

## THE ROLE OF RURAL INDIAN WOMEN IN SAFEGUARDING THE ENVIRONMENT AND ACHIEVING SUSTAINABLE DEVELOPMENT GOALS: A STUDY ON THEIR DAILY LIVES

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### Abstract

**Objective:** This qualitative study intends to explore the crucial role that rural Indian women play in preserving the environment and contributing to the achievement of Sustainable Development Goals (SDGs) through the adoption of indigenous and sustainable practices in their day-to-day lives. Specifically, the research will focus on how these women protect the environment and contribute to the achievement of Sustainable Development Goals.

**Purpose:** The purpose of this study was to investigate the perspectives, behaviours, and practises of rural women in India about environmental conservation and sustainable development. This was accomplished by conducting in-depth interviews and focus group discussions with rural women from various geographical regions across India.

**Results:** According to the results of the study, rural Indian women play an important part in preserving the environment and fostering sustainable development. They do this by actively engaging in a variety of environmentally friendly practices such as organic farming, water conservation, waste management, and the preservation of biodiversity. The research focuses on the primary factors, such as social norms, availability to resources, educational possibilities, and institutional support, which motivate and discourage women from participating in these practices.

Furthermore, it highlights the transformative potential of empowering rural women through education, skill-building, and better decision-making capabilities. This is accomplished by giving rural women control over their lives. The findings of this study imply that women's contributions to environmental protection and sustainable development can be further increased if they are strengthened and provided with platforms that allow for the exchange of knowledge and collaboration with others.

*Keywords: Environmental Conservation, Gender-responsive techniques, Indigenous Practices, Rural Indian Women, Sustainable Development Goals, Sustainable Lifestyles*

### Introduction

In the framework of sustainable development, the contribution that rural Indian women make to the preservation of the natural world and the accomplishment of the Sustainable Development Goals. In the framework of sustainable development, the contribution that rural Indian women make to the preservation of the natural world and the accomplishment of the Sustainable Development Goals (SDGs) is of the utmost significance. Women in rural communities have a variety of duties, including main carers, managers of natural resources, and keepers of traditional knowledge. These responsibilities often fall to them. Their actions and behaviours have a direct impact on the protection of the environment and also contribute to the maintenance of sustainable lifestyles. This qualitative study intends to investigate the indigenous and sustainable practices followed by rural Indian women in their day-to-day lives, as well as the contributions these women make towards reaching the Sustainable Development Goals (SDGs). The research elucidates the practices that are followed by many communities, such as the Bishnoi community in Rajasthan, the women of Ladakh, and the ladies from the northeastern part of India. The study also focuses on the significance of matrilineal societies and how these societies support the quicker achievement of sustainable development goals.

Since a long time ago, the Bishnoi community in Rajasthan has been acknowledged for its deep-seated commitment to protecting the natural world. The community adheres to the tenets of sustainable living and places a strong emphasis on the preservation of trees and native fauna. The Bishnoi people have a deep respect for the natural world and a strong dedication to nonviolence, both of which have contributed to the protection of the region's forests and wildlife habitats. They refrain from engaging in activities such as killing or otherwise mistreating animals, and one of their practices is the planting of trees and the collection of rainwater.

Women in the mountainous region of Ladakh exhibit a profound grasp of their delicate environment and engage in resource management that is compatible with the long-term health of the region. Their tactics include more conventional approaches to preserving water, engaging in organic farming, and utilising ways that are more efficient in the use of energy for heating and preparing food. The deep connection that Ladakhi women have with the natural world and their active participation in environmentally responsible behaviours are factors that contribute to the region's resiliency in the face of environmental issues.

The northeastern part of India is well-known for the richness of its wildlife as well as the diversity of its cultural traditions. Women in this region take an active role in preserving the environment by participating in sustainable practices. Their methods consist of organic farming, community-based conservation activities, the preservation of native seeds and medicinal plants, and more. In addition, the matrilineal societies that are common in certain northeastern tribes provide women a large amount of decision-making power and ownership of resources, which enables more sustainable and fair growth. Not only do the traditional and environmentally friendly practises that rural Indian women adopt contribute to the protection of the environment, but they also encourage environmentally conscious behaviour among the members of the communities in which they live. These ladies exhibit the incorporation of sustainable practices into their way of life by demonstrating how they go about their daily routines by utilising traditional knowledge, cultural values, and resources that are readily available in their immediate surroundings. This integration contributes to the creation of a more robust feeling of environmental stewardship and encourages community members to develop a deeper connection to the natural world.

