



Review Article

Role of Women in Environment Conservation

Kanhiya Mahour*

*Experimental Laboratory, Department of Zoology, R.P.P.G. College, Kamalganj, Farrukhabad (U.P.) -209724,
Affiliated to CSJM University, Kanpur (U.P.), India.*

Abstract: Started in the 1960s, the worldwide environmental movements have drawn the attention of many scholars and studies have then been conducted based on varied academic standpoints. However, seldom are there adequate recognition of women's contribution to the conserving of the Australian environment. This may serve as the inspirations for the author to carry out a qualitative research on South Australian women's involvement in the green NGOs and to acknowledge their persistent efforts accomplished in the movement. To portray a realistic picture of Australian women's participation in the environmental movement, this paper has chosen to explore the reasons or the driving forces for South Australian women's involvement in the green non-governmental organizations, in an attempt to discover their perceptions of the woman-nature relationship, of the current environmental problems and women's empowerment in the environmental movement. To look into the subtleness of women's emotion and thoughts, this paper employs the ecofeminist perspective/perspectives which draw upon the oppression and objectification of both women and nature. Supported with the triangulation of three qualitative research methods, namely documentary review, case studies and interviews, this paper highlights. The importance of women's naming of their own experiences as environmentalists and succeeds in obtaining first-hand data of their engagement in the movement. Set in a non-governmental organizational background, women interviewees in this research have been and are still working with the selected green NGOs based in South Australia. With these "third-sector" performers, women have been provided with access to influence, to contribute or even to shine in the fight against natural degradation and preserving of a livable planet. Through a close scrutiny of the interviews, the research finds out that the ten female interviewees identify at a high level with the three groups of ecofeminist thinking—liberal ecofeminism, socialist ecofeminism and cultural ecofeminism. All women express their serious concerns about environmental problems, and all have particularly confirmed the woman-nature relationship. Their witness an ecofeminist demonstration of perceptions of the cause of environmental problems, care ethics, critique of power and women's rising to lead positions in environmental groups.

Keywords: Woman-Nature Relationship, Ecofeminism, Standpoint Theory, Environmental Movement.

1. Introduction

Environment means surroundings. It refers to everything remaining around human beings. The word environment is derived from the French word *Environner* meaning encircle or surround. The study of environment is called Ecology or Environmental Science or Environmental education. Environment is the sum total of water, air and land, interrelationships among themselves and also with human beings, other living organisms, and property.

On the other hand, Women were considered as a weaker sex from ancient times. She was considered as a machine for producing children. She was kept locked in

the bedroom and kitchen. She was not independent. There was gender inequality. She was denied rights from the very beginning of birth. If the baby happens to be a female, she is met with female infanticide. A man can select a woman among many as his wife. But a woman is not given the chance for selection of her husband. After marriage, she becomes a toy in the bedroom and kitchen.

Now, women get liberation from slavery through a series of movements, awareness programs and laws. Thus, it becomes a base for human liberation. At present, she has equal rights in education. Women are given 33% reservations.

*Corresponding author:
E-mail: kris_mathura@yahoo.com; Phone: +91-9412404655.

In the early 1970s, an interest in women and their connection with the environment was sparked, largely by a book written by Ester Boserup entitled, *Woman's Role in Economic Development*. Starting in the 1980s, policymakers and governments became more mindful of the connection between the environment and gender issues. Changes began to be made regarding natural resource and environmental management with the specific role of women in mind. According to the World Bank in 1991, "Women play an essential role in the management of natural resources, including soil, water, forests and energy and often has a profound traditional and contemporary knowledge of the natural world around them". Whereas women were previously neglected or ignored, there was increasing attention paid to the impact of women on the natural environment and, in return, the effects the environment has on the health and well-being of women. The gender-environment relations have valuable ramifications in regard to the understanding of nature between men and women, the management and distribution of resources and responsibilities and the day-to-day life and well-being of people considering all these facts present study have been taken with following objects.

