari jal, Fesh jal etc. Besides, they have used some indigenous instruments made of bamboo, 'Topa', 'Jhampi' etc.



Cover Page



Animal husbandry:

Animal husbandry has been repeatedly linked with the history of human civilization since ancient times. Animal husbandry is still seen in rural areas of India. Similarly, in Rabha villages, people reared various types of domestic animals to fulfil their daily needs.

Table-6: Animal name and Purpose of rearing

Cow	Milk and Cultivation. Sometimes they sell them to earn money.
Hen	Meat and eggs. Moreover, the stool is used as fertiliser.
Hog	Meat and sell them to earn money.
Goat	Meat and milk. Sell to earn money.
Duck	Eggs and meat. Sell to earn money.
Pigeon	Meat and sell to earn money.

Weaving:

The weaving tradition of the Rabha community has been passed down from generation to generation. Rabhas mainly weave sarees, towels, veils, pillow covers, shawls, mats etc. The clothing worn by Rabha women is mainly divided into two parts. They called the upper part of the body 'Kambang' and the lower part of the body which is wrapped like a saree is called 'Kemlet'. The size of Kambang is 4ft x 1ft and the size of the Kemlet is 5.5ft x 3.5ft. They make them at home on their own looms. The threads used in the handloom work are brought from Assam, Cooch Behar, Alipurduar etc. The back strap loom is called 'Kamtong' in their local language. Now they use coloured threads and make clothes with different motifs and designs. In Gosaierhat and Melabasti, there belong to 3 weaver families. They sell the product in Assam, Bhutan border, the nearest towns of Alipurduar, Coochbehar and their villages. But in the present time due to the shortage of looms gradually their workplace is decreasing.

Daily household items:

Apart from these, 'Topa' (cage for pigeons) made by bamboo, 'Cham' and 'Mankuna' (a special instrument for crushing rice), 'Manchaleka' (dance with this special instrument in the hand after death), 'Janthi' (bamboo wine strainer), 'Kichhri' (a device for storing paddy for a long time), 'Denga' (a type of wooden vessel used by the bride to serve rice to wedding guests), 'Bukhuri' (bamboo hat) used during monsoons), 'berek' (a device for drawing wine from a pot) and also making tables, chairs etc. made of bamboo pieces. They also make baskets of various designs made of bamboo which they use for threshing paddy, keeping vegetables and other daily necessities. Wood is used to make various things, it is equally used as fuel and making furniture in the Rabha household. They build 'tongue houses' made of bamboo and wood to chase wild animals to protect their crops. They also use bamboo for fencing around their houses.

Religious beliefs and their Musical instruments:

The Rabha people worship the Hindu goddess Kali during the spring season for happiness and prosperity. At that time, they danced char khelaini, wearing a special type of mask. Phulmati Rabha says 'They believe that Goddess Kali enters in that mask'. The masks used in char khelaini dance are mainly made by the Rabhas themselves such as chargog mask (made of bamboo), char pagal musk (made of wood) and mapar char musk (made of gourd). During this time, they used various musical instruments like Duppa (a bamboo flute), Hem (drum) and Debdi (a metallic vessel), jhalie (cymbal), Pepa (wind instrument), Khol and Kham (a double-headed long drum), Singa (a bamboo made flute), Jabkaba and Nolkaba (a flute), Kaal (a special bamboo flute, played in celebration and pain). Dhanbir Rabha is the last player of 'Kaal' flute in Mendabari, Alipurduar. The new generation is not interested in playing 'Kaal'.

The role of Indigenous knowledge in promoting Sustainable Development:

The United Nations Organization outlined total of 17 goals in 2015 to promote sustainable development. In terms of sustainable development, we need to emphasize the use of eco-friendly indigenous knowledge and raise environmental



Cover Page



awareness and values among people. In such a situation, the Rabha people's traditional wisdom is particularly beneficial in promoting sustainable development. Their ancient cultural and Indigenous knowledge plays an important role in sustainable development as well as some activities of the Rabha people have destroyed nature. According to Magni (2017) Indigenous peoples' knowledge systems are under constant threat from environmental hazards and development initiatives.