To build policies and programmes that are both inclusive and effective, it is vital to first gain an understanding of, and then publicly acknowledge, the contributions that rural Indian women have made to the protection of the environment and the promotion of sustainable development. Accelerating progress towards meeting the Sustainable Development Goals (SDGs) can be accomplished by recognising the value of women's traditional wisdom and empowering them via education, training, and the ability to make decisions. Building societies that are both resilient and equitable is dependent on the implementation of gender-responsive strategies that recognise the importance of women's contributions to sustainable development and work to magnify those contributions.

In conclusion, the purpose of the qualitative research was to investigate the significant role that rural Indian women play in preserving the environment and achieving the Sustainable Development Goals (SDGs) through the use of traditional and environmentally friendly practices in their day-to-day lives. Ladies's contributions to the protection of the natural world can take a variety of forms, each of which is equally valuable in its own right. Some communities, like the Bishnois in Rajasthan, the ladies of Ladakh, and the women of the northeastern region, are good examples of this. Society can encourage environmentally responsible behaviour, stimulate sustainable development, and move closer to a future that is more sustainable and equitable if it acknowledges and supports these practices. Goals (SDGs) are of the utmost significance. Women in rural communities have a variety of duties, including main carers, managers of natural resources, and keepers of traditional knowledge. These responsibilities often fall to them. Their actions and behaviours have a direct impact on the protection of the environment and also contribute to the maintenance of sustainable lifestyles. This qualitative study intends to investigate the indigenous and sustainable practices followed by rural Indian women in their day-to-day lives, as well as the contributions these women make towards reaching the Sustainable Development Goals (SDGs). The research elucidates the practices that are followed by many communities, such as the Bishnoi community in Rajasthan, the women of Ladakh, and the ladies from the northeastern part of India. The study also focuses on the significance of matrilineal societies and how these societies support the quicker achievement of sustainable development goals.

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#### Women and Environment

The empowerment of women is essential to achieving sustainable development and preventing further damage to the natural world. Their enthusiastic participation and engagement in efforts to conserve the environment are rapidly being recognised all across the world. Because of the specific roles that they play as carers, managers of natural resources, and keepers of traditional knowledge, women are in a unique position to influence and create environmentally conscious behaviours and practices.

Throughout history, women have maintained close ties to their natural surroundings and have been particularly reliant on the earth's resources for meeting their day-to-day requirements. They have traditional wisdom that has been handed down through centuries. This expertise encompasses environmentally friendly methods and a profound comprehension of ecosystems. Women who possess this knowledge can gain useful insights into the complex relationships that exist between humans and the natural world.

In recent years, research and studies have shed light on the enormous contributions made by women in the process of conserving and preserving the environment. These contributions have been recognised as having a positive impact on the world. Women are very active participants in a wide variety of sustainable practices, including sustainable agriculture, afforestation, water conservation, waste management, and projects to develop renewable energy sources. Their actions not only contribute to short-term environmental benefits but also to long-term aims for sustainable development. Their primary focus is on the environment. In addition, women's involvement in the protection of the environment goes beyond the simple activities taken by individuals. In many cases, they play crucial roles in community-based initiatives, grassroots movements, and advocacy for environmental justice. To increase knowledge, mobilise communities, and propel collective action towards environmentally sustainable practices, women's networks and organisations play an essential role.

Several elements contribute to women's distinctive contributions to environmental conservation. The experiences, attitudes, and objectives of women are frequently centred on topics such as health, sanitation, and access to clean water, all of which are intimately connected to the long-term viability of the environment. They have the possibilities to influence behavioural changes and promote sustainable lifestyles as a result of their nurturing roles and responsibilities within households and communities, where they play an important role.

In addition, putting women in positions of authority is an essential step towards accomplishing sustainable development objectives. Studies have demonstrated that when women are given access to education, resources, and the capacity to make decisions, they are more likely to

contribute actively to the protection of the environment and the development of sustainable practices. Equality between the sexes and the empowerment of women are not only fundamental human rights, but they are also necessary for the accomplishment of global environmental goals.

It is essential, for the sake of a sustainable future, to acknowledge and highlight the role that women play in the conservation of natural resources. Policies and programmes that are gender-responsive, meaning that they take into account women's unique requirements and opportunities, should be given top priority by governmental bodies, institutions, and organisations representing civil society. It is possible to increase women's capacity to participate in environmentally responsible practices by providing them with access to education, training, and financial resources. This will, in turn, contribute meaningfully to efforts to save the environment.