- a. What is the environment?
- b. What was the ancient status of women?
- c. What is the present status of women?
- d. Famous environment revolution.
- e. Role of women in conserving the environment.

2. Past knowledge

There is a vast literature which tries to focus on the significance of the relationship between women and the environment, though literature in this area is inadequate in Bangladesh. It is emphasized that is closely related to the nature involvement of women would help societies develop the sense of responsibility needed to maintain a good balance between human's and earth resources (discussion on women's commission on the status of women 46th session 6th meeting, 2008). Chandra *et al.*, (2009) deals with gender relationships and gender-sensitive strategies in promoting village ecosystem management. It examines the role of women in the home garden and community livelihood programs in enhancing household food security. It also records indigenous knowledge and perceptions of women about endangered plants, including food and medicinal plants. Akter *et al.*, (2010) analyze the different dimensions of the role of women in home gardens such as the participation of women in management activities, understanding the impact of home gardens on women's income and livelihoods and women's awareness of home garden oriented activities that support environmental conservation. Butt *et al.*, (2009) highlights the role of rural women in agricultural development and their constraints while examining a

case study in Depalpur Okara Pakistan. The major findings of the study indicate that for the betterment of rural women in the agricultural sector, women's literacy rate should be enhanced, they should have direct access to agricultural credit, they should be properly the major responsibility of household activities and field activities, they are to be encouraged or educated to manage natural resources in the most effective way. Gupta (2008) suggests that women be trained in identifying, collecting, treating and marketing the medicinal plants. Omobuwajo *et al.*, (2008) studies the knowledge and practices of Nigerian herb sellers, who are mostly women. Zahan (2008) argues that environmental degradation affects the third world countries adversely because of the vicious circle of poverty. Naturally, they are the worst victims of environmental degradation as they depend upon the renewability of natural systems to provide them with food, fuel, water, and shelter. Keeping in line with the above literature the major focus should be to prove a strong and robust relationship between rural women through their household activities and indigenous knowledge with environmental conservation.

2.1 Women, Environment and Development (WED) Debate

The women, environment, and development debate (WED) began in the early 1970s due, largely in part, to the oil crisis. In Mexico-City, in 1975, at the First World Conference on Women, Vandana Shiva introduced the issue of women and the environment. Concern was raised about the depletion of forestry resources as people began to realize that those resources were finite. Women's role in agriculture and their role as wood fuel users began to come under scrutiny. Soon, a major connection was made between the impact environmental developments had on women. According to Schultz *et al.*, "The women, environment and development debate (WED-debate) is anchored in a critical view of development policies where the link between modernization/industrialization and technology on the one hand and environmental deterioration on the other are focused" (p4). The WED debate continues today but is more focused on globalization and sustainable development.

2.2 Farming and Agriculture

In a majority of the world, women are responsible for farm work and related domestic food production. An increasing number of women are taking over and expanding their involvement in agricultural tasks, but this has not changed the gender division of labor with regard to reproductive work. Ester Boserup looked into the farming systems of men and women in Africa and found that "in many African tribes, nearly all the tasks connected with food production continue to be left to women". Schultz *et al.*, (2001), found that "90% of women in the developing world, where most of the

planet's biological wealth is found, depending on their land for survival. Women head 30% of the households in developing countries, 80% of food production in sub-Saharan Africa is done by women, 60% in Asia and 50% in Latin America. Even though women are largely responsible for the actual agricultural work performed, men, generally own the land, therefore controlling women's labor upon the land.

2.2.1 Africa: Ester Boserup examined the farming systems of men and women in Africa and found that "in many African tribes, nearly all the tasks connected with food production continue to be left to women". In Botswana, men typically have greater access to advanced technologies and plowing abilities. Zambia also has a high percentage of women farmers yet they are not explicitly recognized and often neglected entirely. Consistent lack of access to credit, mobility, technological advancements, and land ownership further complicates women's agricultural roles.

