

**UNDERSTANDING GENDERED ENVIRONMENTAL
POLITICS IN INDIA : A CASE STUDY OF SAVE
GANGA MOVEMENT**

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DECLARATION

I declare that the dissertation entitled "UNDERSTANDING GENDERED ENVIRONMENTAL POLITICS IN INDIA: A CASE STUDY OF SAVE GANGA MOVEMENT" submitted by me in partial fulfillment of the requirements for the award of **Master of Philosophy** has not been previously submitted for any other degree of this University or any other university.


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CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.


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ABBREVIATIONS

- BOD** — Biological oxygen demand
- CAG** — Comptroller and Auditor General
- CETP** — Common Effluent Treatment Plant
- COD** — Chemical oxygen demand
- CPCB** — Central Pollution Control Board
- CRP** — Chrome recovering plants
- CSIR** — Council of Scientific and Industrial Research
- EPA** — Environment Protection Act
- GAP** — Ganga Action Plan
- GBM** — Green Belt Movement
- GPD** — Ganga project directorate
- ICELA** — Indian Council for Enviro-Legal Action
- IFAD** — International Fund for Agricultural Development
- INGO** — International non-governmental organisation
- KNN** — Kanpur Nagar Nigam
- KSSP** — Kerala Sastra Sahithya Parishath
- LDF** — Left Democratic Front
- LI** — Leather industries
- NBRI** — National Botanical Research Institute
- NMCG** — National Mission for Clean Ganga
- NDC** — Nationally Determined Contributions
- NEERI** — National Environmental Engineering Research Institute
- NGRBA** — National Ganga River Basin Authority
- NMCG** — National Mission for Clean Ganga

NWO — National Women's Organisation

NGO — Non-governmental organisation

NRCD — National River Conservation Directorate

PIL — Public interest litigation

PUCL — People's Union of Civil Liberties

SGC — Swatch Ganga Campaign

STP's — Sewage treatment plants

UASB — Up-flow Anaerobic Sludge Blanket

UNCED — United Nations Conference on Environment and Development

UPJN — UP Jal Nigam

UPPCB — UP Pollution Control Board

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Lastly, I am bearing all the responsibilities for the short comings of this work

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INTRODUCTION

“Man is part of nature and his war against nature is inevitably a war against himself” - Rachel Carson¹

The aim of this dissertation is to develop a framework of understanding and explanations to proximate, interconnected and symbiotic relationship of women and environment. This is done by exploring different theoretical perspectives on gender and environment and engaging with the gendered environmental politics working at grass root activism. This study involves the engagement of diverse role of women in environmental movements in India and other developing countries, in order to define the impact of their participation as one of the parameter for success or failure of ecological movements. By examining the role of gender in ecological movements, this dissertation aims to locate the gendered aspect of environmental movement and environmental politics in Save Ganga Movement, as a case study. This study has been arranged in various sub-topics of women and ecology in order to explain close involvement and interaction between the two and their regular, integrated and consistent indulgence in this process. There is no doubt that such engagement has resulted into the production of special knowledge and practices based on civilisational values and perceptions. As women are proximate to the dynamics of nature, so they are also the biggest victims. It goes without saying, that their greater participation would ensure sustainability of environment.

Another focus of this research is, a gendered relationship of women and environment, which is required to explain contradiction of relationship between women, men and environment. This has been designed around domination of men and patriarchal values, as reflected in a gendered power structure of the society. Such a relationship is, then, reflected in gendered access to resource management and gendered knowledge system. These gendered relationships have been imperative to develop and analyse the concept of gendered environmental politics, a framework that has ultimately led to conclude, an important role of women to ensure sustainability of the environment and the success of an ecological movement.

Lastly, this research undertakes a study of the Ganga movement and attempts a feminist analysis, based on some primary observations, aimed at verifying above stated themes arising from this case study. The first theme encapsulates how in spite of women’s experiences and interconnections

¹Rachel Louise Carson (May 27, 1907 – April 14, 1964) was an American marine biologist and conservationist, with her writings credited with advancing the global ecological movements.

getting institutionalised as local knowledge, actually fail to play a larger role in determining the participation of women in Ganga movement. Also the failure or at best, only a partial success of the movement can be majorly attributed to men's control over resources and policy making accompanied by limited and sporadic participation by women in the same.

We shall now discuss the above stated three sub-topics (that is, women and environment-a symbiotic relationship; a gendered relationship; and their connection to my case study on Ganga movement) through a broader perspective.

Nature, Mankind and Gender question

Historically, the relationship between human being and nature is based on mutual co-existence; one benefiting from the other and living in peace and harmony. Most ancient civilisations, both in India and outside, grew nearby river valleys (e.g, the first civilisations of the world like Indus valley, Mesopotamian, etc.), where it was more of man's dependency on the nature rather than the latter being subordinate to the former. However, with evolution and time, human history has unfortunately been accompanied with a leap in environmental degradation. At first, humans worked, to a great degree, in-tune with the nature. For instance, nomadic herders, food-gathering tribes used to roam around the lands for hunting, following the seasons after seasons. These tribes had a measurable impact on the environment, but their influence was relatively manageable due to their population size. The reversal in this relationship first began with improvement in tools of production, initially with the use of iron that became widespread and led to cutting of forests and clearing land for settlement beyond river valleys (e.g, upper Gangetic plains). This has been so improvised over the centuries that now nature seems to be subordinate to mankind, who is busy updating the technology and degrading the environment without acknowledging its sustainability, that once gave birth to civilisations.

Over the time, it was seen that growing populations led to increase in demand of greater resources to fuel the expansion. Developments in technology led to expansion in agriculture, when permanent settlements in form of cities began to take shape. Man's distancing from the nature began with this shift to city life. The growth of cities allowed for a separation between people and nature and our obsession with convenience and efficiency beckoned a new perspective on the environment. Technological advancements further contributed to this separation, wherein, nature became something we were no longer a part of and entirely subject to, but something that we could control and profit off of. The age of industry, to which we owe our modern regard for nature, enabled the domination of landscape by human beings, thereby, disrupting the natural systems that have been in

place for billions of years. Widespread poverty, especially in African, Asian, and Latin America regions, depletion of natural resources, rising temperatures, changing pattern of rainfall and environmental pollution are some of the many problems challenging modern population. In fact, these problems should be seen as interconnected, as they nurture each other. For example, the increasing population growth has overburdened the resource use with extreme form of exploitation leading to environmental pollution and shedding people to poverty. This entire row of logical connections may be represented in one word-the environmental crisis.

In the past few decades, many organisations at local, national and international level, with participations of governments, NGO's, INGO's, international regimes and social movements, have significantly contributed to address the issue of environmental crisis. In the global context, the world is witnessing increasing engagement of many countries from Stockholm conference in 1972 to Paris conference in 2015². It is interesting to note that this engagement is taking place in a unified framework to address climate change, increasing Greenhouse Gas, depletion of Ozone, rising temperature, etc. These participating countries have acknowledged their Common but Differentiated Responsibilities (CDR)³. Also, these regimes have prompted individual states to build their own Nationally Determined Contributions (NDC)⁴ to engage with their specific environmental policy to address various issues. However, it is at the level of civil society that major changes have occurred. It is seen that the engagement of local people and communities in the environmental movements at the grass root level has increased, a phenomena that emerged in late 1970's, and it has contributed to the developed of vibrant environmental politics, both nationally and internationally. This thesis attempts to examine the nature of the public participation at the level of civil society in the ecological movements. By understanding the nature of participation, this study tries to locate the failure of ecological movement, if any, in the gendered (exclusion of women) nature of participation and environmental politics. In order to locate the problem in the 'gendered' aspect of the ecological movement, I would first discuss the interconnections between gender and environment by encapsulating both theoretical perspectives and pragmatic conditions associated with role of women.

²2015 was a historic year in which 196 Parties came together under the Paris Agreement to transform their development trajectories so that they set the world on a course towards sustainable development, aiming at limiting warming to 1.5 to 2 degrees C above pre-industrial levels.

³Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) is a principle within the United Nations Framework Convention on Climate Change (UNFCCC), an organisation that works for various international conventions to address the current changes and challenges caused by climate change. The convention acknowledges the different capabilities and responsibilities of individual nation-state in addressing climate change and related issues, that categories each nation into different target zones and financial fundings.

⁴Nationally determined contributions (NDCs) came up with the signing of Paris Agreement in 2015. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change by formulating national policies and objectives suiting to their local needs, resources and level of impact of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare and convey their own nationally determined contributions (NDCs) that the nation intends to achieve.