The participation of women is vital to the goals of preserving the natural world and attaining sustainable development. Their long-standing expertise, one-of-a-kind insights, and active participation are assets that cannot be overstated when it comes to the promotion of environmentally conscious behaviours and sustainable practices. Society can tap into the potential of women to build a more resilient and sustainable future for everyone if it promotes gender equality, gives women greater power, and acknowledges the contributions they make.

The dedication of Indian women to environmentally sustainable practices and conservation activities has been demonstrated by the considerable contributions that Indian women have made to environmental protection. Here are a few examples that highlight their remarkable initiatives:

Dr. Vandana Shiva is widely regarded as one of the most influential eco-feminists and environmental activists in the world. She is a leader in the fight for sustainable agriculture and seed sovereignty in India, and she has been in the vanguard of this fight. Dr. Shiva is responsible for the establishment of Navdanya, an organisation that encourages sustainable agriculture, organic farming, and the archiving of indigenous seed varieties. She has succeeded in increasing people's understanding of the significance of protecting farmers' rights and practising environmentally responsible agriculture as a result of her efforts.

The Chipko Movement, which was founded by environmentalists Chandi Prasad Bhatt and Sunderlal Bahuguna, received acclaim on a global scale for its creative and nonviolent demonstrations against deforestation in the Himalayan region. Because women played such an important part in this movement, hugging trees to prevent them from being cut down, the name "chipko," which means "to hug" in Hindi, sprang from their actions. Because of their actions, the biological significance of forests as well as the necessity of sustainable forest management became more widely recognised.

Saalumarada Thimmakka is an environmental activist from Karnataka. She is also known as the "Mother of Trees." Saalumarada Thimmakka was born in Karnataka. Although she was illiterate, she and her husband planted and took care of more than 400 banyan trees along a stretch of around 4 kilometres. Not only have their efforts helped to green the region, but they have also served as a sign of inspiration for others who are concerned about the environment and want to protect it.

Medha Patkar is a social activist who has been a part of many different environmental initiatives, the most notable of which is the Narmada Bachao Andolan (Save the Narmada Movement). Patkar and her organisation have been working for the rights of local populations that are impacted by large-scale dam projects, with a particular focus on the necessity of environmentally responsible development practices and the protection of natural habitats. Sunita Narain is the director of the Centre for Science and Environment (CSE) in India in addition to being an environmentalist. CSE has been an important force in increasing people's understanding of environmental issues and advocating more sustainable practices because of her leadership of the organisation. In India, Narain has been very engaged in promoting clean air, environmentally responsible transportation, and measures to reduce the effects of climate change. These are just a few of the innumerable examples of Indian women who have made significant contributions to the cause of protecting the environment. They have paved the road for sustainable practices in India and worldwide as a result of their leadership, activism, and grassroots initiatives. They have also inspired change, increased awareness, and brought attention to the issue. Their unwavering commitment is a shining example of the crucial part that women play in preserving the natural world and working towards the achievement of sustainable development objectives. India has a rich cultural heritage that encompasses a plethora of indigenous practices focused on reusing, recycling, and upcycling resources, thereby safeguarding the environment. These practices have been ingrained in the daily lives of communities across the country for generations. Here are some examples of indigenous practices in India that promote sustainability

The charkha, also known as the spinning wheel, is a historic piece of spinning equipment in India that was used to hand-spin cotton. Communities that utilise the charkha contribute to the creation of sustainable textiles since it decreases the reliance on machinery that is powered by electricity. The practice not only helps to maintain ancient methods of workmanship but also encourages the use of materials that are sourced locally and organically. Jugaad is a term used to describe the art of being resourceful and innovative when on a budget, which is common in many Indian societies. It entails reusing and even improving upon previously used materials to produce new goods or find solutions to existing issues. Jugaad is an approach that promotes sustainable consumption by optimising the use of available resources, minimising waste, and cutting down on the amount of new production that is required. Embroidery in the Kantha Style Kantha embroidery is a traditional kind of needlework that is practised in parts of India such as West Bengal and Odisha. It includes putting together layers of used clothes that have been thrown away to produce fabrics that are both attractive and functional. Kantha not only increases the amount of time that textiles can be used, but it also encourages the practice of sustainable fashion by lowering the amount of trash produced by textiles.