2.2.2 Latin American and Caribbean: In Peru, women often participate in food production and family farming yet they do not generally benefit directly from their labor. Their work is not considered as valuable as men's. Women in the Caribbean have always been associated with agriculture and do have access to land ownership. However, women still do not have the same access to technology as men and generally have smaller plots of land.

The dependence on nature and the environment for survival is common among Third World women. It has been argued by environmental feminists that this dependence creates a deeply rooted connection between women and their surroundings. The dependency women have on natural resources, based on their responsibilities, creates a specific interest that may be different from the interests of men. Janice Jiggins suggests that the views women have on nature are unique in that they connect the land to immediate survival and concern for future generations rather than simply looking at the land as a resource with monetary value. With the development of newer technologies since the 1940s, there has been a shift to more non-farm activities, however, men more than women are the ones participating in the shift, leaving women behind. It has been projected that the continuation of men shifting to urban livelihoods, more and more women will be depended on to maintain the household by farming. Issues such as climate change could have a greater impact on women because the land they farm will be negatively affected.

2.3 Land ownership and property management

In many parts of the world, specifically developing countries, there is a great deal of inequality when it comes to land ownership. Traditional practices and bureaucratic factors often prevent women's access to natural resource development and management.

Frequently, women do not have the right to own land and property, but they often are the ones who tend to the land. Bina Agarwal, has written a great deal about gender and land rights in Third World countries and according to her, "Hence, insofar as there is a gender and class-based division of labor and distribution of property and power, gender and class structure people's interactions with nature and so structure the effects of environmental change on people and their responses to it." Women's access to control of natural resources, land ownership, and property management is a developing issue and is the subject of continuous debate in both the environmental realm and women's rights movement.

2.4 Women's property status and the likelihood of violence

"Worldwide, physical violence by husbands against wives is estimated to range between 10% and 50%. It is difficult to pinpoint the causes of marital violence but economic dependence is widely acknowledged as one of the main sources. Land or property ownership provides women who may be experiencing marital violence with a credible exit option. Land ownership creates a means of production of both income and power. A study performed in Kerala, India examined the effects of property status and the likelihood of violence against women. Close to 500 women were surveyed about a number of happenings in the household such as the amount of long-term and current violence that occurred, women's ownership of the land or house, and other socio-demographic characteristics. The violence that occurs can be physical, such as hitting or kicking or psychological, such as threats or belittlement. Long-term violence, or violence that had been occurring throughout the entirety of the marriage, was experienced by 41% of women in rural households, while 27% of urban household women reported violence in various forms. Current violence or violence occurring within 12 months of the time of survey was experienced by 29% in a physical capacity and 49% experienced psychological violence.

Of all the women surveyed, 35% did not own any property and of that 35%, 49% experienced physical violence while 84% experienced psychological violence. The amount of violence was significantly lower in households where women-owned land or property. According to this particular study, women's access to land and property ownership reduces the risk of spousal abuse by enhancing the livelihood of women as well as providing an escape route and means for survival if abuse begins. In many developing countries, where marital violence is prominent, barriers such as unequal laws and social and administrative bias keep women from owning land and property. A vast number of women are left out of owning immovable property (land or house) furthering their likelihood of experiencing marital violence. It can also be argued that

land rights greatly shape an individual's relationship with nature and the environment.

2.5 Relationship between violence of nature and women

The WED debate has examined the correlation between the degradation of the environment and the subordination of women. Carolyn Merchant and Vandana Shiva wrote that there is a connection between the dominance of women and dominance of nature. Shiva said, "The rupture within nature and between man and nature, and its associated transformation from a life-force that sustains to an exploitable resource characterizes the Cartesian view which has displaced more ecological worldviews and created a development paradigm which cripples nature and woman simultaneously". Exploitation of women's labor, as well as the abuse of the natural environment, is connected as they are both marginalized within the economy. Both the environment and women have been viewed as exploitable resources that are significantly undervalued. This argument supports ecofeminism in that women in developing countries relies on nature to survive, therefore, the destruction of the environment results in elimination of women's method for survival. According to Jiggins, environmental degradation affects women the most, furthering the inequalities between men and women. One study showed that new developments in technology and developments in land access are denied to women, furthering their subordination and inequality.

