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MILLETS AND WOMEN EMPOWERMENT: AN INVESTIGATION ON THE ROLE OF MILLET FARMING IN EMPOWERING WOMEN, BOTH ECONOMICALLY AND SOCIALLY.

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ABSTRACT

This research investigates the experiences of women who work on millet farms in the Indian state of Assam. This study investigates the possibilities and obstacles that women face while attempting to participate in millet farming, as well as the influence that millet farming has on their life and the ways by which they are able to survive. The research is conducted via in-depth interviews, focus groups, and questionnaires. According to the findings, despite the fact that women face significant challenges as a result of cultural norms and a lack of resources, their participation can be increased through the establishment of women's organisations and cooperatives, the provision of opportunities for training, and the provision of assistance from non-governmental organisations and government programmes. The study demonstrates how millet production may be used to promote sustainable agriculture and gender equality. Additionally, the research suggests approaches to increase women's access to resources and agricultural extension services that are sensitive to gender issues.

keywords ; Millets , Women Impowerment , Farming

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INTRODUCTION

In spite of the fact that millet farming has been practiced in Assam, India for a very long time, it has seen a fall in recent years as a result of the promotion of high-yielding variety of wheat and rice. Millets, on the other hand, are climate-resilient crops that are also very nutritious and resource-efficient. For this reason, they are appropriate for smallholder farmers who are confronting issues connected to climate change. Furthermore, as a consequence of millet farming, women in Arunachal Pradesh, who have historically played a significant part in agriculture but encounter obstacles in their efforts to access resources and power, may become more important. This is because millet cultivation has the potential to increase their influence. The "Assam Millets Mission" has their crop area shown in Figure 1, which can be found here. This research investigates the possibility that the cultivation of millet in the Indian state of Manipur might provide women more influence. The article focuses on the manner in which the cultivation of millet confers more influence onto women in Mizoram. Why do efforts involving millet that are led by women succeed so well? There are a number of possibilities and difficulties that are available to women who farm millet.

The significance of this research lies in the fact that it contributes to the development of programmes and policies that promote resilient food systems in Assam and the areas that surround it, as well as initiatives that empower women via sustainable agriculture. Interventions that promote gender parity, women's access to resources, and their decision-making authority may be simpler to develop if one has a better grasp of the variables that are supporting millet projects that are led by women. Increased resilience may be achieved by promoting climate-resilient crops that are rich in nutrients, such as millet. It has been shown via research that women in South Asia and India who cultivate millet have more financial, nutritional, and decision-making power than males. It is necessary to have access to land, money, markets, premium inputs, knowledge, training, as well as organisations and regulations that support these types of resources in order to achieve success. Increased infrastructure, market connections, resources, and decision-making authority are all essential components that must be present.

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Women in Arunachal Pradesh are prevented from participating in agriculture due to social conventions, a lack of financial resources and education, and their limited ability for decision-making. Those women who were able to overcome these obstacles earned more money and had a significant amount of influence over the decisions that were made within their households.

In order to have a complete understanding of the aspects that contribute to success and obstacles, such as the experiences, resources, and power that women have in decision-making, as well as the ways in which millet farming influences nutrition and food security, further study is required.

More than 130 countries are responsible for the cultivation of millet, which has been considered by a half billion people in Asia and Africa to be a necessary component of a diet that is well-balanced for many years. Millennials have seen a shift in the proportion of cereals and coarse grains, particularly millets, that they consume on a daily basis, according to study conducted by the National Investment Promotion and Facilitation Agency (2022). Millets, in addition to providing opportunities for smallholder farmers to improve their livelihoods and standard of living, as well as increasing the diversity of the global food supply, which ensures food and nutrition security, also assist individuals in making conscious choices regarding their consumption, with the goal of reducing the prevalence of lifestyle diseases that are brought on by sedentary lifestyles and an increased awareness of the importance of health (Clemens et al., 2023). Even the Prime Minister of India has highlighted the relevance of increasing consumer demand for millets, which has the potential to raise income for farmers and improve the nutritious intake of consumers.

India, which ranks second internationally in terms of millet production and exports, is aggressively attempting to change the global view of this humble grain. India is the largest producer and exporter of millet in the world. In 2018, the Indian government designated the year to be the national year of millets, with the goal of increasing both the production and consumption of millet inside the country. To add insult to injury, on March 5, 2021, the United

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Nations General Assembly (UNGA) unanimously accepted a resolution that was proposed by India and supported by 72 countries to declare the year 2023 to be the "International Year of Millets."