• Indigenous knowledge of the Rabha community and consistency with Sustainable Development :

Goal 3: Good Health and Well-being

Rabha people have extensive knowledge of ancient medicinal plants. Apart from their own needs, they use this medicine to treat various diseases of animals or plants. They use their indigenous medicinal knowledge for treatment, which has played a magnificent role in sustainable development. Moreover, all the vegetables they farm for their own consumption are mainly grown with cow dung and various compost or humus. As insecticides, they use the juice of neem leaf, liquid cow dung etc. which makes agriculture more organic and produces daily food-vegetables in a sustainable way. This knowledge of the Rabha community mainly addresses Goal-3.

Goal 5: Gender equality

The Rabha community has a long tradition of weaving on looms and crafting necessary items from bamboo that are useful to their daily life. They do these arts as a leisure activity and for some financial gain. They make different types of clothes like veils, towels, kambang, lufun etc. and make beautiful designs in them. Besides, through weaving, women become self-sufficient and self-reliant, they earn money and contribute financially to the family as equally as men. They can live with dignity in the society. As a result, it is possible to eliminate gender inequality in the society. It is one of the tools for sustainable development that fulfils Sustainable Development Goal-5.

Goal-7: Renewable energy

Rabha communities rely mostly on monsoon rainfall for agricultural production, the same as other regions of India. However, for the rest of the year, they use government-aided water canals, and solar-powered water pumps for better farming. There are street lights are also powered by solar energy. This is partially fulfilled the need of energy and indicated Goal-7.

Goal-9: Innovation and Infrastructure

Although the Rabha farming system is modern, but Rabha people still use ancient machinery for farming. All these instruments are mainly made of wood or bamboo. Skilled senior citizens of the village make these tools and use for themselves. They craft agricultural tools from old dry wood and bamboo. Many of them are still farming with cows and they get hay, grass and other fodder from the farmland for free of cost. This traditional innovative agriculture is very eco-friendly. Apart from this, their Fishing tools and musical instruments are mainly made of bamboo. Thus, the Rabha community has maintained sustainability in their way of life, which emphasizes Sustainable Developmental Goal-9.

• Indigenous knowledge of Rabha community and inconsistency with Sustainable Development :

Goal-3: Good Health and Well-being

Animal husbandry is an essential occupation of almost every Rabha family. They rearing animals for their own food and financial benefit. There is no shortage of grazing land and animal feed due to agriculture. They fulfil the necessary demands of meat by rearing cattle at home, but killing animals and consuming meat is a hindrance to sustainable development. The concept of sustainable development highlights the importance of achieving harmony among humans, animals, and nature. Consequently, it can be inferred that the eating habits of the Rabha community have obstructed Sustainable Development Goal-3.

Goal 14: Life below water

An ancient culture of the Rava community is fishing. They hunt various types of fish in canals, bills or rivers and this is an ancient cultural tradition of the Rabha community. In addition, the Rava people use different types of nets made of nylon threads for catching fish. This cultural activity since ancient times, has been affecting the ecosystems of aquatic animals and that is hampered Goal-14.



Cover Page



Goal-13: Climate action

In Rabha village, almost every woman and men of the family collect wood from the forest.

Despite many restrictions from the forest department, they go out to the forest almost every day to collect wood. it fulfilled their fuel needs throughout the year and they also earned money by selling the wood in the market. Along with dry wood, they often cut small and large trees and damage the forest. They indulge in these activities despite strict restrictions. Because of their actions, forests are being destroyed, and the ideals of sustainable development are being severely undermined.

CONCLUSION:

In the last few decades, there has been widespread concern from people about the degradation of the environment. In this situation, indigenous knowledge is necessary for sustainable development. Within this context, the Rava community has been actively involved in the promotion of sustainable development for a long time through the utilization of their traditional and culturally rooted knowledge. But, somehow the indigenous knowledge of the Rabha community persists in its harmful impact on the environment. Moreover, one of the leading factors of deforestation is the Rabha people's dependency on forests. Nonetheless, the contribution of indigenous knowledge of the Rabha community is crucial for sustainable development.

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Cover Page



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