3. Theoretical perspectives

3.1 Ecofeminism

Ecofeminism says that women are closer to nature than men are. This closeness, therefore, makes women more nurturing and caring towards their environment. Ecofeminism encompasses a variety of views but has a focus of patriarchal oppression and the social constructions relating to women and the environment. Some indicate the biology of women as the reason behind the closeness, while others credit culture and historical factors. An ecofeminist believes in a direct connection between oppression of nature and the subordination of women. Vandana Shiva is credited with bringing ecofeminism into public consciousness by her reports of the Chipko movement. Chipko movement also led to the formation of anti-alcoholism.

3.2 Environmental or Ecological Feminism

Environmental or ecological feminism differs from ecofeminism in that it is more focused on the actual, specific interactions with the environment. Connections between environment and gender can be made by looking at the gender division of labor and environmental roles rather than an inherent connection with nature. The gender division of labor requires a more nurturing and caring role for women, therefore, that caring nature places women closer to the

environment. The knowledge of nature is shaped by the experiences an individual has. Women have a distinct knowledge of the land, yet are excluded from policy decisions of development on that land. This is prominent in many developing countries where the responsibility of collecting fuel and fodder is placed upon the women. Both the resources and the meanings have taken into consideration with environmental feminism. There is a challenge to not only focus on the gender division of labor but also the actual appropriation methods of the resources. In other words, there is not simply an inherent connection between women and nature; rather there are material realities that exist. Bina Agarwal opposes ecofeminism and outlines three problematic elements which are:

- Historical characterization of the situation of women and nature
- Linking of the emancipation of women with that of nature
- Assumptions about women's agency

3.2.1 Possible Problems of Environmental Feminism: Bina Agarwal has critiqued the ideas of environmental feminism. She proposes problems with welfare, efficiency, and source of land.

- **Welfare**

Due to gender differences in income-spending patterns, women are at a higher risk of living in poverty. For this reason, access to land is of special importance. Land access allows for a number of production advantages such as growing trees, fodder and/or crops. But, land access also allows for increased credit, bargaining power and strengthens aggregate real wage rates. Even the smallest amount of land can have huge impacts on welfare directly as well as increasing entitlement to family welfare.

- **Efficiency**

1. Incentive effect: If women are given secure land rights, there will be a greater incentive for higher production rates. Women will be motivated to use the best technologies, increase cultivation, and make long-term investments.

2. Credit and input access effect: Titles would enhance women's ability to raise production by improving their access to agricultural credit, as well as by increasing women's independent access to the output, savings and cash flow for reinvestment.

3. Efficiency of resource uses effect: Studies have shown the possibility that women use resources more efficiently than men. This could mean anything from making a more productive use of loans of money earned to the ability of women to achieve higher values of output based on cropping patterns.

4. Gender-specific knowledge and talent pool effect: Many women have specific and often greater knowledge about certain crops and planting patterns. If

women are included as farm managers, a more diverse and talented, informed pool will be created.

5. Bargaining power and empowerment effect: Providing women with the opportunity to own land will increase their sense of empowerment and could help women to assert themselves more in various situations such as policy creation other government schemes.

- **Source of land**

Because public land available for distribution is now quite limited, most of the land will need to come from private sectors. "To get a share of land, therefore, it is critical for women to stake a claim in privatised land".

3.3 Feminist Political Ecology

Feminist political ecology builds from ecofeminism and environmental feminism and lays out three essential factors which are:

1. Gendered knowledge, or the ways in which access to scientific and ecological knowledge is structured by gender.
2. Gendered environmental rights and responsibilities, including differential access by men and women to various legal and de facto claims to land and resources.
3. Gendered politics and grassroots activism, including an examination of women within and as leaders of environmental movements.

Feminist political ecology seeks to discover the role and place of women in environmental development on a political scale.