The International Trade Commission (ITC) trade map indicates that millet shipments around the globe increased from $400 million in 2020 to $470 million in 2021. India's exports of millets reached $75.46 million in 2022–23, which is an increase over the previous year's total of $62.95 million. India's grain exports took in a total of Rs. 111,062.37 crore (2022–2023), which is equivalent to 13,857.95 million USD. Millet-based products with added value, on the other hand, constitute a relatively tiny fraction of the total.

Eighty percent of all economically active women in India are working in the agricultural sector, which accounts for forty-eight percent of women farmers who are self-employed and represents thirty-three percent of the workforce in the agriculture sector. Agriculture is the primary occupation of around 85 percent of India's rural women. Only around thirteen percent of individuals own land, despite the fact that women are extensively engaged in a wide array of agricultural chores. A total of 59.9% of Indian women are employed in the agricultural sector, according to the Periodic Labour Force Survey (2019–20). Specifically, this number is 75.7 percent in India's rural districts. There is a "feminization" of the agricultural sector, as stated by the Economic Survey of 2020–21. This is due to the fact that there has been a growth in the number of women working in the agricultural sector as workers, entrepreneurs, and farmers, in addition to the growing migration from rural areas to urban areas. Information obtained from the Institute of Human Development (IHD, 2014) indicates that women in rural regions are responsible for producing between sixty and eighty percent of the food that is consumed. Furthermore, seventy percent of the women who are employed in agriculture come from households that have been subjected to migration.

Through a number of means, women farmers contribute to an increase in agricultural income, making them an essential component of agriculture and food security on a global scale. Women

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farmers, as stated by Thaker et al. (2016), provide an account of alternative rationalities to the broad commercialization of Indian agriculture. This is accomplished by establishing a connection between localised understandings of food value and more universal conceptions of hunger, development, and nutrition. Taking into account the various regional concepts of health and sustenance, the women farmers get together to share their understanding of food as a cultural practice. Millets are still extensively utilised today to create a balanced diet in India, especially in rural regions where they have been a basis of the food available for a long time, as stated by Gowri et al. (2020). The government of India has come to the conclusion that millet is a reliable crop that will not only ensure India's food and nutritional security but also provide a safe investment opportunity for farmers to raise their income, especially for women farmers. Millets, in addition to their many health benefits, are also ecologically beneficial owing to the fact that they demand a comparatively low amount of water and inputs, which helps to ensure the sustainability of agricultural practices.

1.1 MILLETS

In the context of this study, millets, which are sometimes referred to as ancient grains, are considered to be one of the sources of traditional agricultural knowledge. There is evidence that millet was consumed throughout the prehistoric era, despite the fact that Gamarra et al. (2018) indicate that millet was a significant crop and extensively consumed in Europe beginning in the second millennium BC, with a substantial rise in consumption beginning in the Late Bronze Age and continuing forward. The foxtail millet is referred to as a "abandoned food" in Austin's (2006) article, which is a survey of the anthropological, archaeological, botanical, and historical literature on numerous kinds of millet that were collected and eaten in ancient times as a source of starch for cereals. Austin's paper was published in 2006. A wide range of cereal grasses with small grains are classified as "millets." Some examples of millets that fall into this category include finger millet, foxtail, kodo, proso, barnyard and tiny millet plants. Both sorghum and pearl millet are considered to be major millets. 2013 for the NAAS. Depending on the place in

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which they are cultivated, they are known by a variety of names that are exclusive to that region, and they display a significant amount of differentiation within the same species.

Due to the fact that millets are resilient and resistant to a wide range of environmental challenges, they were also given the name "coarse cereals." Over the course of millennia, they have established themselves as a vital component of marginal agriculture, especially in mountainous and semi-arid regions. The criteria are not very high, and they are resistant to severe weather. At the global level, this grain crop ranks sixth in terms of its productivity. There is a substantial amount of genetic variety among millets, and minor millets are grain species that demonstrate this variability. According to Padulosi et al. (2015), these may be modified to accommodate a variety of marginal growth conditions in regions where primary cereals such as wheat, rice, and maize might not be as successful. Because of their high micronutrient content, particularly in calcium and iron, high dietary fibre, enhanced concentration of important amino acids, and low glycaemic index, they provide a substantial contribution to the food and nutritional security of those who are economically disadvantaged.