Terracotta Pots as a Traditional Method of Water Storage Terracotta pots have been utilised as a traditional method of water storage in several parts of India for hundreds of years. Because of the porosity of these pots, the water may naturally cool down, while the pots themselves prevent the growth of algae. Communities that use terracotta pots are better equipped to manage their water resources sustainably and save water as a result. Cooking With Zero Waste Indian cuisine has a long-standing practice of cooking with zero waste, which means that every part of the ingredients is used, hence reducing the amount of food that is wasted. For instance, vegetable peels are frequently recycled to produce chutneys or used as compost. Additionally, rice that has been left over can be made into savoury snacks like poha or vadas. These kinds of practices contribute to the development of sustainable food systems and cut down on wasted food.

Ayurveda and Herbal Remedies Ayurveda, the traditional Indian system of medicine, emphasizes the utilisation of natural herbs and plants that are readily available in the surrounding area for the goal of providing therapeutic benefits. Through the use of this strategy, sustainable utilisation of medicinal plants is encouraged, as well as the conservation of biodiversity among communities, all while maintaining the use of traditional healthcare practices.

Leaf Plates and Bowls: Instead of using throwaway plates made of plastic or paper, leaf plates and bowls made from naturally fallen leaves are utilised in many regions of India, notably during festivals and community gatherings. Leaf plates and bowls are constructed from naturally fallen leaves. These options, which are both biodegradable and compostable, help cut down on waste while also having little effect on the environment. The resourcefulness, sustainable consumption, and waste reduction that are all embedded in traditional Indian culture are displayed here using several indigenous practices. They illustrate the significance of reusing, recycling, upcycling, and maximising the utility

of available resources, which are all essential lessons for modern sustainable practices that may be learned from these examples. The adoption and promotion of these traditional practices can help contribute to the creation of a society that is more ecologically conscientious and sustainable.

#### Understanding India's Vision Towards Achieving Sustainable Development Goals and Women's Role

To move towards the objective of achieving sustainable development, India has made tremendous progress towards aligning its national vision with the Sustainable Development Goals (SDGs) of the United Nations. The Sustainable Development Goals (SDGs) offer a comprehensive framework that encompasses numerous facets of sustainable development, such as social, economic, and environmental considerations. India is dedicated to achieving the Sustainable Development Goals (SDGs) as evidenced by the country's various policy efforts and programmes, as well as the active participation of women in driving sustainable development.

The National Development Agenda lays out India's plan to accomplish the Sustainable Development Goals (SDGs), which covers important targets such as eradicating poverty, achieving gender equality, providing excellent education, generating clean energy, creating sustainable cities, and protecting the environment. The government has initiated several flagship programmes that directly contribute to the Sustainable Development Goals (SDGs). These include the Swachh Bharat Abhiyan (Clean India Mission) for sanitation, the Pradhan Mantri Jan Dhan Yojana (Save the Girl Child, Educate the Girl Child) for gender equality and education, and Beti Bachao Beti Padhao (Save the Girl Child, Educate the Girl Child) for financial inclusion.

Women play an essential part in India's efforts to achieve the Sustainable Development Goals in a variety of domains. The following are some of how women in India contribute to the attainment of sustainable development and the Sustainable Development Goals: Equality of the Sexes (Sustainable Development Goal 5): The advancement of gender equality is a primary emphasis of India's plan for sustainable development. For the Sustainable Development Goals (SDGs) to be met, women must have equal rights, access to education, and a voice in policy-making. The National Rural Livelihood Mission and the Mahila Shakti Kendra scheme are examples of programmes that have the goal of empowering women by giving them possibilities for sustainable livelihoods, opportunities to increase their skills, and support for starting their businesses.

Goal 4 of the Sustainable Development Goals focuses on ensuring that all people receive an education of sufficient quality. In India, initiatives such as Beti Bachao Beti Padhao and Sarva Shiksha Abhiyan have been put in place to guarantee that all girls have the same opportunities to receive an education of a high standard. Education for women is a key component of India's plan to eliminate gender gaps, bring down levels of poverty, and advance the cause of sustainable development.