4. Women's attitude and the environment

The deep connection between women and men comes from the daily interaction between them. In recent decades, environmental movements have increased as the movements for women's rights have also increased. Today's union of nature preservation with women's rights and liberation has stemmed from invasion of their rights in the past.

In developing areas of the world, women are considered the primary users of natural resources (Land, forest, and water), because they are the ones who are responsible for gathering food, fuel, and fodder. Although in these countries, women mostly can't own the land and farms outright, they are the ones who spend most of their time working on the farms to feed the household. Shouldering this responsibility leads them to learn more about soil, plants, and trees and not misuse them. Although technological inputs increase male involvement with land, many of them leave the farm to go to cities to find jobs; so women become increasingly responsible for an increasing portion of farm tasks. These rural women tend to have a closer relationship with land and other natural resources, which promotes a new culture of respectful

use and preservation of natural resources and the environment, ensuring that the following generations can meet their needs. Besides considering how to achieve appropriate agricultural production and human nutrition, women want to secure access to the land. Women's perspectives and values for the environment are somewhat different from men's. Women give greater priority to protection of improving the capacity of nature, maintaining farming lands, and caring for nature and environment's future. Repeated studies have shown that women have a stake in the environment, and this stake is reflected in the degree to which they care about natural resources. Ecofeminism refers to women's and feminist perspectives on the environment - where the domination and exploitation of women, of poorly resourced peoples and of nature is at the heart of the ecofeminist movement.

5. Environmental change and women

Today, women are struggling against alarming global trends, but they are working together to effect change. By establishing domestic and international non-governmental organizations, many women have recognized themselves and acknowledge to the world that they not only have the right to participate in environmental dilemmas, but they have a different relationship with the environment including different needs, responsibilities, and knowledge about natural resources. This is why women are affected differently from men by environmental degradation, deforestation, pollution, and overpopulation. Women are often the most directly affected by environmental issues, so they become more concerned about environmental problems. Studies have shown the direct effects of chemicals and pesticides on human health. According to United Nations Chronicle Journal researchers have found an association between breast cancer and the pesticide DDT and its derivative DDE; and also one study by the World Health Organization has found that women who are exposed to pesticides face a higher risk of abortion. These kinds of health problems cause women to feel more responsible regarding environmental issues.

6. Gender and perception of the environment

Given the environmental degradation caused while men have had dominance over women, and women's large investment in environmental sustainability, some have theorized that women would protect the Earth better than men if in power. Although there is no evidence for this hypothesis, recent movements have shown that women are more sensitive to the earth and its problems. They have created a special value system about environmental issues. People's approaches to environmental issues may depend on their relationship with nature. Both women and nature have been considered as subordinate entities by men throughout

history, which conveys a close affiliation between them.

Throughout history, men have looked at natural resources as commercial entities or income generating tools, while women have tended to see the environment as a resource supporting their basic needs. As an example, rural Indian women collect the dead branches which are cut by storm for fuelwood to use rather than cutting the live trees. Since African, Asian, and Latin American women use the land to produce food for their family, they acquire the knowledge of the land/soil conditions, water, and other environmental features. Any changes in the environment in these areas, like deforestation, have the most effect on women of that area and cause them to suffer until they can cope with these changes. One of the best examples would be the Nepali women whose grandmothers had to climb to the mountain to be able to bring in wood and fodder.

An example of female prominence in the defense of natural forests comes from India in 1906. As forest clearing was expanding conflict between loggers and government and peasant communities increased. To thwart resistance to the forest clearing, the men were diverted from their villages to a fictional payment compensation site and loggers were sent to the forests. The women left in the villages; however, protested by physically hugging themselves to the trees to prevent their being cut down, giving rise to what is now called the Chipko movement, an environmentalist movement initiated by these Indian women (which also is where the term tree-huggers originated). This conflict started because men wanted to cut the trees to use them for industrial purposes while women wanted to keep them since it was their food resource and deforestation was a survival matter for local people.