LITERATURE REVIEW

Sabar (2020) Researchers who were researching the Chuktia Bhunjia tribes in Assam, which is located in eastern India, made the discovery that traditional practices, technologies, and indigenous agricultural systems enabled the Chuktia Bhunjia people to live in a manner that was sustainable within an ecosystem. This was because these practices let them control the loss of biodiversity and the deterioration of soil. He goes on to add that while old agricultural techniques were beneficial to humanity in terms of navigating the environment, they were gradually abandoned, particularly during the neoliberal period. He proposes that these kinds of systems may be used to guarantee the safety of food supplies, maintain biodiversity, and safeguard natural resources.

Dalton (2017), There were a number of ancient grains that were used in rituals or even religion, and there was a significant demand for them in the market in the beginning. As a result of the

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ever-increasing demand for them, many grains have become commodities on a global scale throughout the course of time, either in their natural form or as components of processed products. It is essential to keep in mind that, despite the growing interest in indigenous people, their knowledge of plants, and the ways in which they make use of them, the exploitation of this knowledge in a reckless and commercial manner may have fatal consequences, putting the very environment that these communities have fought so hard to preserve in jeopardy.

Balasubramanian (2019) discovering that despite the identification of plants with the potential for pharmacological action results in incredible success stories, these efforts do not result in the endogenous development of the individuals involved or in the resuscitation of traditional knowledge even though they create spectacular success tales. A additional barrier to agricultural biodiversity is the demand for integrated crop variety support for climate change resistance (Meldrum et al. 2013). This requirement is a result of increased homogeneity and industrialization in the agricultural sector. Indigenous knowledge has been described as "the study of systems of knowledge developed by a given culture to classify the objects, activities, and events of its given universe." It is also occasionally referred to as "ethnoscience." Despite the fact that definitions and explanations of indigenous knowledge and its nomenclature vary, indigenous knowledge has been dubbed "the study of systems of knowledge." In accordance with Hardesty (1977), which was quoted by Torri (2011), indigenous science employs a particular cultural lens in order to explain the functioning of the local environment.

Laird (2018) uncovers the fact that the flow of knowledge in indigenous cultures is complex and intertwined with the maintenance of ethnic variety as well as the identities of groups or subgroups within the indigenous nation, community, or tribe. Furthermore, it is important to highlight that deleting or transferring information from the group may compromise its integrity, lead to incorrect utilisation, and put the group's stability at risk on the inside and/or the outside simultaneously. Indigenous communities have been provided with the means to communicate their knowledge via the supply of procedures or the preservation of those processes by the cultural worldview. However, it is also a science that has paid attention to natural sounds and

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shows a far higher degree of intelligence and connection to the environment than what is currently exhibited. Natural sounds have been taken into consideration. As a result of this, the process of preserving this knowledge and the manner in which it is preserved are highly dependent on the environment or the cultural dynamics of that group.

Bavikatte (2015) provides a description of it as a social practice that encourages individuals to reveal a little bit more about themselves to us in order to get a deeper comprehension of their beliefs and the way they live their lives. The challenge lies in the researcher's capacity to grasp this way of life and be able to observe things from the perspectives of these groups. It is still in this area where the issue is located. Furthermore, Weber et al. (2000) incorporate the term "traditional peoples," which is a reference to "local communities embodying traditional lifestyles at the time." There are social and cultural connotations associated with this phrase, and it refers to an economic system that is largely founded on close ties to the agricultural land.

Sudarshan (2020) draws attention to the ways in which changes such as greater commercialization have expanded the gap between men's and women's responsibilities and further devalued women's positions, so drawing attention to the differences between surroundings that are masculine and those that are feminine. As a result, she recommends that one technique that might be useful in understanding the process of development is to look at what is happening to locations that are traditionally reserved for women. Due to the fact that women are seen to have a large effect on the management and preservation of resources for their families, communities, and themselves, this is of utmost importance. One must have an understanding of the hierarchy of the family, society, and community in order to have a more thorough understanding of the methods in which indigenous knowledge is preserved and distributed. There is a possibility that the prevailing social order will have an effect on the manner in which the government selects and acknowledges indigenous knowledge. As a consequence of this, it is necessary to make efforts that are coordinated, consistent, and obvious. It is not until then that women, people of colour, and other groups will be able to do

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great things, and until then, they will not be recognised for their accomplishments as individuals or as a community (Doane 1999).