Women and Environment: A symbiotic Relationship

There can be no disagreement on this that women in different parts of the world have been actively involved in different kinds of movements related to saving environment, however, it is also true that there is a limited recognition of their contributions. If sustainable development is a goal of the global community, the role of women in achieving this has to be acknowledged and enhanced. The Millennium Development Goals⁵ include both inter-related issues: gender equality and environmental sustainability. Involving women in protecting the environment would help societies develop the sense of responsibility among the common people, which is needed to maintain a good balance between humans and the earth's resources. One can easily notice the active role of women in ecological preservation and in the environmental movements across the world. But the most remarkable development in last few decades that would attract attention is the emergence of a number of theoretical models (ecofeminism, feminist political ecology, etc.) on gender and environment. Moreover, emergence of these models shows a close association of the women's movement and the environmental movement with growing role of gender in ecological preservation. Thus, both theoretical and practical evidences suggest that women have acquired an important agency for change in the era of environmental crisis. Let us first begin with the pragmatic experiences of gender and environment and then discuss the theoretical models that is best suited to our present need and conditions.

Of late it has been widely acknowledged that women are well positioned in realm of societal activities as they are not only confined in nourishing domestic social life, but in the public sphere as well. For instance, fisherwomen, farmers, tribal women and so many other local scale producers are directly integrated and linked to the environment by a vicious circle, where these producers not only contribute to the livelihood of their families and communities but also remain key factor in nature-human relationship. The United Nations in its various reports and documents has highlighted women's role in natural resource management, as well as, an important player in all local, regional, and global level initiatives. One of such document is Agenda 21⁶; that claims women's importance in sustainable development, suggesting governments to go further in implementing strategies that envisage their crucial role in the socio-political dimension of environmental matters. Thus, women have a fundamental role in the preservation of natural resources, given the circumstances of

⁵ The eight famous goals in the Millennium Summit of UN in 2000 were defined under the category of Millennium Development Goals. They composed of objectives as to reduction in poverty, unemployment, women empowerment, universal education, environmental sustainability, etc.

⁶Agenda 21 is a product of the Earth Summit (UN Conference on Environment and Development) held in Rio de Janeiro, Brazil, in 1992. It is a non-binding action plan of the United Nations with regard to sustainable development.

improving for more sustainable policies, within the context of current consumption logic, and in a way to promote an alternative environmental planning so as to increase sustainability and waste reduction.

It has been noted that women are the major bio-diversity conservers given the nature of work rural or tribal women performs. They even developed their conservation techniques with reference to agro-biodiversity, through evolution of their working system. For instance, rural Indian women collect the dead branches which are cut by storm for fuel wood to use rather than cutting the live trees shows their sensitivity towards environment. Some other statistical data published by International Fund for Agricultural Development (IFAD)⁷, shows a deep connection between women, nature and development. The data gives a glimpse of how, same access to both male and female in agricultural inputs and resources leads to increasing farm income by 20-30 per cent. In Eastern Asian and Sub-Saharan areas, women constitute almost 50 per cent of agricultural labour, working almost 12 to 13 hours per week more than men. However, inequality is seen through men's livestock holdings that is twice that of women's, whereas, men's landholdings average three times those of women. These statistical figures, reflect on competency of women to ensure development, although, different models of developments are pro-men and based on violence against nature.

The relationship of women, nature and development is further explored by Ester Boserup in her book, 'Woman's Role in Economic Development', who criticised development as being, 'a system that excluded women, and proposed a break with a series of dogmas established in development discourse and policies' (Boserup,1970). She astute that western developmental models justify violence against nature, such that it becomes intrinsic to the dominant developmental model. Such a model is associated with violence to women, who are dependent on nature for drawing sustenance for themselves, their families and their societies. In other words, such violence against women and nature is juxtaposed and used inter-variably to form the basis of the current development paradigm.

The categorisation of such modern developmental models are important for this research to encapsulate, 'a new awareness that is questioning the sanctity of science and development and revealing that these are not universal categories of progress, but the special projects of modern western patriarchy' (Shiva;1988). Since there is a close relationship between women and nature, they have traditionally shared many social and cultural practices of preservation and conservation of both environment and mankind in a two-way process. While male mostly juxtapose natural resource as commercial commodity or profit making source, women see it as a supporting agent in sustaining

⁷IFAD is an international financial institution and a specialized United Nations agency dedicated to eradicating poverty and hunger in rural areas of developing countries.

livelihood. As for instance, in African, Asian and Latin American women use the land to produce food for their family, and use the acquired knowledge from its ancestors in order to protect land, water and other environmental features. Any adverse change in the environment, thereby, has a negative impact on women until they develop a new technique to adjust with the changing conditions. An example of women technologies of water preservation is seen at Garhwal region, Bari system⁸ of farming in North East India, sustainable farming techniques in Africa, that explicates some unique saving practice. Such traditional knowledge and experience of cultures and societies, are gradually replaced by modern techniques with its complicated machinery and industrialised genetic models, displacing role of women to the bottom of the list of mechanised ways of nature preservation. It is therefore, important to re-establish the relationship of mutual support between women and environment, re-utilise the traditional experience base and develop prospects to reconnect women with nature and ecological preservation.

Women and Environment: A Gendered Relationship

We have looked at some pragmatic connection of gender and environment. Now we shall discuss some theoretical models that could help in building a better pragmatic approach to make gender inclusive ecological movements and environmental policies. I would here, begin by drawing the interconnections between gender and environment, that first emerged with theoretical model of Ecofeminism. I would evaluate the ecofeminist model in the context of Third World. I am interested in arguing for a 'engendered environment politics', and for this I would like to suggest that Feminist Political Ecology is a better theoretical model for explaining this theme in the Third World context. Gender dimension of environmental issues rest on two interlinked claims. First is that, women and men stand in a different relationship to their environment, and second, the environment is a gendered issue, that is, women are treated subordinate to men in ecological conservation. However, there is no unifying perception of this relationship, but rather there are different ideological approaches to the assumed 'connection' between women and nature. Such connection is important to draw attention towards the importance of rights and access to resource use and the traditional knowledge system that women holds through their experiences with nature in resource management. I would agree with Sandilands as she suggest,

“women’s concerns about the environment derive from their experiences of particular problems experienced in private. The environment becomes an important issue when it impinges on the security

⁸Bari's connote an operational unit in which a number of crops including trees are grown with livestock, poultry and fish production for the purposes of meeting the basic requirements of the rural household.

of the personal sphere, the home, the family. The personal, for women, are significantly expressed in private actions” (Sandilands,1994; p.167-172).

These connections are important to bridge the public-private dichotomy, that could lead to greater participation women in ecological movements.

The most dominant discourse to influence the growing body of literature on Women, Environment and Development, is that of ecofeminism, a broad canvas of ideas and practices, evolving largely from Western women's participation in the women's, ecology and peace movements. These interconnections were important to understand the theoretical model of ecofeminism that is based on four major claims:

“there are important connections between the oppression of women and the oppression of nature; exposing the variability in the nature of these connections as a necessary tool for adequate understanding of the oppression of women and the oppression of nature; feminist theory and practice must include an ecological perspective; and solutions to ecological problems must include a feminist perspective” (Warren; 1991,p.87-102).

In broadening the base of gender-environment from an ecofeminist perspective, Carolyn Merchant’s view is worth citing. According to Merchant, the word ecology derives from the Greek word, ‘oikos’, meaning, ‘house’. Ecology, then, is the ‘science of the household-the Earth’s household and the connection between earth and the house has historically been mediated by women’ (Merchant 1996, 139). Carolyn Merchant’s analysis about the gender-environment relationship links the hierarchical, mechanistic approach of Western civilisation to the oppression of women and nature. Women are compared with nature, specifically the earth, which has been constructed in the image of a mother. The woman is thus a nurturing mother. On the other hand, the opposing image reflects the wild and uncontrollable characteristics of nature which are seen to be comparable with that of women. When nature becomes wild and uncontrollable it turns violent and can lead to devastation. Such devastation is reflected in the growth of industrialisation in Europe, wherein, the market oriented culture highlighted this image of earth as a living female that had to be ‘tamed’ and ‘domesticated’ for productivity. Here, women are regarded as being closer to nature and men are seen as being closer to culture. This is how ecological feminism evolved by connecting women and nature under the patriarchal setup of society, which shall be discussed subsequently.

Interestingly, the connection of gender and ecology could be seen in both western and eastern civilisation, which, although, evolved on different philosophical values⁹ and has set their worldview about women and environment, but incidentally, resulted in similar condition of both, that is,

⁹ The meaning of environment preservation in the West is mainly associated with ‘quality of life’ in the urban areas, but in the Third World it is linked to the subsistence activities or the ‘livelihood’ of the rural families.

subordinate and secondary to men. Moreover, both civilisations acknowledged proximity between women and nature but extends greater and wider role to men to regulate and control women as well as environment, justifying patriarchal outlook of their society.

