



Role of Women in Environmental Protection, Management and Development: A Study in North East India

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Abstract: Women play critical role in managing natural resources on family and community levels. In communities around the world, women manage water, sources for fuel, and food, as well as the both agricultural terrain. Across the world women play critical roles in relation to natural environment. North East India is the bio-diversity hotspot of India. This region is full of natural resources and people of this region is living with the nature. This paper tries to look out the role of women in environmental management. The major objective of this paper is to understand the role of women in environmental protection. This paper also tries to explore how the women of north east India is contributing towards managing the diversity of ecosystem. This paper is based on secondary data and qualitative by nature.

Keywords: Ecosystem, Bio-diversity, Environmental Management, Environmental Degradation,

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Introduction

Environmental problems have now become some of the most important issues worldwide. Through globalization and natural process environmental problems have transformed into international issue. In order to solve the environmental problems or pollution, environmental management (EM) have been adopted by various countries in different level of their society.

Petak (1980) define Environmental Management as managing human affairs so that to achieve acceptable balance between the quality of human environment and the quality of the natural environment. Lorrian – Smith (1982) redefine environmental management as an action taken by society, a section of society and an organization to improve environmental quality by developing plans, implementing

them continuously reviewing them introducing the concept of control after pollution problems have been caused.

Empowerment involves people in an active role, not only in decision making, but also an understanding of the factors that shapes a situation, and the nature itself. The Rio Declaration stated that women have played a vital role to play in environmental management and development. The millennium development goal recognised the need to promote gender equality and empowerment of women, the need to alleviated poverty and ensure sustainable environmental development. Research and policy has tended to focus on the relationship between poverty and environmental degradation in terms of pointing out that the poor are both victims and agents of environmental degradation. They are victims in that they are more likely to live in ecologically vulnerable areas, agents in that they may have no option but deplete environmental resources thus contributing to environmental degradation. As a result, Increasing awareness, social conditions and poverty alleviation, are necessary to support environmental sustainability.

International Consultation to Advance Women in Ecosystem Management has stated that: 'There is a natural convergence of interest between the needs of women and the need to conserve natural resources and environment. Women maintain a rich storehouse of technical environmental knowledge, which can be mobilized in the problem- solving process. In addition to their profound knowledge of fragile ecosystem management and sustainable resource use, women have a remarkable ability to work together and in taking care of children. Women also have a powerful influence over future attitudes towards the environment' (International Consultation 1993). Women are organized as collectives towards the overall goal of achieving gender equality as well as sustainable, comprehensive community development. Thus it is clear that environmental management is very important issue of present society and the participation of women in this process is also a notable one which is look out of different scholars in different academics.

Approaches towards Managing Environment

The last few decades have seen a tremendous increase in the anthropogenic pressures on the environment. The result has been widespread environmental degradation, along with increasing negative social and economic impacts, especially on the vulnerable sections of the population, not only in the United States but all around the globe. Although environmental management concepts have been around since the 1970s, it is mostly in recent years that they have

become ubiquitous. Thus far, the efforts to combat environmental problems have been predominantly piecemeal and top-down; consequently, both the reception of environmental policies and their effectiveness have been less than satisfactory in most cases. Today, increasing concerns about the environment are leading legislators, regulators, communities, corporations, and consumers to make new choices in terms of scientific research priorities, engineering investments, infrastructure and regulations, purchasing patterns, product usage, and disposal behaviour, to name a few of many. The emerging field of environmental management takes a holistic view of environmental problems, recognizing the interconnectedness of social, economic, political, and environmental processes. The emphasis on primary benefits of environmental awareness and sensitivity to sustainability paradigms is critical to winning over the mainstream population in this global race to manage the most important issues where environment plays a critical role, such as climate change and human and ecological health. Accordingly, the field adopts an eclectic and integrative approach to environmental problem solving, combining theories, research methods, and analytical techniques drawn from a gamut of disciplines, as far apart as geochemistry and political.