Gender-based commitments and movements such as feminism have reached a new approach through the combination of feminism and environmentalism called Ecofeminism. Ecofeminists believe in the interconnection between the domination of women and nature. According to ecofeminism, the superior power treats all subordinates the same. So, ecofeminism takes into account women's subordination and nature degradation. Remarkably all these different reactions, one can see that, however, most policy decision-makers are men.

7. Women Environmentalists

7.1 China

7.1.1 Mei Ng

Mei Ng was born in Hong Kong, China and she received her B.A. in Anthropology from the University of California, Berkeley, in 1972 and has worked diligently to promote environmental awareness throughout China. Her message of sustainability and eco-friendliness has reached nearly 860,000 people in

15 provinces. Mei Ng is an advocate of responsible consumption, renewable energy utilization, and sustainable development through the women and youth of China. She previously held the position of Director of Friends of the Earth (HK) in Hong Kong, an environmental organization which seeks to encourage environmental protection in China. In 2001, she was appointed to the Advisory Council on the Environment and in 2002, Mei Ng was elected to the United Nations Global 500 Roll of Honor on World Environment Day. Also, in 2002, she was appointed by the Chinese State Environmental Protection Agency as China Environment Envoy. In 2003, the Hong Kong SAR Government awarded her with the Bronze Bauhinia Star and in 2004, she was appointed to become a member of the Harbour Enhancement Committee. Mei Ng strives to mobilize women to defend the environment and to bring environmental education to all parts of China. She founded the Earth Station, Hong Kong's first renewable energy education center and has been well received by policymakers and citizens alike.

7.2 India

7.2.1 Vandana Shiva

An influential leader in developing nation environmentalism is Vandana Shiva, born on November 5, 1952, in India. Vandana Shiva has a B.S. in Physics, an M.A. in philosophy from the University of Guelph (Ontario, Canada) and received her Ph.D. from the University of Western Ontario in Quantum Theory Physics. Vandana Shiva is a world-renown environmental scholar and activist and she has made great strides for women in India as well as around the world. As a physicist-environmentalist adhering to ecofeminism, Vandana Shiva has published numerous papers on the unequal burden placed on women by environmental degradation, stating that women and children "bore the costs but were excluded from the benefits" of development. Vandana Shiva is also an active voice for localized, organic agriculture and she began a movement entitled Navdanya where participating Indian farmers have created 'freedom zones' to keep their crops free of chemicals to revitalize an organic food market in India. She has received many honorary degrees, awards. In 1993, she received the Right Livelihood Award. In 2010, Sydney Peace Prize and in 2011, she received the Calgary Peace Prize. In addition, Vandana Shiva was named "one of the 7 most influential women in the world." by Forbes.

7.3 Kenya

7.3.1 Wangari Muta Maathai

In 1940, Wangari Maathai was born in Nyeri, Kenya. She attended Mount St. Scholastica College in Kansas and received her degree in biological sciences in 1964. This was a part of the 1960 'Kennedy Airlift'

which brought 300 Kenyans (including Barack Obama's father Barack Obama, Sr.) to the United States to study at American universities. She then obtained her M.S. from the University of Pittsburgh in 1966 and her Ph.D. from the University of Nairobi. She was the first woman in East and Central Africa to earn a doctorate degree. Wangari Maathai was a relentless advocate for human rights, preaching the necessity for democracy. Her passion for environmental conservation leads her to find the Greenbelt Movement in 1977. Wangari Maathai's personal life was turbulent with divorce and jailing, as well as constant confrontations with the Kenyan government. Her push to protect national land from development made her less than favorable to Kenyan President Daniel Arap Moi, who served from 1978-2002. In 2004, Wangari Maathai received the Nobel Peace Prize making her the first African woman to win, a prideful moment for the people of Kenya. On September 25, 2011, Wangari Maathai died of ovarian cancer. BBC World News noted this as a 'Death of Visionary'.