Although the interconnections of women and environment have been appreciated by scholars across civilisations, yet some acute differences are seen in the context of Third world. Here, the writing of Vandana Shiva is worth considering. She emphasises on the search for a new, spiritual relationship between society (culture) and nature where life is seen as an interconnected web rather than hierarchical in structure (King 1989; Shiva 1989). According to this view, women are portrayed as 'natural' environmental carers, both because of their role in nurturing life, and their experiential knowledge gained from working closely with their environment as providers of household biomass and subsistence needs. It has been seen differently in the Indian context, where the word 'Prakriti' is used to define the essence of womanhood. 'Prakriti' is the Indian synonym for nature. The striking point is that, in the Indian context women are equated to nature as exclaimed that,

“in India, as in many other non-western societies, the burden of protecting and preserving the 'true' and 'original' culture of the country rests on its women...In the non-west, the 'culture question' becomes a 'national culture question' with serious consequences for women.”(Shiva, 1989).

It can be said that there exists an 'intrinsic' relationship between nature, culture and women in the Indian context. Through this analysis, we must draw a greater connection between women and environment in India and the third world, wherein, women are particularly more involved in the subsistence activities (such as cooking, rearing child, agricultural labor, etc.), thereby more seriously affected by environmental pollution and holds a key role in its protection. It is important, for these women, to have larger access to resource use and management, to have better decision making in day to day activities. This is, however, denied to them as many societies are under strong patriarchal structure and discourage women to have a public life of interaction or access their rights fully. Thus, the main point being that in India and the third world, the women are mainly associated with subsistence activities related to 'livelihood' concerns have been highlighted. The women in these countries, therefore, have greater role in environmental preservation. This has to be enhanced by providing access to resource use and management at grass root level.

The contemporary debate in women-nature relationship focuses on the gendered environmental politics that tends to exclude women in the environmental policy/programmes or gives them a concurrent position in the environmental movements. This is also seen as a crucial impediment for women's voice at public domain or confronting patriarchy at private domain. Therefore, what is important, is the elaborative understanding of the natural environment that underlines

'environmentalism'-a broad, philosophical and social movement, that advocates cautionary actions and policies in the interest of protecting, what remains of the natural environment, while restoring or expanding the role of nature in the environment. This study explores a new theoretical model- Feminist Political Ecology, that address both the issues, i.e, the contemporary debate of gendered environmental politics; and a broader framework of environmentalism. Moreover, the thesis adheres to this model as more progressive than other ecological feminist models. The reasons for this proportion will be dealt in subsequent section along with a critical analysis of previously available literature and theoretical perspectives on gender and environment.

Why feminist political ecology as a theoretical model is important?

The theoretical connections between women and environment as developed in the above paragraphs culminates into showing some crucial aspects of gendered environmental politics that is necessary to abide by if one has to ensure greater women's participation in ecological movements. I would here discuss two things, firstly, what is meant by gendered environmental politics; and secondly why feminist political ecology as a theory is important for this research as compared to other theoretical models like ecofeminism, feminist environmentalism or other region specific environmental studies.

The purpose to define environmental politics is to ensure that its gendered nature is put forward, that holds a key aspect in developing relationship between women and environment. In general, environmental politics delineates, both the politics about the environment and a disciplinary study that is focused on three main components:

“the study of political theories and ideas related to the environment; the examination of the environmental stances of both mainstream political groups and ecological movements; and the analysis of public policymaking and implementation affecting the environment, at local, national and international levels.”¹⁰

For this research, I will focus mainly on idea of environmental politics as developed in political (mainly feminist) theories, related to ecological movement and environmental policy. Saying that the environmental politics is 'gendered' in nature, means that, women are largely excluded from all the three main components as mentioned above. What is important here, is to track down the reasons that restrict women to enter into grassroot activism and collective action for environmental change. The reasons for low participation of women has been vividly dealt in many feminist theoretical models (ecofeminist, feminist environmentalist, political ecology, etc.). However, factors

¹⁰ Quoted in Carter, Neil. 2007. *The Politics of the Environment: Ideas, Activism, Policy*, 2nd ed. New York: Cambridge University Press.

laid down by feminist political ecologists draws a wide and clear picture of this gendered role of women that gives insight into both theoretical knowledge as well as practical experiences by laying down examples from around the globe. Therefore, the theoretical perspectives, as developed by feminist political ecologists, holds greater importance in this research as discussed in details in chapter 1. A brief of it is subsequently discussed in the following section.

As mentioned above, it is important to reason out the exclusion of women in environmental politics and grassroots activism, to take a collective action in environmental movements. Also, this study claims the theoretical model of feminist political ecology as superior in providing greater insight, in comparison to other theoretical perspectives. Such a claim is based on insights from other environmental movements, that convey following points: Firstly, ecofeminist perspective focus on how women's interconnectedness with nature and ecological preservation makes them the subsequent bearers of the effects of ecological destruction. They further elaborate on, how they conceive of and initiate processes to stop the destruction and begin regeneration. However, ecofeminist are criticised for treating women as a 'universal' category without acknowledging the fragmentations within women based on caste, race, religion and region specific issues.

Secondly, a model proposed by Bina Agrawal, though, astute to a third world perspective of Vandana Shiva, yet speculates some analytical problems in her work, while she delves into her own conception of what she termed as 'feminist environmentalist'¹¹. However, still some important political questions related to environmental politics remain unanswered in her analysis. Moreover, Agrawal makes women assertion in private domain as an important factor to collective struggle in public domain but didn't deal with workable method to overcome patriarchy which makes the her feminist analysis in vain.

Thirdly, region specific writings shows concerns that motivated women to participate in the movement were based on region-specific concerns and grievances that merit policy-level engagement. Women were instrumental in the movements regionally, but their roles were downplayed by the men who rose to national prominence in those movements. However, this model too remained localised to a particular region, and could not encompass the broader factors, to relationship to challenge the gendered nature environmental politics as a whole. As mentioned, all these models have been dealt in greater detail in chapter 1. My proposition is that, none of these have been able to deal with the issue of women and environment in a perspective that could

¹¹Agrawal explained her own 'feminist environmentalism', as a distinctive framework for the gender-environment debate of the developing world, in which she allocates male-female relationship with nature to be rooted in their material reality, that is, in their specific forms of interaction with the environment. Hence, insofar as there is a gender and class/caste/race based division of labor and distribution of property and power is based on such division, it would so structure people's interactions with nature and their effects of environmental change and the subsequent response to it.

encapsulate all the necessary factors involved for a proper environmental politics to emerge, except that of Feminist Political Ecologists.

Finally, it is important to learn the account of feminist political ecologists and their reasons/factors that are imperative for a successful environmental politics. According to Feminist Political Ecologists, environmental politics is 'gendered' in nature, due to following factors: gendered access to resource use and management; gendered knowledge system; and gendered power relationship. These three themes, according to the feminist political ecologists theorists, explain the reasons for both, the gendered aspect of environmental politics and the exclusion of women in grass root activism.

The first theme explains, the gendered access to resources (for e.g, generally only men entitled to resources) which leads to gender based asymmetries in women's exclusion to certain kind of property rights. For instance, due to rapidly changing farming system women are largely excluded from initial agricultural process, ploughing and market work. In other words, with increasing specialisation, out migration, commercialisation, women are been solely employed in all agricultural work in rural area yet the gender entitlement of resources is differentiated. This further develops gendered power structure. The rights over resources and gendered responsibility of management of resources becomes an important concern here.

The second theme on gendered knowledge system focuses on how to define relation between people and nature. Feminists political ecologists argue that rural "local knowledge" must be valued in comparison to the urban/modernist epistemology. The concept of "ecological other," that is, excluding unrecognised set of values, practices, understanding of a community to the in-standard or general understanding of environmental values and policies becomes prominent here. Feminist ecologists main concern is that views and perceptions of ordinary and local people must be valued.

Lastly, the third theme on gendered power structure is based on male domination and patriarchy that restricts women to a private domain of household that hinders their activities in the public domain, as they are unacquainted with proper rights, responsibilities and management. This study, therefore, considers the theoretical perspective of Feminist Political Ecology as crucial for comprehending the gendered environmental politics in general, and acknowledge role of women in environmental movements in particular. While chapter 1 of this thesis deals the former , chapter 2 and 3 deals with the latter proposition.

Ganga movement and feminist analysis

As mentioned above, many feminist theories (such as ecofeminism, feminist environmentalism, feminist political ecology, etc) and subsequent ecological movements (such as Chipko, Appiko, Plachimada, or Green Belt movement, as dealt in chapter 2) are suggestive of the interconnectedness between women and nature in general and emphasizes on greater role of women in environment preservation and participation in the movement, in particular. We would, here, discuss the impact of role of gender in the environmental movements and the importance it holds in the Ganga movement.

Women's struggle in the environmental protection in India has a long history. In this work, I have focused on three major environmental movements (as discussed in chapter 2), that is; Chipko movement (against felling of trees and capture of forest resource in Garhwal region, India); Plachimada movement (against water pollution by Coca-Cola factory in state of Kerala, India); and Green Belt movement (a tree plantation drive in Kenya), that contributed significantly to women's upsurge against the violation of right to livelihood, resources ,management and land rehabilitation. These movements display the strong courage and strength of women, despite all odds, to stand against government's encroachment into their land and forest resources, gaining huge success in public domain. Such movements sets example for the contemporary struggle of river water conservation and purification in Ganga Movement, which receives a setback despite numerous efforts made by the government , NGO's as well as civil society.