Minocha et al. (2015) reveals that the traditional knowledge and culture around the maintenance of ecological systems, folk medicine, and agricultural practices are all intertwined with one another. Since the beginning of time, this culture has not only served as a medium for communication between other cultures, but it has also played a role in the conservation of both language and the natural environment. The social ritual of singing a hymn in honour of Sita, the goddess, is also discussed in this article. As part of this ritual, citrus fruits, grains, rice, and walnuts are employed in the act of devotion. A fact that Sita was respected apart from the fact that she was the spouse of a deity is an intriguing fact to consider. There is still another festival that is held in this town to celebrate livestock. There was a mutual understanding that agricultural would be able to sustain livestock, and that livestock would be able to support agriculture. Both of these things were seen to be crucial components of the food chain. These rituals celebrate the ties between cattle husbandry and agro-ecology by means of social settings. They do so in a way that gently conveys to the community the significance of each of these aspects and the need of conserving them. It was also transmitted to them via these social activities that everything was good and that they were about to enter a happy period in which there would be abundant resources for the crops that were used for worship and the cattle would be cherished for their importance.

Cocks (2016) highlights the extent to which several natural locations and features that are protected from religious taboos and are considered holy by the local community have survived as a result of profound cultural influences and act as stores of biodiversity in the region. King (2005) notes how specific cultivars, such as karunel and karuvazhai, are solely conserved for religious reasons and are brought to the attention of Kongayi Amman, the local deity of the Kolli Hills, at each and every annual festival.

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Swaminathan (2017) In the foreword of Koohafkan and Altieri, he emphasises the intimate linkages that exist between cultural, culinary, and medicinal variation and biodiversity in agriculture. These relationships are founded on decisions that are made from naturally occurring genetic variability. Concerns have been raised by Singh (2010) on the deterioration of traditional knowledge systems and the biocultural resources that are linked with them in the context of globalisation and modernization efforts. He stresses the need of taking prompt action in order to prevent future loss. If this were to occur, it would ensure that the resource base and the subsistence economy would continue to exist. Pfeiffer (2008) provides a list of the many ways in which variation in biocultural practices might be observed. Some of the elements that are woven into their cultural story include folk taxonomies, ethnobiological procedures, ancestor stories and songs based on natural resources found in the area, and so on. In addition to this, they uncover a significant relationship between the invasive species and the indigenous cultures, which may sometimes result in agriculture being permanently altered. According to the findings of Gavaravarapu's (2014) investigation of an Indian experience in Medak, Andhra Pradesh, activities that encourage traditional cuisine and agricultural practices also result in beneficial impacts on nutrition communication. The community's understanding of how traditional farming practices disappeared, how consumption patterns changed, and how traditional meals were replaced with "government" items led to the development of more skills within the group. In addition to this, he takes into consideration the fact that the selection of the technique, which is determined not only by the people of the community but also by organisations and the implementers/interveners who work on their behalf, has a significant impact on the processes of nutrition communication. One such example is the abundance of wheat and rice in the food basket due to the fact that the government is the primary provider of these two grains. It has been determined via research that in order to enhance the current state of nutrition, it is necessary to increase the supply for a diverse food basket. For this reason, it is vital to conduct a more in-depth investigation of the many projects that have been undertaken to develop indigenous technology and knowledge in both historical and contemporary contexts. However, studies do advise that significant vigilance is required in order to conserve knowledge

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systems while also sustaining the lives of community members (Doane 1999). He stresses the tight link between biodiversity and cultural, culinary, and medicinal diversity. Swaminathan (2017) discusses the evolution of agriculture based on selections from naturally occurring genetic variation. He also emphasises the importance of the relationship between biodiversity and these fields.

Hards (2021), a discussion of values that are focused on social practice and simplicity, which are likely rooted in value systems of the past and envisioned future visions, and which are supportive of localization and variation, even if they are not immediately tied to the environment. Individuals were aware of environmental and climate-related challenges, and the group adjusted to the new norms. It is noteworthy to note that the same study also demonstrates that social norms and basic values were updated to account for climate change. This is something that should be taken into consideration.egimes, gastronomies, and traditions of places that were immigrated to. Therefore, changes to cropping patterns or the introduction of new crops are also factors that impact or modify cultural traditions. It's possible that this happens for a number of different causes.