7.4 Russia

7.4.1 Maria Cherkasova

Maria Cherkasova (1938) is a journalist, ecologist, and director of Centre for Independent Ecological Programmers (CIEP). She is famous because of coordinating a 4-year campaign to stop construction of hydroelectric dams on the Katun River. After Cherkasova's involvement in the student movement on environmental protection in the 1960s, she began to work for the Red Data Book for the Department of Environmental Protection Institute. She researched and preserved rare species until she became the editor of USSR Red Data Book. She co-founded the Socio-Ecological Union, which has become the largest ecological NGO in the former Soviet Union. In 1990, she became director of CIEP, which arrange and drives activities in an extensive range of ecologically related areas on both domestic and international fronts. Cherkasova recently has shifted her focus on children rights protection to live in a healthy environment and speaks for both inside and outside Russia.

7.5 United States

7.5.1 Rachel Carson

One of the outstanding women environmentalists is Rachel Carson. Rachel Carson (1907–1964) was a scientist, writer, and ecologist. Rachel Carson went to the Pennsylvania College for Women, majoring in English, but she was inspired by her biology teacher so she switched her major to biology. She became more interested and focused on the sea while she was working at the Marine Biological Laboratories in Massachusetts. Her eloquent prose, led to the publication of her first book, *Under the Sea-Wind: a*

Naturalists' Picture of Ocean Life, in 1941. In 1949, she became chief editor of the Fish and Wildlife Service (FWS). Her second book, *The Sea Around Us*, won the National Book Award and sold more than 200,000 copies. After that, she retired from FWS and became a full-time writer. After her third and final book about the sea, *The Edge of the Sea*, Carson focused on effects of chemicals and pesticides on the environment. That is when she wrote her book about environment, *Silent Spring*. The book was about what man has done to nature and eventually to him and started a modern environmental movement. Carson believed that human and nature are mutually dependent on each other. She argued that industrial activities such as pesticide use can damage the earth's ecosystem and will have far-reaching ecological consequences such as future human health problems. Today, scientific studies have demonstrated these consequences.

8. Ecological movements initiated by women

8.1 Chipko movement

One of the first environmentalist movements which was inspired by women was the Chipko movement (Women tree-huggers in India). "Its name comes from a Hindi word meaning "to stick" (as in glue). The movement was an act of defiance against the state government's permission given to a corporation for commercial logging. Women of the villages resisted, embracing trees to prevent their felling to safeguard their lifestyles which were dependent on the forests. Deforestation could qualitatively alter the lives of all village residents, but it was the women who agitated for saving the forests. Organized by a non-governmental organization that Chandi Prasad Bhatt led, the Chipko movement adopted the slogan "ecology is permanent economy." The women embracing the trees did not tag their action as feminist activism; however, as a movement that demonstrated resistance against oppression, it had all the markings of such".

It began when Maharajah of Jodhpur wanted to build a new palace in Rajasthan which is India's Himalayan foothills. While the axemen were cutting the trees, martyr Amrita Devi hugged one of the trees. This is because in Jodhpur each child had a tree that could talk to it. The Axmen ignored Devi and after taking her off the tree cut it down. The environmentalists like Chandi Prasad Bhatt and Sunderlal Bahuguna carried forward the movement initiated by Devi.

8.2 Green Belt movement

Another movement, which is one of the biggest in women and environmental history, is the Green Belt Movement. Nobel Prize winner Wangari Maathai founded this movement on the World Environment Day in June 1977. The starting ceremony was very simple: a few women planted seven trees in Maathai's backyard. By 2005, 30 million trees had been planted by

participants in the Green Belt movement on public and private lands. The Green Belt movement aims to bring environmental restoration along with society's economic growth. This movement led by Maathai focused on restoration of Kenya's rapidly diminishing forests as well as empowering the rural women through environmental preservation, with a special emphasis on planting indigenous trees.