Save Ganga Movement initiated by Smt. Rama Rauta through a seminar on 'Ganga aur Humara daayitva' at Kanpur in 1998. The movement was mainly conceptualised by Gandhian ideology and joined by various experts, environmentalist, professors, local communities and other scientific organisations (such as NEERI, IIT's, etc.) and turned to a nationwide collective movement. Looking at the governmental policy, Shri Rajeev Gandhi, launched the Ganga Action Plan in 1986, as the first policy that recognised the pollution of River Ganga with the main objective to improve the water quality by the treatment and diversion of domestic sewage and prevent the risk of toxic and industrial chemical wastes, from identified polluting units, from entering the river. However, even after sincere efforts by the activists as well as some ministerial policies, the main objective of cleaning River Ganga remains incomplete. In fact, the water quality seems to be degrading at much faster pace, at some areas in the plain region (of the river flow). This study tries to speculate the reasons for such failure to clean the river, both at the level of movement and states's environmental policy. One of my preliminary observations is the lack of women's involvement in the movement, grass root activism and decision making processes, so as to include gender inclusive environmental

concerns. Need of the hour is to reclaim that gender neutral approach and engendering environmental politics in India which will bring gender sensitive environmental policies, while addressing the livelihood concerns of women. The subsequent section will give a brief about this preliminary observation, which has been dealt in greater detail in chapter 3 of this thesis.

The Save Ganga Movement has been analysed in two phases in this research study, that incorporated their own area specific concerns. In the first phase, that is, Garhwal region (mountainous region), the problem of river pollution rises due to construction of Hydropower project, while the second phase, that is, the Gangetic plain, it is more from industrial pollution (Kanpur) and religious practices (Varanasi), that leads to environmental degradation. While, the movement, till present day, have been more or less successful in the Garhwal region where local participation, specially women activism have participated and well negotiated with the government authorities bringing out their concern with local experiences of dealing with environment issues. However, the same cannot be seen in the plain region of the river flow of Ganga, that is, from Kanpur to Patna. The flow of Ganga in plain region is around traditional societies where people are involved more in subsistence activities, religiously involved but less informed about water quality concern and its impact over environment and health. Here, local participation of women in access to water resource and decision making is overshadowed by male domination. Thus, women exclusion, seen prominently in the later phase, has been presupposed as the reason for the partial success of the movement.

The themes associated with gendered environmental politics (by which I mean exclusion of women from grass root activism and decision making policy and processes) need to be significantly explored to ensure gender-sensitive inclusive measures and environmental policy in Ganga movement. As discussed by Feminist Political Ecologists, these themes were: gendered access to resource use and management; gendered knowledge system; and gendered power relationship. At an initial observation level, Ganga Movement seems to successfully explore these issues in the mountain region (Garhwal) where women participation has questioned the access to forest resource and management; bringing into local experiences in decision making process; and challenged the power structure of the society by undermining patriarchy through participation in public domain. However, all the three aspects seems completely missing in the second phase (that is, plain region with two case studies of Kanpur and Varanasi). It is further observed that, in the plain region, women's right over water resource and local techniques and experience of water management is undermined by the scientific 'modern knowledge' of urban economy. This cultural break in the

knowledge framework has eventually led to 'ecological othering'. Also, the patriarchal structure of society is strong enough to hold back women's encounter to public domain of ecological learning and participation. Through this observation, one may say that the environmental politics in this phase is gendered in nature. This theme has received less attention throughout the Ganga movement and there is a need for its enhanced inquiry and study. Exploring gendered environmental politics and grassroots activism includes analyses of the significant realms of meaning making and the enhanced senses of self that campaign participation can enable.

Considering the theoretical insights on the problem of ecology and gender and the issues raised in the discussions on Ganga Movement, we will now analyse some research questions that will be important to further queer upon this study. It will be used to frame our hypothesis and the overall structure of this thesis.

Research Questions

There are numerous perplexing questions involved in this research. To begin with, the research intends to examine the interconnectedness between gender and environment, to inspect the category of gender, where, women are real sufferers of environmental degradation and therefore holds much importance in its protection.

The key questions for my research would be-Do women share a more close relationship with nature than men that make them natural conservers of environment? Does women's participation in environmental planning is a pre-requisite for sustainable development and claims to environmental justice? To elaborate these questions, it is important to examine further themes like-Does women's use of "local knowledge" in water resource management succeeds in critiquing the standard/modern developmental knowledge? Can women's involvement in collective struggles over natural resource and environmental issues contribute to a redefinition of their identities, challenging patriarchy?

These questions are important to further examine the questions on women participation in environmental movements and my case study, like-How far are the ecological movements are sensitive to women issues? How far the environmental policy in Ganga Action Plan (GAP) and subsequent policy developments have been in congruence with the real ecological problem and women question? Does Ganga movement encapsulates region-specific issues and demands that are important to local communities is general and women in particular? The research questions are, thus, framed around one key assumption-the role of women in ecological movements have a deeper impact on the nature of the protest and play a key role in the success of the movements. Moving

ahead with these research questions, in the next section, we will have a look at the hypothesis of this research.

Hypotheses

There are some major hypotheses of this research. The research is based on an underlying assumption of women's proximity and interconnectedness with the environment, and positioned them as major stakeholders in environmental planning and conservation. Such positioning of women has been the basis of my claim that the role of women has a deeper impact on the nature and success of an environmental movement. I intend to capture this assumption with the help of both, theoretical and practical models (as in case of ecological movements). Both the models have contributed in framing the idea of engendering environmental politics, that could lead to success of environmental movements in India and the world.

Taking into account, the grass root activism and gender sensitive environmental policy, this research claims that the women's exclusivity from natural resource management, decision making policies and processes, is the root cause of partial success of the Ganga Movement. This claim is supported by examining the governmental policy in Ganga Action Plan and further developments in this regard, looked in congruence with the demands of activists in the movement. It has been observed that, both the governmental policy and the activists of the movement, lack a gender sensitive approach towards women, which in turn led to partial failure of Ganga Movement at one hand, and state's policies, on the other.

Based on the theoretical knowledge and practice, this research compels to reason out, the gender sensitivity in environment movement and civil society processes as a prerequisite for expanding the possibilities of gender inclusive measures to foster sound and regionally appropriate development measures. To have sketched the major hypothesis of this research, the next section elaborates upon the objectives of the research.

Objectives

As mentioned above, the aim of this research is to examine the embedded role of women as a precondition for the success of an ecological movement. Being at fore front of new social movement, women's experience is distinct to male and they have contributed differently in building gender-environment perspective. It has been widely accepted that, rural poor women's lives are not fragmented and they see the issues in a broad and holistic perspective with greater understanding of economics and environment. For instance, their individual experience with soil, water and

vegetation reveals different conditioning and management for day to day living. However, women remain largely absent from major decision-making process and policy formulations in environmental planning. In the process, their own experience and skills in advocacy for and monitoring of proper natural resource management often remain marginalised. Therefore, it is imperative to reclaim their role in environmental conservation and restore environmental justice.

Role of women can prove to be instrumental in Ganga Movement considering its differential features in both the phases. While the active participation and questioning the access to resource use has made the movement against dam construction successful in mountain (Garhwal) region, the plain area faces the major problems related to gendered access to resource and management, neglect of local knowledge and experience and lack of gender sensitive environment policy. A wholistic approach following the feminist political ecology perspective makes one consider all these issues into the framework of appropriate development measure. Moreover, many theoretical models and practical knowledge gained through ecological movements claim that, such level of participation at public sphere might help them gain confidence in their demands and in their ability to articulate why and how the river's protection was important to them while simultaneously challenging male domination and patriarchy in private sphere.

Structure of the thesis

This section on a brief overview of the chapters in this thesis will help us in understanding the structure as well as the nature of the arguments used in this research. The chapters are written as a progression of this work. Each chapter has a link to the next chapter as well as they are linked to one another to understand the gendered environmental politics in general and role of women in ecological movements in particular with Ganga movement as a case study. A brief sketch of the each chapter given below will be helpful in making sense of its and approach.

The first chapter titled, '**Perspectives on Gender and Environment**', traces the theoretical debates in the feminists discourse on ecology. It includes three theoretical models- Ecofeminism, Feminist Environmentalist and Feminist Political Ecologist. The chapter analyses various perspectives on gender and environment, between and within these models and the successful implications of these models, if any, on environment movement in India and the Third world.

The second chapter titled, '**Environmental movements and Gender Question**', carves out the importance of women participation in environmental movement through success story of Chipko, Green Belt and Plachimada Movement. Analysis of these movements define complex and interdependent relationship of women, environment and grassroots activism.

