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BOTANY AND WOMEN: THE ROLE OF GENDER IN BIODIVERSITY MANAGEMENT AND INDIGENOUS KNOWLEDGE

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ABSTRACT

Traditional knowledge and indigenous rights related to plants are sex-diverse everywhere, and gender inequities are evident in the present 21st century. This paper discusses how women dominate plant biodiversity management through their work as housewives, plant gatherers, home gardeners, herbalists, seed keepers, and informal plant breeders. However, because most of the plant usage, management, and conservation take place in the domestic sphere and because the main values of plant genetic resources are localized and non-financial, they are mostly invisible to outsiders and are readily devalued. This paper aims to evaluate the contribution of women in biodiversity management and conservation of traditional indigenous knowledge. Gender prejudice has been prevalent, according to scientific study on human-plant interactions. The domestic domain, gender relations between men and women, and the significance of plant biodiversity for women's status and welfare continue to be largely ignored by conservation policies and programmes. It is of utmost importance to understand the role of women in conservation of plant genetic resources. This paper thus attempts to provide few positive steps taken in this direction.

Keywords: Biodiversity, Botany, Conservation, Gender, Indigenous Knowledge, Plant Genetic Resources.

1. INTRODUCTION

Women manage most of the plant resources that humans use all over the world, but notably in tropical places with high biodiversity. This is true in villages, farms, homesteads, woods, common pastures, fields, and borders. The majority of plant biodiversity research also does not take gender into account, which can result in inaccurate or incomplete scientific findings regarding the variety, traits, and uses of plants, the nature of relationships between people and plants in particular cultural contexts, and the causes and potential solutions for genetic erosion. This paper explores how gender bias influences scientific understanding of the plant world and, in consequence, our capacity to reshape that environment in the ways we choose. The consequences extend far beyond simply creating biased scientific knowledge; they extend into related practices, policies, and interventions intended to change the interactions between people and between people and their environments, and they can distort the outcomes in unexpected and not always desirable ways. Howard in his book "Women and Plants: Gender Relations in Biodiversity Management and Conservation" (2003) highlights in-depth case studies from Latin America, Asia, Africa, Europe and North America demonstrates the importance of women and gender relations in plant genetic resource management and conservation. It provides a state-of-the-art overview of the concepts, relationships and contexts explaining the relatively hidden gender dimensions of people-plant relations.

2. RESEARCH OBJECTIVES

2.1 To evaluate the contribution of women in biodiversity management and conservation of traditional indigenous knowledge.
2.2 To understand the role of women in conservation of plant genetic resources.

3. METHODOLOGY

- Published and Unpublished sources
- It is analytical and Descriptive study
- Action oriented research

REVIEW OF LITERATURE: Howard in his book "Women and Plants: Gender Relations in Biodiversity Management and Conservation" (2003) highlights in-depth case studies from Latin America, Asia, Africa, Europe and North America demonstrates the importance of women and gender relations in plant genetic resource management and conservation. It provides a state-of-the-art overview of the concepts, relationships and contexts explaining the relatively hidden gender dimensions of people-plant relations.

- Hawksworth in his book "Biodiversity and Conservation" concerned with concerned with diverse aspects of biodiversity and conservation, including biogeography, marine ecology and fisheries, legislation and regulation, sustainable development, and woodland ecology.

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- Land bridges: ancient environments, plant migrations, and New World connections by Alan Graham examines the geography and climate, geology, vegetation, peoples, and utilization. He adopts a long-term perspective, noting the vegetation at different geological periods as evidenced by the fossil record through to that there today.
- In Biodiversity for sustainable development K. P. Laladhas, Preetha Nilayangod, and V. Oommen highlight series "The Environmental Challenges and Solutions", which aims to improve our knowledge and understanding of different environmental problems and to solve/mitigate them. It provides comprehensive studies and discussion about the biodiversity and ecosystem services important to sustaining Life on Earth. The main aim is to explore the three pillars of sustainable development, economic, social and environmental, and their interrelationships at the regional level for sustainable development.

This book brings out best practices to strengthen the effectiveness of biodiversity governance at different levels for a sustainable future, especially in developing countries like
India.