Ecofeminist Approach: Environmental Management by Women

Ecofeminism is a philosophical and political theory and movement which combines ecological concerns with feminist ones, regarding both as resulting from male domination of society. Ecofeminism can be defined as a “value system, a social movement, and a practice which also offers a political analysis that explores the links between androcentrism and environmental destruction .It is an “awareness” that begins with the realization that the exploitation of nature is intimately linked to Western Man’s attitude toward women and tribal cultures (Birkeland,1993). It is widely acknowledged that Rachel Carson's *Silent Spring* (1962) launched the environmental movement that took form by Earth Day in 1970. This book documented the adverse environmental effects caused by the indiscriminate use of pesticides. Rachel Carson’s focused attention on the effects of pollution on the human and non-human world, making the question of life on earth a public issue. The environmental destruction can be overcome by a social production that is environmentally sound. For this, one requires better science, conservation and laws. With equal educational opportunities, women can become scientists, natural resource conservators, lawyers, and so on, like men. Thus, these ecofeminists attempt to change human relations with nature through the passage of new laws

and regulations. However, just training women to be lawyers and environmental scientists will not solve the increasing problem of environmental degradation.

Carson's applied feminism in her personal, professional, and literary life goes almost unmentioned, overshadowed by the more visible and self-identified feminists of the 1960s, whose activism within and across the diverse counter-cultural movements of the 1960s and '70s also powered the anti-war and anti-nuclear movements. Ecofeminism emerged from the intersections of feminist research and the various movements for social justice and environmental health, research and the various movements for social justice and environmental health, explorations that uncovered the linked oppressions of gender, ecology, race, species, and nation through such foundational texts as Susan Griffin's *Woman and Nature* (1978) and Carolyn Merchant's *The Death of Nature* (1980). An early text of radical feminism, Mary Daly's *Gyn/Ecology* (1978), exposed the historical and cross-cultural persecution of women as legitimized by the various male-dominated institutions of religion, culture, and medical science linking the physical health of women and the environment with the recuperation of a woman-centred language and thought. Australian Ecofeminist like Maria Mies (1986) and Ariel Salleh (1984). Feminist activism in the 1980s offered an ecological and feminist perspective that linked militarism, corporatism, and unsustainable energy production by joining together the antinuclear protests and the peace movement.

In India, the most visible advocate of Ecofeminism is Vandana Shiva. She is among the Ecofeminist of the socialist framework. Vandana Shiva (1988) critiques modern science and technology as a western, patriarchal and colonial project, which is inherently violent and perpetuates this violence against women and nature. She said argues with Maria Mies famous feminist that whenever women protest against ecological destruction they were aware about the patriarchal violence against women.

The Women, Environment, and Development Debate (Wed)

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". The WED debate continues today but is more focused on globalization and sustainable development.

Role of Women in Environmental Protection, Management and Development: A Case of North East India

Women direct contact with environment has produced their deep-knowledge about the environment. Thus, women have served as agriculturalists, water resources managers and traditional scientists among others. Women are not only Knowledgeable about the environment, they are also protective and caring (shettima, 1996). Women being primarily responsible for domestic and household management interact more intensively with both the natural and built environment more than men. Consequently, they are more likely to suffer from a degraded home, neighbourhood and city environment and to shoulder more of the burden that go with living in poor housing and communities with inadequate residential and health infrastructure since they spend more time at home and its immediate vicinity (Etta, 1999). In many countries, women hold specific roles and responsibilities that offer opportunities for deeper knowledge of natural resources and environment. Women make up 43% of the agricultural labour force in developing countries and account for an estimated two-thirds of the world's 600 million poor livestock keepers. Women and girls collect water for their families and homesteads, globally spending 140 million hours each day to secure clean water used for essential cooking and drinking. Women's knowledge of non-timber forest products, particularly medicinal plants and alternative food sources, means that a higher percentage of plants have been identified as edible and disease cures. Throughout Africa, Asia, and Latin America, women are poised to lead in small-scale energy entrepreneurship.