The third chapter titled, '**Save Ganga Movement and Gendered Activism: An Exploration,**' address the concerns related gendered participation in the movement and policy perspectives. This chapter is divided into three sections: first section deals with the origin of River Ganga, with an introduction to the some basic problems of pollution, the beginning of the Save Ganga movement and subsequent governmental policy with a critical evaluation; second section deals with region specific study of the issues and movement (particularly Garhwal, Kanpur and Varanasi) with specific environmental policy and the problem of local participation from gender perspective; and the third section deals with the comparative analysis of Hills (Garhwal) and plain region (Varanasi and Kanpur) to show a feminist critique of the movement by comparing the nature and success of the movement at two different regions. My conclusion derived from this chapter contemplates, that the movement is more successful in the Garhwal region owing to greater women participation at grass root level and decision making process, unlike the plain region, where women are excluded from both protest strategies and governmental policy.

In nutshell, this study tries to show proximate functional relationship of women and nature that finally gets culminated in knowledge to conserve, protect and sustain environment and make them natural guardian of environment. Notions of women as natural protector are well established in different theoretical paradigms as defined in environmental literature. This research tries to depict that knowledge and expertise of women which are largely ignored, under-utilised and to certain extent denied in environment planning, management and execution. At the same time, it maps the subordinate and secondary position of women in societal structure, functionally replicated in Save Ganga Movement, as being the key determinant in 'policy and execution flaws' of Ganga Action Plan, resulting in limited success of movement. Finally, this research suggests a higher participation and diverse role of women in planning, management, monitoring and mobilisation of environmental movements across globe, so as to ensure success of the latter and other upcoming ecological movements, similar to pathbreaking success as seen in Green belt, Chipko, and Plachimada movement in the recent past decades.

CHAPTER 1

Perspectives on Gender and Environment

“We are either going to have a future where women lead the way to make peace with the Earth, or we are not going to have a human future at all” - Vandana Shiva¹²

Much has been written about the relationship between women, nature and development, a relationship where women's work, like nature, is often undervalued, in terms of acknowledging the interdependence of women and nature in preservation of environment to foster sustainable growth. Studies (Shiva 1988, Agrawal 1988, Rochelle 1996) assert that, women are prominent actors in domestic chores as well as contributors to environmental rehabilitation and conservation. In this context, we see women's role in society as multifaceted, not only in the duties that help nourish domestic private life, but in the public sphere as well. As for the rural women in the Third World, such as women agriculturalists, fisherwomen, farmers, tribals and so many other local scale producers linked to the environment, they contribute to the livelihood of their families and communities, through a production dynamics and participation in the productive chain. Thus, women have a close connection with their local environment, and along with the children and marginalised sections, are often the prime victims of environmental degradation especially at times of natural disasters (Akwa, 2008; Raymond et al., 1994). In this backdrop, the present chapter is an attempt to classify different perspectives on gender and environment in order to understand the interconnectedness of women and nature in general, and their role in environmental preservation through grass root activism in particular.

To have mentioned that one of my research question is to study role of women as natural preservers of environment, this chapter further explores the region specific concerns of women built into theoretical feminist perspectives of the Western world (US, Europe) in contrast to the Third world countries (Asia, Africa and Latin America). This has been widely dealt in the theoretical perspective of Ecofeminism as developed in the West and its Third World critique by Vandana Shiva. Another perspective that will be of immense importance is Feminist Environmentalism, a theoretical model developed by Bina Agrawal as an extension, while criticising, the Ecofeminist perspective. However, this model too leaves some major theoretical questions unanswered that would be finally explored in our last theoretical model as proposed by Feminist Political Ecologists. The idea behind doing this is to take account of the various ways of conceptualising feminist ecological theories and

¹²Vandana Shiva (born 5 November 1952) is an Indian scholar, environmental activist, food sovereignty advocate, and alter-globalization author. She has assisted grassroots organisations of the Green movement in Africa, Asia, Latin America, Ireland, Switzerland, and Austria with campaigns against advances in agricultural development via genetic engineering.

its close proximity with 'nature' that could be used as an important measure to foster success of environmental movements across globe.

More importantly, the theoretical perspectives are required to explore and understand factors contributing to gendered environmental politics across nations, which is specifically observed in ecological movements of the Third World. As mentioned in the introduction, the meaning of 'gendered' is related to exclusion of women, whereas environmental politics is used to define the grass root activism in ecological movements and decision making process contributing to public policies. From various research studies and theoretical formulations (as stated later in the chapter), I have observed that there are three prominent factors that lead to this gendering of environmental politics. These factors are based on: gendered access to resource use and management; gendered knowledge system; and gendered power relationship. I would, thereby, argue that all these factors are well explained in the theoretical perspective of Feminist Political Ecology, rather than the other two (i.e, Ecofeminism and Feminist Environmentalism). My proposition is based on a detailed analysis of each theoretical model with a critical analysis as to why such a model could not explain the factors contributing to gendered nature of environmental politics. I will begin by proposing the interconnections between gender and environment in order explicate the role of women in environmental preservation and ecological movements.

Woman as natural conservers of environment

Plethora of work related to women and environment has been suggestive of the fact that women have greater concern and care about natural resources. Such studies are important in this research to understand the role of women as principal conservers of nature and biodiversity. Many seminal works have shown that women activities are more concerned with the livelihood issues as being the primary users of natural resources (land, forest and water), who have the responsibility of gathering food, fuel and fodder, a phenomena quite prominent in rural areas of developing countries. Although, women are not the primary owners of the land and farms, yet they tends to spend a significant amount of time working on it. Working on field in congruence with the household activities have made them develop their own techniques about managing soil, plants, trees without misusing them. With increasing incidents of migration, often leave rural farm work for better jobs in urban areas, while the increased burden is left on women for the farm work along with rearing children. This new interdependence relationship of women and farm lands has created new culture of respect for the land and environment with new techniques of management. Women try to learn new practices to balance between domestic chorus and agricultural work. Thus, women perspectives and values for the environment are somewhat different from men, by giving greater priority to

protection of and improving the capacity of nature, maintaining farming lands, and caring for nature and environment's future. These perspectives must be studied under various categories to learn the intricacies of interconnected relationship between gender and environment.

One can here notice the presence and the intricacies of plethora of concepts and categories belonging to different disciplines while studying the perspectives on gender and environment. The analysis of these terms and concepts helps us understand the multilayered realities around feminist ecological discourses. Moreover, presence of numerous actors (global, national, local, civil society, NGO's, etc.), discourses (ecofeminist in its liberal, social, marxist and radical form, feminist environmentalism and feminist political ecology, etc.) and issues (gendered access to resource use and management, gendered knowledge system and environmental politics) makes the debate on gender and environment more complex. In the subsequent section, I will try to resolve this debate through a comprehensive classification of various perspectives on gender and environment.

There is a wide range of literature available on gender-environment interconnectedness, often termed as feminist ecology. In fact, it has been interchangeably used by scholars under environmentalism and ecologism. The literature in this field is from across disciplines ranging from political ecology, human ecology, forestry, anthropology, human sociology, political science, economics, etc. It was during the process of going through the immense available literature on ecological feminism, that I felt a need for a classification of perspectives into some broader areas which could be used to apprehend the gender sensitive ecological concern while exploring their role in ecological movements.

Over the time, the ecological activism has taken the perspective of gender in environmental politics, considering its connectedness with the nature, with the use of traditional knowledge system and forming a wider participatory base. There have been many movements around the world, concerned to save the environment and lives of those dependent on it. Few important amongst them are like, the famous Chipko movement, Narmada Bachao Andolan, Apiko movement, Plachimada movement, etc., in India. These are mostly labelled as 'ecofeminist' movements. Such environmental movements are linked with the struggles for both social justice and the understanding of gender. Such ecological feminist's model aims at exploring the relationship between the oppression of women and the exploitation of nature. A subsequent analysis to this twin problem must commensurate by relocating the role of women in a gendered environmental politics debate. Such a debate follows various perspectives that focus on some common themes like-gendered access to resource use and management; gendered knowledge practice; gendered power structure and role of women in grassroots activism and environmental policy. Many of such themes are reflected in the various theoretical perspectives of ecological feminism that exclaims for a

gender sensitive approach in the environmental movements and governmental policies, through a 'civic public'¹³(Young,1990,p-109) of women participation, through their involvement in decision making by use traditional knowledge, and the subsequent contestation of modern patriarchy in the traditional power structure.

In order to have a broader understanding of these ecological models, I would here discuss three major theoretical perspectives in the discourse: i) Ecofeminism; ii) Feminist Environmentalism; and iii) Feminist Political Ecology.