RESEARCH GAP: There has been ample amount of work related to gender in biodiversity management. But this paper seeks to evaluate the contribution of women in biodiversity management and preservation of indigenous knowledge. The domestic domain, gender Relations and significance of plant biodiversity for women's status and welfare were ignored by conservation policy and programmes. Thus, this research seeks to identify worldwide examples where women are involved in biodiversity management.

4. RESULTS AND DISCUSSION

4.1 **WOMAN – THE HOMEMAKER:** Most plant species and varieties utilised by humans are farmed or harvested for their domestic (medicinal, gastronomic, nutritional, and aesthetic) purposes, according to ethnobotanical case studies from around the world (e.g., Posey, 1999). Domestic duties commonly entrusted to women and girls include gardening, plant harvesting, post-harvest preservation, storage, and processing of food, medicinal, fuel, and fibre plants. Despite its reputation as a place of 'reproduction,' the domestic realm is extremely productive. It entails a high degree of traditional technical knowledge and abilities that, in many cases, take at least a third of a lifetime to acquire. It also necessitates frequent innovation in order to respond to both external and internal change. Culinary traditions are a vital part of cultural identity. Food is consumed not only for its nutritional value, but also for its emotional, ceremonial, spiritual, and therapeutic properties. Food is an essential component of exchange and hospitality, which are vital organising elements in many traditional communities. While males may influence what makes a sufficient meal or dish, women are often regarded as the 'gatekeepers' of food flows in and out of the home.

4.2 WOMAN – THE GATHERER: Wild plants are not just important to foraging civilizations (those that rely primarily on hunting, fishing, and gathering); they are also important to human livelihoods in rural areas throughout the developing globe. Women thrive as plant gatherers in most of these systems. Women contribute 79% of total vegetative food obtained, according to one statistical examination of 135 different communities with various subsistence bases (e.g., agriculture, animal production, hunting, fishing, and gathering) (Barry and Schlegel, 1982). A lot of research also suggests that males often pick plants from 'men's areas' and women collect from 'women's spaces'.

4.3 WOMAN – THE GARDENER: Home gardens are the world's oldest and most widely used gardening techniques. Most definitions of home gardens focus on their proximity to the house, their role as a secondary source of food and income for households, the dominance of family labour, and their multi-functionality as aesthetic, social, and recreational spaces, as well as for providing medicines, herbs and spices, fodder, building materials, and fuel. Useful kinds that would otherwise be destroyed owing to clearance and burning are transplanted to residential gardens where they can thrive (Okigbo, 1985). For example, among the Maya of highland Guatemala, "women educate children through garden chores." They teach how to use farm tools, what plants need to thrive, and how to manage crops, especially through weeding and harvesting" (Keys, 1999).

While the gender division of labour in home gardening varies by area and culture, the tight connection between gardens and the domestic sphere assures that women manage gardens and hold much of the knowledge, skills, and responsibility for home gardening. However, home gardens are an important resource, especially for poor women, because they allow them to produce additional food and cash for their families. Home gardens and their female managers have been underserved in terms of development planning and food security, and this must be rectified in biodiversity conservation initiatives.

4.4 WOMAN – THE HERBALIST: According to the World Health Organisation, 80% of the world's population uses plant medicines for primary health care. Plants provide between 25 and 40% of all current medications (Farnsworth et al., 1985). Shamans and 'medicine men' are typically men with immense magical power and rank in their communities, while female

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priestesses are common in Africa and Asia. Herbalists, on the other hand, are women who specialise in treating ailments with plants; midwives are also herbal specialists who are usually women.

However, there is growing recognition that the 'common' knowledge of lay women predominates in traditional health care institutions (McClain, 1989; Good, 1987). Women in the Ecuadorean Andes, for example, can detail the success of individual herb-illness combinations including 350 plants (Kothari, 2003). Herbal remedy knowledge is frequently passed down through the female line; for example, girls learn to observe and cure minor diseases while caring for siblings (Howard-Borjas, 2002).

4.5 WOMAN – THE BREEDER OF PLANT AND GUARDIAN OF SEEDS: Plant breeders and seed custodians, on the other hand, are typically small farmers, and often, if not exclusively, women. Women are typically directly responsible for food crop production in Sub-Saharan Africa, as well as indigenous civilizations in Latin America and the Pacific. Women in Rwanda, for example, grow more than 600 varieties of beans (Sperling and Berkowitz, 1994), whereas Aguaruna women in Peru plant more than 60 varieties of manioc (Boster, 1985).