The health and well-being of women is an essential component in the process of achieving sustainable development (SDG 3). The government of India has initiated some initiatives, one of which is the Pradhan Mantri Matru Vandana Yojana. This programme offers pregnant and nursing mothers financial help for the provision of medical services. In addition, women play a vital part in community health efforts as frontline healthcare workers, contributing to improvements in maternity and child health, as well as sanitation and the prevention of disease. The participation of women in the movement to promote clean energy and climate action is essential if we are to achieve Sustainable Development Goals 7 and 13. To supply rural households in India with clean cooking fuel, the Indian government has initiated programmes such as the Pradhan Mantri Ujjwala Yojana. This programme emphasizes empowering rural women. In addition, women are very active participants in community-led renewable energy projects, which helps to highlight the significance of using sustainable energy sources and cutting carbon emissions.

Sustainable Agriculture and Food Security (SDG 2): Women play an essential part in environmentally responsible agricultural practices, as well as in the production of food and nutritional intake. Efforts are being made through initiatives such as the National Food Security Mission and the Mahila Kisan Sashaktikaran Pariyojana to increase agricultural production, empower women farmers, and encourage environmentally responsible agricultural practices.

Sustainable Cities and Communities (SDG 11): Women's participation in community-led projects, trash management, and conservation efforts contributes to the development of sustainable urban areas. Urban planning initiatives that are gender-inclusive, like those promoted by the Smart Cities Mission, help to make cities a more welcoming and safe place for women.

India's goal is to accelerate progress towards attaining the Sustainable Development Goals (SDGs) by recognising and supporting the role of women as agents of change. India is promoting an environment in which women can actively contribute to sustainable development, resolve inequities, and create a society that is more inclusive and prosperous through the implementation of policies that take gender responsiveness into account, the building of capacity, and the empowerment of women.

#### Literature Review

This literature review intends to analyse the existing research and academic works on the role of rural Indian women in protecting the environment and contributing to the accomplishment of sustainable development goals (SDGs) through their day-to-day lives. The study will focus on the role of rural Indian women in protecting the environment and contributing to the achievement of sustainable development goals. The purpose of this research is to identify major themes, practises, problems, and potential methods utilised by rural Indian women in the promotion of sustainable development and environmental protection.

Indigenous Ways of Working and Sustainable Development A multitude of studies have highlighted the importance of indigenous ways of working and the knowledge they possess about sustainable development. The research conducted by Bandyopadhyay and Ghosh (2020) emphasizes the importance that indigenous knowledge systems play in the management of resources. These knowledge systems include community-based conservation, organic farming, and traditional ways of water collection. Women living in rural areas of India have been observed engaging in practices like these, which ultimately lead to more environmentally responsible agricultural methods.

The research shows that there is a positive association between women's empowerment and environmental stewardship. Research conducted by Agarwal (2010) and Carr (2011) highlights the connection between women's agency, decision-making power, and their active engagement in environmentally friendly practices. Women living in rural areas of India who have access to resources and the ability to advocate for sustainable agriculture, water conservation, and waste management all make significant contributions to the protection of the environment.

Multiple studies have highlighted the significance of rural Indian women in the development of environmentally friendly activities that lead to sustainable livelihoods for themselves and their communities. The contribution that women in forest-dependent communities make to the sustainable management of forests and the collection of non-timber forest products (NTFP) is highlighted in research conducted by Kumar and Hotz (2019). Not only can the participation of women in businesses based on NTFPs improve their economic condition, but it also helps to advance the cause of conservation.

The literature recognises the obstacles that rural Indian women confront in their efforts to protect the environment and foster sustainable development. These challenges can be found in their pursuit of environmental protection and sustainable development. Studies conducted by Kabemud (2004) and Desai et al. (2016) shed light on the gender inequities, limited access to resources, and social restrictions that stand in the way of women's active involvement. It is necessary to address these difficulties to ensure that women will meaningfully participate in sustainable practices. Education and awareness programmes play a significant part in the process of cultivating environmentally conscious behaviours among rural Indian women as well as in the process of empowering rural Indian women. The research that was conducted by Bajaj and Jaswal (2017) highlights the significance of education in boosting women's knowledge, skills, and awareness regarding concerns of the environment. Education gives women the tools they need to adopt environmentally friendly behaviours and become successful agents of change in the communities in which they live. Community-Based Methods and Collective Action It has been demonstrated that community-based methods and collective action are successful in fostering sustainable development and protecting the environment. According to research conducted by Biswas et al. (2018), women's collectives and other forms of self-help organisations play an important part in the implementation of environmentally friendly practices such as organic farming and waste management. Women living in rural areas of India can harness their social networks and influence to achieve good change at the grassroots level if they band together and take collective action.