I. ECOFEMINISM

As mentioned earlier, there are various ways of conceptualising gender and environment into various perspectives. I chose to begin with Ecofeminism, as it elaborates the framework that provided the foremost beginning to redefine and relocate gender specific environmental in the modern era. This topic further delineates into how the conceptual framework of Ecofeminism as developed in the West (Liberal, Socialist, Marxist and Radical ecofeminism) is important, as well as, its theoretical departure while locating region specific concerns in the Third World perspective (as popularised by Vandana Shiva). Lastly, this section is concluded by critical engagement with both the perspectives as well as some important core elements within feminist ecology, that Ecofeminism failed to answer. I would, here, argue how Ecofeminism as a theory has some limitations while explaining the three main basis of gendered environmental politics as discussed in the introduction. I shall begin by defining Ecofeminism and its essential elements.

Ecofeminism refers to women's and feminist perspectives on the environment,'where the domination and exploitation of women, of poorly resourced people and of nature is at the heart of the ecofeminism movement.'¹⁴ 'Ecofeminism' was first used by Francoise D'Eaubonne¹⁵, but it gained popularity only after the various protests and activities against environmental destruction. Ecofeminism lays emphasis on the special strength and integrity of every living thing. It deals with the connectedness and wholeness of theory and practice. Women, these days, are often on the front lines of environmental activism. The reason behind the agency of women spearheading this activism is that, her work becomes more laborious and difficult due to sudden changes like deforestation, cash cropping and displacement. Due to famine, toxic waste and inadequate housing,

¹³Iris Marion Young describes civic public as place in public sphere where both men and women could debate and discuss and reach to a conclusion through an informed and participatory decision.

¹⁴ As quoted in, Mies, Maria, and Vandana Shiva. 1993. Ecofeminism. Halifax, N.S.: Fernwood Publications.

¹⁵ Françoise d'Eaubonne was a French feminist, who introduced the term ecofeminism in her book *Le féminisme ou la mort* in 1974.

the health of their family get affected. Moreover, developing biotechnologies and discourses around population control, has been severely affecting their body and day to day routine.

The term 'ecofeminism' has been used in many different ways, but its basis is the interconnectedness of the subjugation of women and the domination of nature. Women's actions are often not carried out under the banner of 'ecofeminism', but there is no doubt that women are participating in the environmental movement all over the world in their own culture-specific ways. Almost all forms of feminism - liberal, socialist, and radical contribute to an ecofeminist perspective and policy. Thus ecofeminist discourse is not a monolithic ideology. Its shape and contours are generally shifting in accordance with the political belief or ideology of an activist. However, there may be four broad political categories of the discourse in ecofeminism: a) Liberal ecofeminism ; b) Socialist ecofeminism; c) Radical ecofeminism; and d) Spiritual ecofeminism

a) Liberal ecofeminism

It stems from the ideology of liberalism, which according to Karen Warren promotes 'individual freedom and equality.'¹⁶ Liberal feminists believe that the root cause of the oppression of women is a lack of equal rights. Similarly, liberal ecofeminism lays emphasis on the 'redistributive rather than re-structural policy'¹⁷ changes. Although they accept the feminist claim that women should be given equal opportunity, according to Sandra Burt, 'they resist fundamental restructuring of power relations.'¹⁸ In order to bring women fully into the mainstream of contemporary society, Liberal ecofeminists make use of the traditional lobbying techniques to influence legislation. Since this approach is highly individualistic this is problematic for environmental issues. Liberal ecofeminists, however, argue for environmental regulation and compensation in a more legal framework. Many ecofeminists now believe an adequate explanations to ecofeminist perspective would require to go beyond the oppressive and patriarchal ways of conceptualising nature, including human-nature dichotomies or value-dualism¹⁹. Liberal ecofeminism, however, still has a key role in broadening the environmental agenda and challenging the state formations.

¹⁶ Karen Warren was the Ecofeminist-Scholar-in-Residence at Murdoch University in Australia. In 2003, she served as an Oxford University Round Table Scholar and as Women's Chair in Humanistic Studies at Marquette University in 2004. Warren defines ecofeminism on similar lines to that of liberal feminism where more focus is given on individuality and equal rights between men and women.

¹⁷This is how it is differentiated from socialist/marxist paradigm where focus is given on structural changes.

¹⁸Quoted in Karen Warren, 1989. *Water and streams: An ecofeminism perspective*, Imprint (June): 5-7, Sandra Burt is an ecofeminist writer on women's organisations in Canada.

¹⁹A critique the Cartesian or Atomistic world view which fosters such conceptual dichotomies as: masculine/feminine, mind/body, public-private, nature and society.

b) Socialist ecofeminism

Socialist feminism and socialist ecofeminism both lay emphasis on the ‘dramatic restructuring of society rather than the redistributive approach of liberal feminism’²⁰. Socialist ecofeminism highlights that the oppression of women and the nature or environment has its roots in the patriarchal and capitalist social set up. Socialist ecofeminism points out that both nature and gender are constructed socially and culturally. Carolyn Merchant notes that, ‘the strength of socialist ecofeminism is a critique of capitalist development in which reproduction and ecology are both subordinate to production’²¹. According to Nancy Adamsom ,Linda Briskin and Margaret McPhail, ‘like socialist feminists, socialist ecofeminists believe that collective action and collective rights are more important than individual actions and rights.’²² On an international scale socialist ecofeminism has recently gained momentum in the United Nations Conference on Environment and Development (UNCED). It has been successful in finding a close link and interdependence between the exploitation of women, race, class and non-human world.

c) Radical and ‘nature’ ecofeminism

The ‘nature’ ecofeminists believe that women share a close biological linkage with the non-human world; which make them more closer to nature as compared to men. The radical ecofeminists believe that the oppression and subjugation of women has its roots in the prevalent gender system and women’s reproductive roles. According to Warren, radical feminists believe that, ‘Patriarchy oppresses women in sex - specific ways by defining women as beings, whose primary functions are either to bear and raise children (i.e.; to be mothers) or to satisfy male sexual desires (i.e.; to be sex objects).’²³ Further according to them the liberation of both women and the nature depends on the end of the male domination over women’s bodies and the earth. They believe that patriarchal systems need to be dismantled. Women have been traditionally linked with nature and are supposed to have a biological link with the natural world. This association, according to Alison Jagger, creates ‘gender stereotypes that to be feminine is to be passive and intuitive and to be masculine is to be

²⁰ Quoted in Tzeporah Berman, ‘Towards an Integrative Ecofeminist Praxis Canadian Woman Studies: Women and the Environment, 13 , No . 3 (Spring 1993).

²¹ Merchant adds here that ecofeminist actions address the contradiction between production and reproduction. Women attempt to reverse the assaults of production on both biological and social reproduction by making problems visible and proposing solutions. When radioactivity from nuclear power-plant accidents, toxic chemicals, and hazardous wastes threaten the biological reproduction of the human species, women experience this contradiction as assaults on their own bodies and on those of their children and act to halt them.

²² Quoted in Tzeporah Berman, ‘Towards an Integrative Ecofeminist Praxis Canadian Woman Studies: Women and the Environment, 13 , No . 3 (Spring 1993).

²³ Quoted by Michael E. Zimmerman in his ‘Environmental Philosophy’ that follows a radical approach wherein he pictures patriarchy as key source to women subordination and only by challenging it one could attain liberation of both women and nature. However, such a claim within ecofeminism remains at a nascent stage without much practical evidences.

strong, unemotional and rational'²⁴. These gender roles in this patriarchal society are constructed socially and culturally. As a result the 'masculine' side is always valued more than the feminine/nature side. Radical Ecofeminists aim at revaluing the traditional characteristics attributed to women and nature. They believe in recognising the value of the non-human world and revaluing women's culture and practices, so as to make it possible to break down the 'dualistic assumptions from which gender categories (not sex categories) are created'²⁵. Just like socialist ecofeminists, radical ecofeminists believe in the removal of these dualistic assumptions.

d) Spiritual' or Political Ecofeminism

Spiritual ecofeminist believed that, as women throughout the world, in various feminist, ecological, health and peace movements have tried to rediscover the interdependence and interconnectedness of everything, they have rediscovered the spiritual dimension of life also. The realisation of the interconnectedness of everything can be called spirituality. This particular dimension was denied, both by Marxist and capital materialism, since they feel that human happiness can be achieved only through material progress and advancement. Spiritual ecofeminism is not linked to any particular religion, but is 'centered around values of caring, compassion, and non-violence.'²⁶ Ecofeminists have often referred to more ancient traditions, such as the worship of Gaia, the Goddess of nature and spirituality (also known as Mother Earth). In order to liberate women and nature from patriarchal authority and destruction and to regenerate the wisdom a move towards spirituality was taken.

Spiritual Ecofeminism emphasises that all life forms on this earth are sacred and need to be respected. The sacredness of the life has to be rediscovered, so that life on the earth can be preserved and protected. The sacredness of the life should be celebrated from time to time in form of rituals, dance and song. The promoters of modern science and technology are, however, against this celebration and our dependence to Mother Earth. For them this dependence has to be violently and forcefully abolished as this dependence is 'an outrage, a mockery of man's right to freedom on his own terms'²⁷ The modern concept of freedom, science and technology and western rationality

²⁴ Alison M. Jaggar, a renowned Professor of Distinction in the Philosophy and Women and Gender Studies departments at the University of Colorado, emphasis in her book 'Feminist Politics and Human Nature', the need to develop a feminist epistemology, as a way of describing reality that reflects the experience of all women.