Koohafkan and Altieri (2017) By studying the concept of "agricultural heritage" conservation in relation to Globally Important Agricultural legacy Sites, it becomes clear that this kind of conservation is distinct from the conventional form of heritage preservation. One reason for this is because this approach takes into account the culture, aspirations, livelihoods, food sovereignty, and nutrition of the people who are being taken into consideration. On the other hand, Nelson et al. (2017) highlight the fact that routines are the shared accomplishment of a community and give unequivocal markers of what is considered culture in that society. According to Barnes (2001), they base their argument on the fact that routines are shared rather than being something that is distinctive.

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OBJECTIVES OF THE STUDY

1. For the purpose of determining the most important factors that have an impact on conservation efforts and millets
2. The purpose of this study is to investigate social behaviours and evaluate how they relate to millet conservation
3. In order to determine the impact that the current media practices have on the transmission of traditional knowledge, agricultural techniques, and eating preferences
4. To do research on the empowerment of women and the growing of millets.
5. To research about the function of women in socially and physically both.

RESEARCH METHODOLOGY

A significant contribution to the preservation of traditional knowledge within the framework of the contemporary cultural environment is made by the study of social and cultural behaviours and processes. These are forms that are either written, practiced, or experienced by the community. They serve as a tool for communication and are a component of the cultural processes that operate within the community. An investigation is conducted into the manner in which these communication processes take place, the significant community influences, and the cultural forms that are linked with the society of this location. In order to ensure that the community continues to have access to the traditional knowledge that millets have to provide, the last phase of the inquiry is focused on the formulation of suggestions for techniques or a framework that may support these social and cultural norms.

For the purpose of conducting an in-depth analysis of social interactions, engagement, and contributions to social practices at the community level, the study employs a qualitative research methodology. It is possible that a more profound understanding of the social practices via the use of thought-provoking discussions may result in a better understanding and awareness

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of the processes that are engaged in millet conservation initiatives. Another advantage of the predominantly qualitative technique is that it allows for the area to be placed into a wider social and cultural framework (McCracken 1988). This is accomplished via discussions with key informants who are traditional millet farmers in the selected regions. Furthermore, in contrast to quantitative social research that makes use of fixed designs, this technique may be used to offer answers to a wide variety of methodological questions that are often addressed to qualitative field studies (Katz 2015). Both the field study and the interactions took place in six different nadus, also known as panchayats, located in the Kolli Hills, which are known for their prevalence of millet cultivation. Following the recommendations made by Qu and Dumay (2011) and Baker (2012), the sample size was established by selecting sixty millet producers, ten from each nadus, for the survey. Additionally, male and female informants were included in the selection process. Through the use of in-depth interviews, guided focus groups, and observational methods, researchers were able to conduct a more comprehensive inquiry for the purpose of triangulation. Before the survey was conducted, a pilot study was conducted with the community, and the instrument was modified and confirmed with the help of comments from specialists. Throughout the course of two years, several visits were undertaken in order to carry out the various interviews and lectures. Additional information on the community and culture was gleaned via field notes that were gathered during visits. A review of the study issues is conducted, and recommendations for other pathways that may be used to help the ongoing effort are made.

In terms of methodology, the purpose of the research is to investigate traditional knowledge in connection to social and cultural activities, as well as contemporary tactics and compulsions for sustaining one's living. The purpose of this endeavour is to get an understanding of the many ways in which each component contributes to the traditional knowledge that these cultures possess, as well as the extent to which this information has also been maintained in the current day. In every one of these instances, the study strives to get an understanding of the many social dynamics and processes that are either directly or indirectly connected to the act of keeping,

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distributing, trading, and making use of this knowledge. Agriculture in connection to conservation and agriculture in respect to the environment (conservation) are the two topics that are being investigated at this time. Considering that an increasing number of individuals are becoming aware of the significance of millets, which are frequently referred to as "nutricereals," the subject of nutrition is also brought up. Due to the fact that Kolli Hills is located in the Namakkal district, which is characterised by high rates of malnutrition, including anaemia in adults and stunting in children, this is an essential instrument for addressing the growing problem of malnutrition in the community. In light of this circumstance, significant issues have been raised about the possibilities for increasing nutritional status via the conservation and use of millets, as well as the social behaviours that have an impact on them. In addition, this makes it possible to investigate the ways in which traditional behaviours and knowledge are spread and how they come to be accepted more widely within the community.