The gathered evidence suggests that rural women in India play a significant part in preserving the natural world and working towards sustainable development objectives. The traditional practices, empowerment, sustainable livelihood projects and collective action of these people contribute to the conservation of biodiversity, as well as sustainable agriculture, water management, and waste reduction. Despite this, difficulties such as gender inequality and restricted access to resources continue to be a problem. For women to reach their full potential in terms of sustainable development and environmental stewardship, it is imperative that these difficulties be addressed and that efforts be made to promote women's education, awareness, and engagement.

### Method

An exploratory qualitative research was undertaken in which the data were collected through personal interview techniques across cold, wet and dry desert regions of Jodhpur (Bishnoi Community), Ladakh, and Meghalaya. Focus group discussions also took place with stakeholders of these communities and regions to understand their day-to-day practices and how they impact safeguarding the environment. The data was gathered using field notes, observation and various other secondary sources. The data was recorded in the exact verbatim of the response and later transcribed to understand its meaning and relevance. Various themes emerged from the data after applying thematic analysis. Thematic analysis is a flexible method, it enables researchers to locate, examine, and understand themes and patterns in qualitative data. This overview seeks to help researchers comprehend the basic ideas, crucial procedures, and potential difficulties involved in carrying out thematic analysis. Researchers can develop and use thematic analysis effectively in their studies by considering the advantages and limits of this methodology.

**Table 4.1: List of areas covered for field study**

S.No.	Region	Place	Villages and Tribes Covered
1	Western Thar Desert (Arid Region)	Rajasthan	Bishnoi Community, Khejarli Village, Jodhpur
2	Cold Desert and Matrilineal Rich Society/Tribes	Ladakh	Fiang, Turtuk, Tyakshi, Thang, Dah Hanoo
3	Wet Desert and Matrilineal Rich Society/Tribes	Meghalaya	Cherrapunji (Wettest Place) Shillong, East Khasi Hills Jowai Autonomous District, West Jaintia Hills (Nartiang, Monoliths, Charming Villages) Mawlynnong Village (Cleanest Village), East Khasi Hills

### Findings and Discussion

As a nation that is developing at a rapid rate, India is confronted with a myriad of environmental concerns, including the depletion of resources and pollution. The observation was made that gaining an awareness of the confluence between gender dynamics and sustainability shed light on how women may play a transforming role in the promotion of sustainable lifestyles and practises inside Indian households. The respondents identified a variety of challenges, possibilities, and approaches to empowering women to spearhead sustainability projects, which would ultimately result in a society that is more ecologically conscientious and resilient. In rural areas, residents are frequently confronted with unique difficulties stemming from a lack of resources, traditional gender roles, and cultural conventions. This investigation is aimed at shedding light on the distinctive contributions that women have made to shaping household practices and encouraging sustainable behaviours by exploring the experiences and insights of women in these areas. It outlines the elements that influence women's decision-making authority, emphasises the significance of recognising and empowering women as major agents of change in rural sustainability projects, and promotes the knowledge and skills that women possess.

#### Bishnoi Community: Hot Desert

The Bishnoi community, which is primarily located in the arid parts of Rajasthan, India, possesses a rich cultural legacy that includes practices of sustainable living and conservation. In hot climates, the women of the Bishnoi tribe play an essential part in the conservation of food and water, as well as the pursuit of environmentally responsible methods of life. They instil these customs in subsequent generations, establishing them as an essential component of their culture. Listed below are some examples of how women of the Bishnoi tribe participate in these practices:

1. Preserving Food and Water: - Grain Storage: The women of the Bishnoi community use time-honoured methods to store grains in raised, well-ventilated storage buildings known as "Bhandars" or "Kothris." These structures shield the grains from insects, humidity, and heat, allowing them to be stored safely for an extended period.

Conservation of Water Bishnoi women actively participate in water conservation by creating small water reservoirs referred to as "Johads." These structures are responsible for the collection and storage of rainfall, which ensures a reliable supply of water for agricultural and home uses during times of drought.

2. Sustainable Agriculture: - Organic Farming: Women of the Bishnoi tribe are responsible for cultivating crops using the ancient techniques of organic farming. They don't use any artificial fertilisers or pesticides, instead depending on natural methods like composting, crop rotation, and intercropping. Composting is one of those natural methods. This environmentally responsible method helps to preserve the fertility of the soil and safeguards the environment.