²⁵ Duality that separates male/ female into culturally constructed categories.

²⁶ Quoted in, Eisler, Riane. "The Gaia Tradition & The Partnership Future: An Ecofeminist Manifesto." *Reweaving the World: The Emergence of Ecofeminism*, edited by Irene Diamond and Gloria Orenstein, Sierra Club Books, 1990, pp. 23-34.

²⁷ibid

have all tried to overcome this dependence and subordinate the nature to the male authority. Spirituality in this context is a consistent persuasion to heal Mother Earth and to re-enchant the world. This means to undo the process of disenchantment, which Max Weber perceived as the essential outcome of the phenomenon of European rationalisation.

Although the term 'Ecofeminism' and the concept behind it means quite different things to different ecofeminists, Karen Warren (1989) here suggests four important claims of ecofeminism such as; important connections between the oppression of women and the oppression of nature; Exposing the variability in the nature of these connections as a necessary tool for adequate understanding of the oppression of women and the oppression of nature; feminist theory and practice as imperative condition to any ecological perspective; and explanations to ecological problems must include a feminist perspective. These claims have been important to develop an overall outlook to understand the commonality between various perspective within ecofeminism. We shall now consider them in detail.

Ecofeminists argument is mainly based on important connections between the oppression of women and the oppression of nature. It is here, Ariel Salleh defines ecofeminism in terms of it: 'Ecofeminism is ardent development in feminist thought which argues that the current global environmental crisis is a predictable outcome of patriarchal culture' (Salleh 1988). Karen warren argues that 'one alleged connection between women and nature is historical'²⁸. Some ecofeminists (e.g, Spretnak 1990; Eisler 1988, 1990) trace these connections to typical patterns of domination that begun with the invasion of Indo-European societies by nomadic tribes from Eurasia about 4500 B.C. Riane Eisler describes the time before these invasions as a matrifocal, matrilineal, peaceful agrarian era. Others (e g., Griffin 1978; Plumwood 1991; Ruether 1974) trace historical connections to patriarchal dualisms and conceptions of rationality in classical Greek philosophy and the rationalist tradition. Still other feminists (e.g.,Merchant 1980), focus on cultural and scientific changes that occurred more recently during the scientific revolution of the sixteenth and seventeenth centuries: it was then that an older world order characterised by cooperation between humans and nature was replaced by a reductionist, mechanistic world view of modern science, which sanctioned the exploitation of nature, unchecked commercial and industrial expansion, and the subordination of women.

²⁸Ariel Salleh, an Australian sociologist is an excellent writer on ecofeminism and social change movements. Her book *Ecofeminism as Politics: nature, Marx and the postmodern* outlines the scope of a materialist ecofeminism, proposing a transdisciplinary analysis of the embodied roots of capitalist patriarchal globalisation. Quoted in Warren, Karen. "Feminism and Ecology: Making Connections." *Environmental Ethics* 9 (1): 3-20

Secondly, Ecofeminists rely on exposing the variability in the nature of these connections as a necessary tool for adequate understanding of the oppression of women and the oppression of nature. It is here they try to build various connections. Firstly, under conceptual connections, many authors have argued that, ultimately, historical and causal links between the dominations of women and nature are located in conceptual structures of domination that construct women and nature in male-biased ways. Basically many such conceptual links have been offered that highlights the problem of value dualism²⁹. Secondly, it is the empirical and experiential connections³⁰ in which many ecofeminists have focused on uncovering empirical evidence linking women, and children, people of colour, the lower class with environmental destruction. The empirical connections shows the clear picture of the real life experienced connections of domination of women and nature and subsequent gender suppression that calls for a critical feminist environmental analysis. Thirdly, it is symbolic connections wherein, Ecofeminists have explored the symbolic association and devaluation of women and nature that appears in religion, theology, art, and literature. Appreciating such symbolic woman-nature connections involves understanding 'the politics of women's spirituality while criticising its gendered aspect.'³¹ The goal of ecofeminism is therefore to develop a theory feminism and environmental philosophy that does not perpetuate such sexist-naturist language and the power over systems of domination that it tends to reinforce. Fourth is the epistemological Connections under which various historical, causal conceptual, empirical, and symbolic woman-nature connections have also motivated the need for new, ecofeminist epistemologies³². Lastly, there are political (praxis) connections which claims Ecofeminism to be a grassroots political movement motivated by pressing pragmatic concerns. The varieties of ecofeminist perspectives on the environment are properly seen as an attempt to take seriously such

²⁹ In general, value duality is taken in context that separates male/ female into culturally constructed categories. However, ecological feminists conceive that a reason-nature dualism underlies the conceptual framework of western patriarchal cultures. with one being superior to the other. However, such dualise pairs involve not only reason /nature and masculine/feminine, but also mental/manual, civilised/primitive, and also human/nature that legitimises number of oppressions, including sex, race and class oppression, which can all be seen in terms of the central dualism underlying the system.

³⁰ Many data has been provided related to First World development models that results in policies and practices regarding food, forest, and water, which have significantly contributed women's inability to provide sufficient food to their families(e.g., Mies 1986; Shiva 1988;Warren 1988, 1989 1991a). Some animal rights scholars argue that factory farming, animal experimentation, hunting, and meat eating are tied to patriarchal concepts and practices (e.g., Adams 1990, 1991;Kheel 1985; Slicer 1991). While some other tried to connect the incidents of rape and pornography with male-gender identified abuse of both women and nature (e.g.,Collard with Contrucci 1988; Griffin 1981).

³¹This is well represented in the from of language used in the literature so as to develop symbolic connections between gender and nature, such that language inferirizes women and non-human nature by naturalising women and feminizing nature. For example, women are often described in animal terms (e.g., as cows, foxes, chicks, serpents, bitches, beavers, old bats, pussycats, cats, bird-brains, hare-brains). Nature is often described in female and sexual term such as, nature is raped, mastered, conquered, controlled, mined. The claim is that language that so feminizes nature and naturalises women reflects the domination and inferiorisation of both by failing to see the extent to which the twin dominations of women and nature (animals) are, in fact, culturally similar.

³²Recent scholarship has produced some prominent epistemologies in feminist philosophy that is challenging to the mainstream ideas of knowledge, reason and rationality. This is reflected in works of some scholars like (e.g., Mills 1987, 1991) that appeal to the critical theory of Horkheimer, Adorno, Balbus, and the Frankfurt circle in order to built their epistemology and substantive analysis, pointing to a convergence of feminist and ecological concerns. For these feminists, "critical theory" provides a critique of the nature versus culture dichotomy and an epistemological structure for critiquing the relationships between the domination of women and the domination of nature.

grassroots activism and political concerns by developing analyses of domination that explain, clarify, and guide that praxis³³.

Thirdly, the ecofeminist is based on premise that any feminist theory and practice must include an ecological perspective. Till now, we have seen how feminist discourse initiated with basic minimum rights of women that begin with Mary Wollstonecraft's 'Vindication of rights of women', which was subsequently followed by Socialist and Radical feminism. Today, we talk about Post-Modern feminism which enters into the sex/gender debate (Butler,1997) contesting the idea of equality between male and female while claiming that it is in fact women who are superior to men. However, the stream of ecofeminism enters here to argue that feminist discourses must not be left distinctive to environmental discourses as both are inherently intertwined with each other with women as central part to both feminism and ecologism in theory and practice. This section should however, be read along with the fourth claim of ecofeminism, that is, solutions to ecological problems must include a feminist perspective. An Ecofeminist model, thus, underlies a conceptual link between the domination of nature as well as the domination of women, follows that 'a movement that is not feminist will yield at best a superficial understanding of the domination of nature'³⁴.

Third World perspective on Ecofeminism

These four connections, almost sums up, the concept of Ecofeminism, as a theoretical model of gender-environment debate, developed in the West. However, Vandana Shiva³⁵, alienating to a Third world perspective on gender-environment debate, explores an alternative model. In fact she begins by critiquing the western model of development, which, according to her, is actually maldevelopment criticising the 'modern western patriarchy'³⁶ and scientific process that devalues both women as well as nature. She holds that it is often women who have the most to lose as such kind of development actually destroys sustainable lifestyle and thereby creates true material poverty for women. Shiva traces the root of this developmental model in the 'early industrial development

³³These range from issues of women's and environmental health, to science, development and technology, the treatment of animals, and peace, antinuclear, antimilitarist activism.

³⁴ It has also been held that in order to save the environment, one ought to be working to overthrow patriarchy, the root of domination and those working to bring down patriarchy should be fighting to save the environment. At a conceptual level these fights are two sides of the same coin. The logic of domination, therefore, underlies not only sexism and naturism, but racism and all other isms as well. The objective of ecofeminism, therefore, is to end all of the isms, which are linked to the logic of domination.