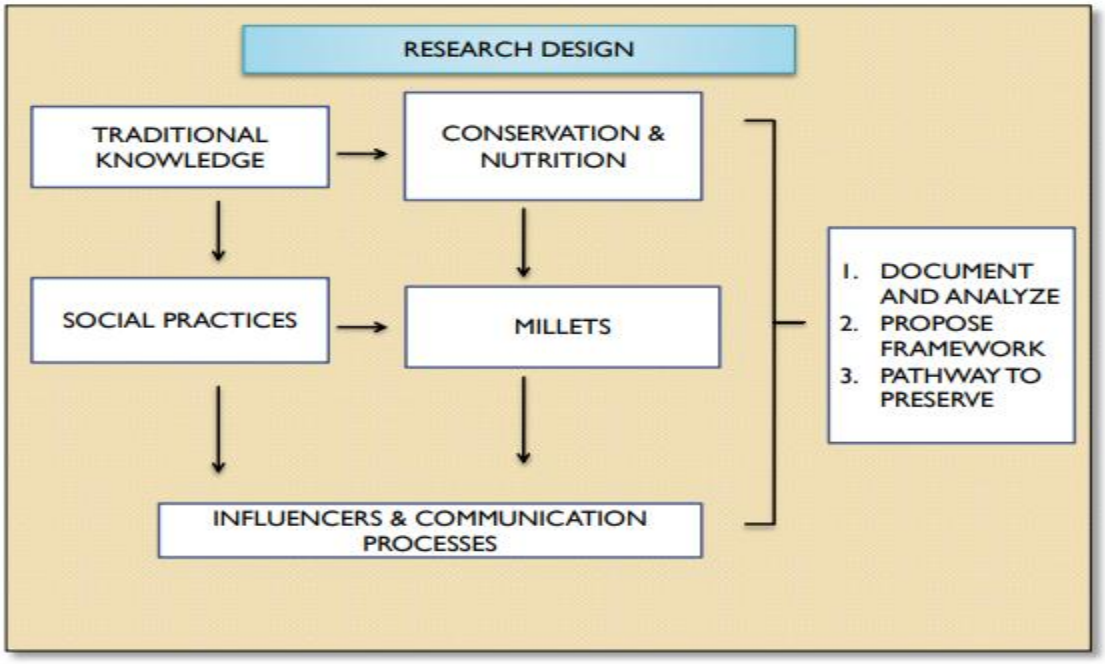

Figure : Research Design

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In addition, the research proposes a framework that might assist in the dissemination of information on the methods that are used to maintain traditional knowledge. This framework is based on an analysis of how the knowledge has been passed down over several generations and offers alternative solutions to ensure that it remains in the same state. Due to the fact that this study is about people, it will be carried out in two ways: first, through a qualitative understanding of the lives of the communities, and second, through the process of taking 'field notes'. Field notes are a method by which the researcher gathers not only the facts but also the experiential aspects, such as the sights, feelings, and impressions.

Millet saw a slow decrease in the years after the 1990s, despite the fact that there are now efforts being made in this region to preserve millet. This is due to the fact that cash crops entered the system and prospered in order to feed the industrial units in and around the region. The study takes into consideration the findings of earlier research on the conservation routes of millet. The primary area of focus, on the other hand, is the documentation of social and cultural activities that have contributed to the preservation of biodiversity and the preservation of knowledge in the region. With this information, it is possible to provide a recommendation for a prospective framework that would integrate existing conservation strategies with a communication component in order to keep these methods in place.

The technique included both quantitative and qualitative evaluations, which were carried out in two villages located in the Kolar District of Karnataka State. These villages are Seegenahalli and Doddabommanahalli, both of which are located in the Chintamani Taluk. (Padulosi 2007) The experiment was carried out over the years 2008 and 2009 as a component of a worldwide initiative that was supported by the International Fund for Agriculture Development (IFAD) and focused on species that were neglected or underutilised. Within each of the eight self-help groups that were a part of the study, there were between 19 and 20 women. Interviews that were just semi-structured were helpful in gathering quantitative data. The interview format included inquiries about the members of the SHG's saving and lending programmes, as well as their