There are various national and international agencies and organization for the management and protection of environment. Among them Rio Earth Summit is the foremost steps toward the sustainable development of society and awareness of global environmental scenario. The director general of IUCN (International Union for Conservation of Nature) Inger Andersen in his deliberation on the occasion of International Women's Day (2015) point out the following interesting facts which shows the women contribution is very high in the field of environmental management filed-

1. 29 percent of Rio Convention government delegates are women'

2. 43 percent of Rio Convention NGO representatives are women
3. Less than 25 percent of Rio Convention focal points are women
4. Out of 43 international environmentally focused institutions, 35 percent of the executive's directors are women.

Gender, the Environment and Sustainable Development in Asia and the Pacific is the first Asia-Pacific report (2017, United Nation), that comprehensively maps out the intersections between gender and environment at the levels of household, work, community and policy. This publication examines gender in the spheres of food security, agriculture, energy, water, fisheries and forestry. It identifies the strategic points for policy interventions. Based on a grounded study of the reality in the Asia-Pacific region, this report assembles good practices and policy lessons that could be capitalized on to advance the 2030 Agenda for Sustainable Development in our region.

The report draws five policy-relevant conclusions on the relationship between gender and the environment-

- First, persistent gender inequalities threaten to exacerbate maintaining food security in our region. Women play a pivotal role in all three dimensions of food security—availability, accessibility and utilization of food. Their role in these dimensions also intersects with the responsibilities, opportunities and constraints they face in their households, at work and within their communities.
- Second, structural biases must be eliminated to enable women to thrive in agriculture. The majority of the economically active women in the Asia-Pacific region work in the agriculture sector, and rural outmigration of men has led to the feminization of agricultural labour force. However, structural factors have restricted women farmers' access to credit, irrigation and extension services and thereby negatively affected productivity. If women had access to and control of the same resources as men, their contributions would increase food production by 2.5–4 per cent, which would be enough to move 150 million people out of hunger and poverty across the developing world. With more than 60 per cent of the undernourished or chronically hungry people in the world living in Asia and the Pacific, it is therefore imperative that we redress access barriers to enable women to thrive in agriculture.
- Third, clean energy has transformative potential to enhance productivity, health outcomes, and relieve the burden of housework. The Asia-Pacific

region today has at least 455 million people who lack access to electricity and more than 2 billion people still relying on biomass, or solid fuel, for cooking. Women, especially in rural areas, bear the brunt of energy poverty and are heavily impacted by the reliance on biomass, which is the single most important feature of the energy mix in the region. The lack of access to clean, reliable energy exacerbates the many challenges women face on a daily basis.

- Fourth, integrating gender concerns into policy making in agriculture, energy, water, fisheries and forestry sectors is critical to addressing gender disparity and enhancing women's access to resources and economic empowerment
- Finally, empowering women and creating enabling environments to foster women's effective participation and leadership in the management of environmental resources will positively influence conservation and resource efficiency. Women's participation and leadership are outcome-changing factors for the sustainable management of resources. Country-specific evidence in this report reinforces how empowering women in local decision-making over the conservation of forests and fisheries leads to better resource efficiency and conservation. Women's leadership will make a difference in the sustainable management of resources, which is why the socio-cultural factors that impede their ability to lead must be recognized.

The Indian culture Symbolize women as 'Prakriti' means 'Nature' she creates and nurtures the creation to bloom She signifies 'shakti' - the power that drives the system True, that the status of Indian women has eroded significantly since the Vedic times .Nevertheless, this viewpoint of Indian culture directly linked the women with the nature. Now a day's despite of being actively involved in business sector and social sector, women are playing important role in housework like cooking, taking care of child and all family member along with gardening, vegetable grow etc. Women take care of solid waste disposal in the household and in the society. In rural place the learning skill of managing natural resources has been a part of their rural socialization.