8.3 Navdanya Movement

Navdanya also was known as the 'Nine Seeds Movement' seeks to empower local Indian farmers to move away from growing any genetically modified organism (GMOs) on their land and return to organic, chemical-free practices. This movement has reached over 5,000,000 Indian farmers and created over 65 seed banks around India. Navdanya fights to eliminate the commercialization of indigenous knowledge also known as 'Biopiracy'. Navdanya addresses multiple other international issues, including climate change, food security, and misapplication of technology, food sovereignty, fair trade, and many others. This movement also created a learning center entitled Bija Vidyapeeth. Bija Vidyapeeth, in collaboration with Schumacher College in the United Kingdom, seeks to educate participants in sustainable and ecological principles.

8.4 Kenyan land takeover

In Kenya, starting in the mid-1980s, women protested against the elites and big foreign corporations who were coerced and controlling the production of the land. Rather than allowing food to be grown for survival, women were pressured by both their husbands and the government to cultivate coffee for foreign profit. The protests continued and gained strength over the next couple of decades. The protests eventually ended in a Kenyan power shift enforcing democratic national elections, which resulted in the redistribution of land possible.

9. Summary

Women have a vital role in environmental management and development. Their full participation is, therefore, essential to achieving sustainable development. Women, particularly those living in rural areas or mountain areas have a special relationship with the environment. All women have with the environment, but the approach is different from Urban Areas. They are closer to nature than men and this very close relationship making them perfect managers of an ecosystem. The life of mountain women is so much intertwined with the environment that whole ecosystem revolves around her and she can't even think of her survival without it. For her forest is her mother's home as she is entirely dependent on the forest to meet her daily needs such as - water, fodder, fuels, minor forest

product, etc. More than 70% of the Indian population is rural based. Biomass plays a crucial role in meeting daily survival needs of the vast majority of the rural households. Water is essential for survival and its availability is related to biomass. The biomass-based subsistence economy is mostly non-monetized. Production and processing of biomass agriculture, forestry, and minor forest produce and village crafts based on biomass as raw materials are also the biggest sources of employment. Development imperatives have inevitably led to some destruction of the biomass through deforestation and environmental degradation.

Traditionally, women have been responsible for subsistence and survival for water, food, fuel, fodder, and habitat, though they rarely get the credit for nurturing these life support systems. Added to this environmental destruction exacerbates women's problems in a way very difficult from that of men. The challenge is to re-establish the symbiosis between communities, women and natural resources and reverse the trend of the negative impact of existing developmental paradigms.

Women have always been the principal conservers of biodiversity. Even today they perform duties such as seed selection, multiplication, and conservation. The on-farm conservation traditions of rural and tribal women, with reference to agrobiodiversity, are well known. Unfortunately, current food security systems depend on too few crops. It is important to expand the basis of food security by including large numbers of species and varieties of food plants still maintained by tribal and rural families. Traditionally, women have dealt with non-monetized biomass-based subsistence economy of the household i.e. firewood, cow dung, crop wastes, organic manure, etc. In comparison, men tend to destroy nature to earn cash, even if it means creating hardship in their own families for their womenfolk to collect fuel and fodder e.g. sale of herbs and wood. The up host is that women work as unpaid laborers on family farms with a greater role than men in operational decision making. The population pressure has increased male migration, which in turn adds to the women's workload. In effect, this means that women's responsibilities extend from the household duties to working in the fields as well. In developing areas of the world, women are considered the primary users of natural resources (Land, Forest, and Water), because they are the ones who are responsible for gathering food, fuel, and fodder. Although in these countries, women mostly can't own the land and farms outright, they are the ones who spend most of their time working on the farms to feed the household. Shouldering this responsibility leads them to learn more about soil, plants, and trees and not misuse them. Although technological inputs increase male involvement with land, many of them leave the farm to go to cities to find jobs; so women become increasingly responsible for an increasing portion of farm tasks. These rural women

tend to have a closer relationship with land and other natural resources, which promotes a new culture of respectful use and preservation of natural resources and the environment, ensuring that the following generations can meet their needs. Besides considering how to achieve appropriate agricultural production and human nutrition, women want to secure access to the land. This study is based on the secondary data only.

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