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family income and savings. There were books, ledgers, and registers that were kept by the SHG that were used to collect secondary data. The socioeconomic status data took into account a variety of factors, including the age range, the degree of education of the family, the size of the family, employment, the quantity of land held, and the income of the family. The evaluation of the eating pattern was carried out over the course of seven days using a 24-hour recall method. Using sets of pre-standard containers, an estimate was made on the amount of raw and cooked meals that the participants consumed. Subsequently, a food consumption table was used in order to make a comparison between the recommended dietary allowance (Gopalan et al., 1996) and the individual intake of various nutrients. These nutrients included energy, protein, fat, iron, calcium, thiamine, riboflavin, and niacin by the person. Following that, the approach suggested by Thimmayamma (1987) was used in order to determine the appropriateness of the nutrients. The training sessions that were offered as part of the initiative focused on the processing of finger millet and approaches that added value. For the purpose of receiving in-depth education in the processing of value-added commodities, forty of the 120 members of the SHG who had previously received training were selected. Second, in order to assist the women who are members of the SHG in establishing their businesses and locating products that have the potential to be commercially successful, comprehensive value-added product testing was conducted both on and off campus. Additionally, these women were provided with additional training in the areas of nutrition education, the addition of value to food items, the management of milling units, Hazard Analysis and Critical Control Points (HACCP), product marketing, and labelling. A further evaluation was conducted to see how the training programme impacted the empowerment of women.

DATA ANALYSIS

According to the State Planning Commission (2017), the Namakkal district, which has been a separate district since 1997, is situated in the agroclimatic zone that is located in the northwestern part of the state of Tamil Nadu. The steep Kolli Hills region is a component of the Eastern Ghats in western Tamil Nadu. It is situated in Namakkal district and is about 1,219

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metres above sea level. There are around four natural rainforests in the Kolli Hills region that are protected by the Tamil Nadu Hill Station (Preservation of Trees) Act, 1955. These rainforests are approximately 18 miles long and 12 miles wide (Indian Population Census, 2011). For more than 96% of the local tribes, the Indian constitution designates them as "Scheduled Tribes," which gives them the right to participate in a variety of special programmes and get a variety of advantages.

Kolli Hills is home to a total of 14 panchayats and 16 revenue villages, which collectively have a combined population of 40,479 people. These villages include Adakkampudukombai, Alathurnadu, Bailnadu, Chithurnadu, Edappulinadu, Gundaninadu, Pelappadinadu, Peraikkarinadu, Thiruppulinadu, Ariyurnadu, Devanurnadu, Gundurnadu, Selurnadu, Thinnanurnadu, Valappurnadu, and Vazhavandinadu. According to the Census of 2011, over 32 percent of the villages had less than 2,000 persons, more than sixty percent have fewer than three thousand residents, and 18,079 of those individuals are listed as cultivators. The Namakkal taluk and the Rasipuram taluk are the two taluks that that make up the Kolli Hills neighbourhood. Taluks are the revenue subdivisions that make up a district. It is in the Kolli Hills that the Karattaru River begins its journey, which ultimately leads to the Trichy district. The area, however, has inadequate annual rainfall on a consistent basis, which makes it susceptible to water stress and drought throughout the year.

Due to the fact that it was wanted to make use of traditional knowledge and millet farming skills, the majority of persons who were questioned were of middle-aged or older. The table provides a breakdown of the gender and age groups of the primary sources of information. It should be noted that many of the farmers were reluctant to reveal their ownership stakes right away or were uncertain of what exactly should be reported as land, including uncultivated land. However, the interviews provided support for previous research that demonstrated that the majority of farmers in this region possess modest amounts of property. I had to do some research in order to find this.

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Table : Age and gender of key informants

Age category/ Gender		Male	Female	Total
15 — 24	Nos	0	3	3
	%	0.00	8.82	5.00
25 — 34	Nos	3	5	8
	%	11.54	14.71	13.33
35 — 54	Nos	17	16	33
		65.38	47.06	55.00
55 — 69	Nos	6	8	14
	%	23.08	23.53	23.33
70 and above	Nos	0	2	2
	%	0.00	5.88	3.33
Total	Nos	26	34	60
	%	100.00	100.00	100.00

In addition, the question pertaining to "land ownership" did not clearly concentrate on the respondent or expressly inquire as to whether or not the property was in their name. The issue is related to the ownership of land among families. Nevertheless, it is noteworthy that women have become more modest in their declarations of ownership of property.