In the history of environmental protection and management activity we find many women environmentalist. 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. In India also we find the participation and leadership of women in environmental movements. We can bring out some of the movements to a closer look at the women role in the environmental management and protection.

Chipko Movement one of the greatest environmental movement in India which is well known to all of us, in this movement both male and female participate and among them Gaura Devi, Suraksha Devi, Sudesha Devi, Bachni Devi and Chandi Prasad Bhatt these names are very important. Medha Patkar also a female eminent environmental activist who started the "Narmada Bachao Andolan" to fight for the justice of the dam project affected people. She also was associated with a number of other movements. She mobilised massive marches and peaceful protest against the construction of India's Sarada Sarovar Dam, which displaced thousands of people. Appiko movement is important environmental conservation movement in Karnataka, to protect Western Ghats forest. Appikko movement was initiated by Panduranga Hegde. In September 1983, men, women and children of Salkani (a village in Western Ghats) "hugged the trees" in Kalase forest. This movement was against government policy to open forest for industrial development. The members of Mahila Mandal include Adivasi women joined for protection of rainforest by writing down to the government for halting of woodcutting. The village women conducted awareness programmes through foot marches, slideshows, folk dance, street plays, and dramas (Karan, 1994). Thus, with the strong protest from people, Government forced to halt industrial policy on Western Ghats which resulted in destruction of forest.

Assam is also have women environmental activist among them Dr. Purnima Devi Barman ,who has mobilised “Hargila Army” an all female team of conservationist dedicated to protest the greater adjutant stock which, through this program, are offered sustainable livelihood , training and education opportunities. This project is giving marginalised women a voice. Barman has been working at Dadara, Pachariya and Singimari villages in Kamrup district of Assam to save the endangered *hargila* for years. Her conservation exploits have been recognized globally. She has been conferred with Nari Shakti Purashkar by the President of India which is the highest civilian award for Indian women. In recent years participation of women in environmental management and protection is becoming very wide and speedy. In 2008 Nadi Bachao Abhiyan in Utrakhand is formulated by Mrs. Radha Bhatt, another lady known as “Falcon of the World” Bano Haralu who is unveiled the rapid decline of the falcons, which were a vital role for the agriculture as they preyed on the termites that would otherwise destroy the crops, by busting the falcon scam of being hunted and sold in the local market.

The North-eastern India is slightly sliced region between eastern region in India and Purvanchal Range - an eastward extension of the Himalayas in the northern belt of India that primarily consists of all the regions that have been carved out of the original province of Assam of British India that consists the present day Assam, Arunachal Pradesh, Nagaland, Mizoram, Meghalaya, Manipur and Tripura. Apart from these, more recently as a part of greater Northeast India, state of Sikkim and parts of North Bengal (districts of Darjeeling, Jalpaiguri, and Koch Bihar) can also be collectively referred as Northeast India. Sikkim was recognized as a part of NorthEast states in the 1990's. These states are officially recognized under North Eastern Council. The Ministry of development of North Eastern Region was set up in September, 2001(India's Look East Policy and North Eastern Region; an article written by Dr. Tanusree Sarker). Most of the states of this region are hilly states inhabited by tribal people.

Ethnic and indigenous people in different parts of North East live in rich in biodiversity area. It has been estimated that nearly 200 indigenous tribal groups are living in North East. Their traditional knowledge helps them to conserve the biodiversity of their locality. They also know how to live with harmony in nature. These ethnic and indigenous tribal people have managed and conserved biodiversity of their locality. They take shelter in forest and utilize the edible plants both raw and cooked. Tribal's need forest to make their huts and leaves and seeds to cook for foods. Most of them have created a sense of affinity with the forests.