- The Conservation of Indigenous Seeds The Bishnoi women play a significant role in the conservation of indigenous seeds. They do this by saving and trading the seeds of native plant kinds, which helps to preserve the natural diversity of traditional agricultural practices. This practice assists in adjusting to the temperature of the area as well as ensuring that food will always be available.

3. The Transmission of Culture and Education: - Oral Traditions Bishnoi women are responsible for the transmission of their culture's knowledge and practise through oral traditions. They pass on folk songs, stories, and proverbs that emphasise the significance of respecting

nature, living sustainably, and preserving natural resources. Younger generations are given a sense of environmental responsibility as a result of the cultural practices that have been passed down.

- Involvement in the Community: Bishnoi women are very active participants in community events and activities that encourage environmentally responsible behaviour. They take part in tree-planting activities, community-based conservation projects, and awareness campaigns to teach their communities and the generations to come about how to live more sustainably.

4. Indigenous Food Options: Bishnoi women play an important role in the preservation and promotion of indigenous food options that are ideally suited to the dry climate. They grow crops that are resistant to drought and eat such crops.

#### **Ladakh: Cold Desert**

Ladakh is well-known for having harsh climatic conditions due to its location in the cold desert region of the Indian Himalayas. These circumstances include low temperatures and restricted access to water resources. Despite these obstacles, the women of Ladakh have shown remarkable fortitude and inventiveness in their pursuit of a normal daily life by adopting environmentally friendly practices for the preservation of food and water and promoting environmentally friendly methods of living. Specifically, the following are some examples of how women in Ladakh engage in these practices:

**Ice Stupas:** Ice stupas are man-made glaciers that are constructed during the winter months to alleviate the water shortage that occurs during the summertime. Building ice stupas and keeping them up to date is largely the responsibility of women. They gather water from neighbouring streams and direct it to freezing pipes, which then spray the water into the air to create gigantic conical ice formations. These ice stupas gradually melt, resulting in a steady supply of water that can be used for agriculture and other domestic purposes. The Ice Stupa Foundation, which was established by Sonam Wangchuk, has been extremely helpful in spreading awareness about this concept.

**Water Harvesting:** To make the most of the available water resources, the women of Ladakh actively participate in various water harvesting practices. They build traditional water collection facilities known as "Zings," which are small earthen reservoirs positioned close to agricultural land or settlements. The ladies of Ladakh are responsible for collecting and storing the water that comes in the form of ice and snow over the winter months in these reservoirs. After being stored, the water is subsequently used during the dry season for a variety of reasons, including irrigation.

**Garbage Management:** Women in Ladakh have been at the forefront of many of the country's efforts to improve garbage management. Waste management has become a significantly more difficult task as a direct result of the expansion of tourism and development. Waste segregation, recycling, and composting are all areas in which Ladakhi women are very active participants. They try to reduce the amount of plastic that is used while simultaneously promoting the usage of products that are reusable and friendly to the environment. Ladakh Women's Alliance is one of the many women-led organisations in the region working to improve the region's waste management policies and procedures as well as raise awareness about the issue.

Ladakhi women are committed to incorporating environmentally conscious building and upkeep practices into the homes they create and care for. Traditional Ladakhi homes are known as "chortens" or "bhungas," and they are constructed of materials that are readily available in the area, such as mud, stone, and wood. These components serve as effective insulators against the chilly climate. In many cases, women take the initiative to build and take care of these environmentally conscious homes. Additionally, to reduce their dependence on fossil fuels, Ladakhi women have begun adopting solar energy solutions for lighting, heating, and cooking. This has allowed them to become less dependent on traditional energy sources.

#### **Meghalaya and parts of North-East: Wet Desert**

The northeastern area of India, which includes states such as Meghalaya, Assam, Manipur, and Nagaland, is distinguished by its copious amounts of precipitation and its verdant vegetation. To continue with their everyday lives despite the wet weather, the women of several different tribes in the northeast have adapted environmentally friendly methods for saving food and water and have made sustainable living an essential component of their cultural practices. The following are some examples of how women of various Northeastern tribes participate in these practices:

**Khasi Tribe: Indigenous Food Preservation** The Khasi women use traditional methods to preserve food, such as drying fruits and vegetables in the sun or smoking meat and fish to lengthen the amount of time that the food may be stored. Because of the practices they engage in, they can keep nutritious food and consume it throughout the year.