A study was conducted to determine the means by which the people living in this region acquire information about agriculture, whether via traditions or otherwise. The respondents were asked,

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"What is the primary source of your information related to agricultural practices?" which was a question that was presented in connection to "information with regard to agriculture." The purpose of the inquiry was to identify the origin of the fundamental or first agricultural knowledge, as stated in the explanation. The explanations that were sought were supplied when they were asked. One of the most common responses from the participants, which was provided by over half of them, was that they had acquired this information from a member of their own family.

Information source / gender

Information source/ Gender		Male	Female	Total
Community Leader	Nos	0	0	0
		0.00	0.00	0.00
Self-Help Group	Nos	5	7	12
	%	19.23	20.59	20.00
NGO worker	Nos	6	4	10
	%	23.08	11.76	16.67
Government representative	Nos	4	0	4
		15.38	0.00	6.67
Family member	Nos	9	20	29
		34.62	58.82	48.33
Friends / other farmers	Nos	2	0	2

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	%	7.69111	0.00	3.33
Others (please specify)	Nos	0	3	3
	%	0.001	F 8 .82	5.00
Total	Nos	26	34	60
	%	100.00	100.00	100.00

Table 3. Training methods preferred by SHG women

Training method	Percentage of preference
Demonstration	98
Lecture with projected aids	91
Video film	90
Exhibition	80
Field visit	75

Value Addition Economics in Finger Millet

Instruction was provided to the SHGs in the processing of finger millet, which included cleaning, milling, packaging, and labelling responsibilities. Additionally, the university team was responsible for providing the necessary certification and technical help, in addition to the market contacts. These goods have a price of one hundred rupees at the kilogramme level. Tables 4 and 5 for finger millet-based "Hirihittu" and malt, respectively, reveal that the SHG's net income at these prices is large on average. This is the case for their respective products. The 2400 kilogrammes of completed items were used in each and every scenario for the purpose of determining the cost of manufacturing and the income. Given that the market demand is growing while simultaneously maintaining a constant level of quality, fast delivery, and suitable market marketing, this process has been shown to be scalable.

Table 4. Economics of ragi malt production

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Particulars	Amount (Rs.)
Variable cost (raw material+ fuel+ labour + 10% interest)	126,000
Fixed cost (depreciation of equipment+interest	1,846
Space rental (500/month)	6,000
Total cost of production 2400 kg/annum	133,846
	134,000 (rounded amount)
Gross income = 100 × 2400 =	Rs. 240,000
Net income = Gross income – total expenditure = Rs. 240,000 – 135,000 =	100,000
B/C ratio (benefit/cost) = 240,000/135,000 =	1.7 (benefit of one rupee 70 paisa for every rupee spent)

CONCLUSION

Through the study, a deeper understanding of the role that Self-Help Groups (SHGs) play in enhancing the socio-economic empowerment of women in India was gained. This was accomplished by maximising the utilisation of the region's biodiversity and the byproducts of that biodiversity. In both rural and urban contexts, where women are much too often excluded from decision-making and activities that generate revenue, the findings of the research have verified the significant role that these sorts of interventions may play in addressing the issue. SHG women were able to generate a sizeable income, which they then used towards enhancing the well-being of their own families, with the assistance of capacity development interventions that were targeted at enhancing the local capabilities in value addition. When it comes to processing finger millet products on a local scale for value addition at the village and city levels, the training interventions that were implemented by the University had a strategic effect since they gave SHGs greater self-assurance to do so.

The eventual conclusion of a wider multi-stakeholder project that includes a number of parties, including Bioversity International, the M.S. Swaminathan Research Foundation, and the

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University of Agricultural Sciences of Bangalore, was the empowerment of target communities. Participating in the selection of varieties, supplying high-quality seed, disseminating best growing methods, supplying processing and milling units, conducting nutrition and food technology education courses, and running public awareness campaigns are all activities that these parties have been involved in. Members of the SHG who were located in pilot regions reaped enormous advantages as a consequence of the combined effects of all of these efforts. Another important thing that can be learned from these studies is that it is feasible to improve people's level of life by using locally cultivated crops, such as little millets. This is yet another important lesson. Especially in disadvantaged and marginalised regions, where these crops are known to offer benefits in terms of increased resilience and adaptability, these crops have the potential to boost people's earnings and ensure that they have enough nourishment.

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