The women of different states of NE India prepare varieties of ethnic foods from local soybean, bamboo shoots, lai patta etc which are of nutritious and healthy too. This region that lies under eastern Himalayas eco system, is not only rich in plant diversity but also have a great treasure of cultural, social and linguistic variability conserved by tribal people. This region is storage of indigenous knowledge system pertaining to agriculture, food, medicine and natural resources management. In Mizoram, the Mizo women prepared a soya bean based fermented food called “Bekang” and market this product. Tribal women of all the states of this region prepare fermented food with soybean along with leafy vegetables. The process of preparation of food is almost same for all the tribal’s but they but they name it differently, as Bekang in Mizoram, Aagya in Meghalaya, Peron *Namsing* by adi tribes in Arunachal Pradesh, Yanri Perung by Apatani in Arunachal Pradesh and Kinnema by Bhuti“a in Sikkim, Hawaizaar by Maitai in Manipur, *Akhuni* by Moa and Sema tribe in Nagaland. The Apatani tribe of Arunachal Pradesh also prepare varieties of fermented food from bamboo like *Hikku* and Herring. The tribal women of most of the states in NE India prepare delicious and nutritious food from bamboo shoot and plants available in the forest. In Assam also the tribal women belonging to Bodo, Rabha, Karbi, Dimasa and many other communities contribute a lot to conserve biodiversity of their own areas. Bodo women have traditional beliefs and knowledge about plants and forests. They are influenced by the plants in their socio, cultural and religious life. They have also the knowledge of herbal medicines out of wild plants for healing and caring of ailments. The socio-cultural and religious activity of Bodos has served the purpose of conserving their traditional heritage with plants from long back. From a study conducted by the teachers of biotechnology department, Bodoland University, Assam, it was found that the Bodo women conserve about 48 different plants to use (leaves, stems and tubers) for socio-cultural and religious purposes in the BTC area. They also use some plants for healing wounds/pains and other diseases. They use Bel leaves to worship lord Shiva. *Erianthus* spp(poaceae engkur) plant is used to construct their kuchha house. Thus, the conservation and using of different plants and their leaves in the name of socio-cultural and religion have significance in today’s crisis of „biodiversity conservation. In each society, it is observed that the women’s contribution to production is centred to biodiversity based on women’s indigenous knowledge. They gather these knowledge from generation to generation from grandmother to mother and from mother to daughter and so on.

Women of different tribal groups of North East India play a very important role in cultivation process. They constitute 80-90 percentage of agricultural labour. Women preserves seed, besides the paddy seeds, seeds of other crops such as beans,

gourd, and pumpkin chillies etc are selected and preserved by women step for preservation. For instance, rip cucumber etc are selected and the seeds are cleaned with water. After the cleaning process, the seeds are sun dried for two to three days depending on the weather. Once, the seeds lose its moisture, the seeds are kept air tight in an earthen pot or a traditional gourd bottle and are kept above the fire place to keep away from rodents, ants and other insects. The fruit seeds are left to ripen completely and later dried in the sun which follows the same process of storing it near the fire place. Maize millet and colocasia etc are also hung near the fire place. It is important to select the healthy crops. The seeds selected from diseased or unhealthy plant in a bad harvest. It is important role is performed orally from generation to generation has made women thus grants food security and perseveration of the biodiversity by preserving the seeds for the future.

Another interesting feature of North Eastern states is the relatively high status of tribal women compared to that of women in caste societies. That too is true more of the Northeast than of other regions. However, while attributing a relatively high status to them no tribe treated women as equal to men. The relatively high status too is based on CPR management. As long the resource is community owned women exercise partial control over it because of the gender-based division of power between the family and social spheres. In most tribes, the village council, made up of men alone controls the resource and political power. In most tribal traditions, the woman was in charge of the family and controlled its economy and production. The man represented the family in his society. In matrilineal tribes both descent and inheritance are through the woman but their tribe too is patriarchal and man controls society. To promote women in natural resource management Meghalaya state government has constitute Village Natural Resource Management Committee (VNRMC) as a part of the Community Led Landscape Management Project (CLLMP).

Conclusion

Women participate in the environmental management at the local, regional, national and international levels on environmental issues. Women in India are playing a crucial role in protection and conservation of environment, which promote sustainable development and empowerment of women together.

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