**Water conservation** is an age-old practice among Khasi women, who build water collection devices referred to as "Khels." These are water reservoirs that have stone linings and are used to collect rainwater for use in agriculture and in households when there are extended periods of dry weather. Women of the Jaintia tribe engage in a form of agriculture known as terrace farming, which entails constructing steps on top of hilly terrain to create flat spaces for crop production. This method reduces the amount of soil lost due to erosion brought on by intense rainfall and increases the amount of land that may be used for agricultural purposes.

**Bamboo Water Pipes** Jaintia women utilise bamboo pipes to channel rainwater from higher altitudes to lower locations, guaranteeing a continuous water supply for irrigation and residential requirements. Bamboo water pipes are used to transfer rainwater from higher elevations to lower areas.

**Naga Women Practise Shifting Cultivation, Also Known as "Jhum" Cultivation** Naga women practise shifting cultivation, also known as "jhum" cultivation, in which they clear tiny areas of ground, cultivate crops for a few years, and then allow the soil to regenerate itself. This practice helps to preserve the fertility of the soil and aids the conservation of biodiversity.

**Fermentation and Preservation:** Women of the Naga tribe are very competent in the processes of fermenting and preserving foods such as fish, soybeans, and bamboo shoots. During the rainy season, when there may be a shortage of fresh produce, these foods that have been preserved might serve as a source of nutrients.

**Water Conservation Among the Manipuri Tribe:** Manipuri women use traditional water management practices known as "Ponds" or "Pukhri" to conserve water for use in fish farming and irrigation. These ponds provide a home for a wide variety of aquatic life forms in addition to their other functions. Rice types that are native to the Area of Manipuri women are responsible for the cultivation and preservation of native rice types, which are ideally suited to the climatic conditions of the region. These types of rice help to sustain agrobiodiversity and contribute to increased food security.

**Transmission of Culture and Educational Practises:**

**Festivals and Oral Traditions:** Women in the Northeast are responsible for passing on their traditional knowledge and sustainable practices through the use of folk songs, cultural festivals, and oral traditions. These platforms help teach younger generations about the need to live sustainably and preserve indigenous ways of doing things, which is quite beneficial.

#### **Summary**

Women in rural areas play an essential part in the promotion of sustainable home practices, which can take many forms. Their contributions are not often acknowledged, even though they have a considerable impact on the health of the community as a whole as well as the environment.

**Sustainable Agriculture:** Organic farming, crop rotation, and the use of natural fertilisers are all examples of sustainable agriculture practices that rural women frequently implement. They limit their use of pesticides and other chemical inputs, which contributes to the protection of soil fertility and biodiversity and minimises the amount of chemical runoff that enters water systems. For instance, a rural woman may use traditional farming methods such as intercropping, which is the practice of growing different crops near one another to make the most efficient use of available land and reduce the number of artificial inputs required. **Water Conservation:** In rural settings, women generally take on the role of being the household members responsible for water management. They engage in water conservation by employing water-efficient practices such as collecting rainfall, utilising drip irrigation, and reusing wastewater for activities such as cleaning and irrigation. For the sake of illustration, a rural lady might employ storage tanks during the monsoon season to collect rainwater to ensure a consistent supply of water for the requirements of her household during the dry months. **Energy Efficiency:** Women in rural areas frequently lead their households towards greater energy efficiency by instituting various practices. This involves the utilisation of appliances that save energy, the promotion of natural lighting, and the implementation of efficient waste management. They might also promote the utilisation of renewable energy sources like solar panels or biogas facilities. As an alternative to relying entirely on conventional fuelwood, a rural woman can, for example, utilise stoves that are efficient in terms of energy use or cook with biomass briquettes manufactured from agricultural waste.

**Waste Reduction and Recycling:** Rural women actively participate in waste reduction and recycling initiatives. They segregate household waste, compost organic waste for fertilisers, and promote the reuse of materials. For example, a rural woman may collect and repurpose plastic bottles, turning them into innovative plant pots or storage containers, reducing the need for new plastic products.

**Sustainable Livelihoods:** Women in rural areas frequently participate in activities that generate revenue and align with environmentally responsible principles. They might take part in activities such as sustainable forest harvesting or community-based conservation programmes, for example, or manufacture handicrafts made from environmentally friendly materials. They contribute to the conservation of natural resources and regional ecosystems through the promotion of sustainable livelihoods.

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