Since they use plant materials in more varied ways than men do, women frequently have a wider range of varietal selection criteria than men do. For instance, rice not only provides food but also straw for thatching, mat-making, and fodder, husks for fuel, and leaves for relishes (Jiggins, 1986). Women are frequently in charge of seed exchange, preservation, and storage. Informal seed exchange systems, which frequently favour women, involve market, and barter exchanges as well as bride prices, gift-giving, kinship duties, and other customs.

4.6 TRADITIONAL INDEGENOUS KNOWLEDGE AND GENDER DIVERSITY: Most gardeners, gatherers, herbalists, and plant breeders who have created agrobiodiversity and discovered useful plants are women; however, due to gender bias, they are more likely to be the last to have their rights acknowledged and thus to gain from associated development or compensation plans.

4.7 ETHNOBOTANY AND GENDER BIAS: The investigation of human-plant interactions is called ethnobotany. Many ethnobotanical studies make the mistake of assuming that the plant knowledge of a small group of people is representative of the knowledge of entire societies, which is a serious methodological flaw. Even though gender distinctions in understanding and use of plant biodiversity are present everywhere, most ethnobotanists tend to be oblivious to them. The major related errors are -

- The lack of investigation of herb usage and awareness among women. Ethnobotanists frequently make the simple assumption that men, especially senior men, are suitable representations of the collective ethnobotanical knowledge of their communities or that these men have superior ethnobotanical knowledge. It simply avoids the expertise that women possess. If women are less knowledgeable about plants than men are, these species and varieties will be missed, which will result in a lower estimation of biological diversity and its applications.
- The use of unreliable sources, which results in incorrect plant management, identification, description, or naming. Numerous studies have demonstrated that women are frequently more adept at correctly identifying these parameters than males, especially for plants that more closely relate to their areas of expertise (e.g., Zimmerer, 1991). According to a renowned ethnobotanist, "Most of the ethnobotanical writings on female health issues were by foreign men, interpreting native men in turn, interpreting native women" (Duke and Vasquez, 1994).

5. CONCLUSION

One of the research projects conducted in Guangxi province in Southwest China (Song and Jiggins, 2003) analysed that women now represent 80- 90% of farm heads. While women here have always been mainly responsible for varietal selection and seed management, gender bias persists and the role of women in biodiversity management has not been recognised by the government. A second example of Mapuche women's efforts to preserve plant biodiversity in Chile is also commendable with this regard (Aguilar, 2001). In the forests of the Araucanía range in southern Chile, a multitude of medicinal and aromatic herbs are collected and used by Mapuche women in their roles as shamans (Machi) and food providers.

Outsiders who fight to preserve biodiversity can acknowledge the contributions of women's knowledge and labour, as well as to advance indigenous cultures, women's position, and their welfare, all while preserving the biodiversity that is their wealth. But it begs the question of whether fostering markets for plant biodiversity will guarantee these objectives. As resources become more valuable due to market expansion, men frequently gain authority over the land and plant-based resources that traditionally belonged to women. In the absence of robust indigenous resource control systems, it can also encourage overexploitation (Price, 2003; Wooten, 2003).

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The following constructive measures can be taken to guarantee that women's contributions to biodiversity management and conservation are considered and that their reliance on plant genetic resources for their well-being, status, and means of subsistence is acknowledged:

- Prioritising the preservation of plant genetic resources that are crucial to the women who serve as their primary keepers, which entails paying much more attention to their intangible values and reversing the trends that are causing them to disappear, like shifting gastronomic trends and demands on women's time and land resources;
- Valuing and preserving women's indigenous technical knowledge of plant resources, as well as encouraging its dissemination in all relevant contexts, such as formal and informal education, training, and extension
- Acknowledging indigenous plant rights systems and the fact that they are gender-specific; attempting to adjust existing structures that respect the rights of women, pay them fairly, and give them a voice that is proportional;
- Ensuring that indigenous women are fully included in decision-making processes and conservation and management initiatives that have an impact on them; keeping an eye on these initiatives to see how they influence these women's rights, status, and welfare;
- Encouraging and sharing study that advances our understanding of how plants and women's status and welfare are related.

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