³⁵Vandana Shiva is an Indian scholar, environmental activist and proponent of Ecofeminist Theory in the Indian context. She advocates against the prevalent patriarchal logic of exclusion, claiming that a woman-focused system would change the current system in an extremely positive manner.

³⁶ Such western-styled patriarchy, Shiva recalls, is imported through the development projects that replaced the sustainable living with commercialised quality of life that gives preference to market economy instead of traditional healthy living economy

in western Europe that led to permanent occupation of the colonies and the destruction of the local natural economy'(Rosa Luxemburg,1951). 'Development' as capital accumulation and the commercialisation of the economy for the generation of 'surplus' and profits, thus, involved the reproduction not merely of a particular form of creation of wealth, but also of the associated creation of poverty and dispossession. A replication of economic development based on commercialisation of resource use for commodity production in the newly independent countries created the internal colonies³⁷

A Third World perspective highlights that the patriarchal nature of values, in which the value is interpreted instrumentally, which are part of the western model. In other words, development is often worse for women than it is for man because it overrates scientific knowledge as the only true knowledge and thereby undermines women and their traditional practices. Shiva highlights the 'scientific revolution'³⁸ as a universal process that completely destroyed the traditional preserver culture of the non-western societies in general and the women knowledge in particular. She offers a paradigmatic analysis of the plight of Third World women everywhere, for her, the erosion of traditional land-use rights by the introduction of cash-cropping, strips them of economic and personal autonomy as controllers of their means of production.³⁹ Shiva writes:

"It is in managing the integrity of ecological cycles in forestry and agriculture that women's productivity has been most developed and evolved. Women transfer fertility... they transfer animal waste as fertiliser for crops and crop by-products to animals as fodder. They work with the forest to bring water to their fields and families. This partnership between women's and nature's work ensures the sustainability of sustenance."⁴⁰

Such a "maldevelopment" is responsible for 'destruction of Africa' by western experts, 'destruction of richness of Amazonian rainforest's by the transnational banks and corporations and aggravated the suffering of rural and tribal women's in Himalayas.

Elaborating the women's struggle in India, it was argued that, they the western world view nature as an object of exploitation and this concept is being challenged by Indian women who have protected

³⁷ An elaboration of how 'development' transfers resources from the poor to the well-endowed is contained in J. Bandyopadhyay and V. Shiva, 'Political Economy of Technological Polarisations' in *Economic and Political Weekly*, Vol. XVIII, 1982, pp. 1827-32; and J. Bandyopadhyay and V. Shiva, 'Political Economy of Ecology Movements', in *Economic and Political weekly*,

³⁸She vehemently called such a revolution as 'reductionist' or a 'reductionist paradigm' as it reduced the capacity of humans to know nature. This is done by excluding other knowers and other ways of knowing. Simultaneously, it further reduced the capacity of nature to creatively regenerate and renew itself by manipulating it as inert and fragmented matter.

³⁹This has been used in context of modern development as leading to ruptures in the productive nature-women relationship, leaving starvation and ecological destruction in its place.

⁴⁰ Quoted in Shiva, Vandana. 1988. *Staying Alive: Women, Ecology and Development* p-45, (London: Zed Books)

her as Prakriti⁴¹, the living force that supports life. The latter has challenged the concept of economic production of profits and capital accumulation as believed by west, with their own concept. Drawing on Indian mythology, Shiva claims that, Prakriti is transgendered, a proactive and deep creative force. Through Prakriti, men can live too, but when their energy is 'gendered,' the dominating or even destructive behaviour of men is fused with the principle of activity, making the creativity lose. According to Shiva, 'Prakrit' could be seen as an alternative 'universal' basis for liberation of gender. The Western bourgeois-liberal order that is based on fragmented 'universal' principle and socially homogenised, could be corrected by the concept of Prakriti. However, Shiva claims that, Prakriti has been 'reduced, mineralised, turned from Mater'⁴² to matter or resource. On lines of Vandana Shiva, it could be argued that in order to ensure survival against the blind onslaughts of modernisation, and material western development and patriarchy, the objective of ecological struggle in India should be to liberate nature from limitless and extintive exploitation, and women from extreme marginalisation. Ecological movement must be advocating a feminist ideology that transcends gender and a political practice that is humanly in nature. In this way, patriarchal claim to universalism is being challenged by diversity rather than another universalism and non-violence as power challenges the dominant concept in western understanding that associates power with violence.

It is widely perceived that a majority of women in the world literally embody Prakriti, although some remain blind and they are those sections where urban professionalism has become part of their life, the technological advancement that gives way to consumer life-style has removed them from the reality of engagement with nature. In this context, Shiva too carefully examined western industrial culture and its impact over developing, non-western world. This impact has created inherent discrepancies within the women's struggles by creating a divide. This divide is between the urban women who are industrially empowered and sustainably sunken rural. Productivity of men get materialise when they objectify external reality and control it by their massive appeal of the developmental projects that finally led to the gendered deformation of the life force. Shiva not only gives a symbolic linkage between women and nature in India, but also shows us at least three sites⁴³ where it is active and creative. Thus, her understanding of Prakriti develops symbolic

⁴¹Notion of "Prakriti", is a more Indianised version, for Vandana Shiva. This is in contrast to the Western gendered concepts of the feminine, which mostly work in a politically oppressive way by equating the feminine with passiveness, then attaching women's work roles and personas to this false objectification.

⁴²Shiva suggests that the shift in perception from "Terra Mater", the great mother goddess, to viewing the world as matter, a mere resource, is the root cause of the ecological crisis, which spells the death of the feminine principle.

⁴³The first is in reproduction or birthing; the second is in production or farming; and the third is in the provision of nurture or caring. In each labor form, women mediates between nature and humanity where they are 'organically' implicated in life-affirming processes and women's knowledge is empirically grounded in this organic relation.

connections between gender and environment and take it as basic criteria for analysing women's role in environmental protection. However, in order to develop a wholistic role of women in environmental movements and policy making, this symbolic interaction must go beyond mere connections. However some crucial questions which requires a detailed analysis are not answered by Shiva. It is at this point her ecofeminism fails.

Let us first begin with some general limitations to Shiva's overall theoretical model and then move to our main argument as to why this theory lacks some propositions important for this research. A critical analysis to Shiva's project begins from her consistent repetition to the westerner patriarchal developmental model as the reason for the destruction of nature and plight of women in the third world but which unsuccessfully propels into the reason as to why has such a model been given consent by the majority of third world countries over a period of such long decades. Although a counter argument to the latter could be that the capitalist ideology of development has been 'hegemonised' (Gramscian sense) to a 'common sense' that disapproves of any other value system to emerge. However, such an explanation does fail to decipher and expose the intricacies and complexity of patriarchy, class and caste functioning at various levels ranging from local level to machinery of state. Bureaucracy emerged as safeguards to ensure survival of male dominated and maldevelopment as an internalised capitalist structure. Although, Shiva refers to the 'economic system,' as men's appropriation of nature and of women's labor, yet acknowledges the fact that such system has in fact empowered women to enter into economic jobs, speak at public space, exercise their rights and fight for justice. This may be due to demand of a liberal socio political system as necessitated by more open economic model, which Shiva didn't acknowledge as a part of western developmental model.

Another criticism stems from her generalisations of the term Shakti and Prakriti that are represented as 'Indian'. These terms are related to Sankhya philosophy and southern culture remains out of its preview. This becomes problematic because Vandana Shiva while deriving 'feminine Principle' not only takes such views to generalise the principle in context of India but she does it for 'third world' too. Here she mobilises against masculinity, white, western science and technology. However, this creates a similar problem of universalisation⁴⁴ which she tends to criticise throughout, with the difference that she presumes the third world as a universal category. Although, she has a definite

⁴⁴It could be further added that if Prakriti precedes the gendered construction of society then it must be Western colonialism that is responsible for men's violence over women. In fact, as the institution of Sati demonstrates, patriarchy has its own history in the Indian tradition something substantiated by Shiva's thesis on the pact between local elite men and colonisers.

point in this conceptualisation, she develops it into a kind of overstatement which becomes tiring through repetition.

In her idea of collective struggle, Shiva tends to overemphasise the fact that women's active participation in environmental movement through public space would bring subsistent change in the private sphere that could contest patriarchy. As for instance, Chipko movement, thought substantiate a greater role of women in its success, becomes mute when it comes to any phenomenal change in private strata. Gauri Devi⁴⁵ herself did not mention any incidence of having led the women to embrace trees, as has been projected by Shiva (1992). In the ecofeminist literature on Chipko, the women of Garhwal and Kumaon have often been described as opponents of change and mere carriers of tradition. Similarly, the menfolk are described as rapacious agents of economic development and change. Realistic, holistic and painstaking research results by scholars in the same region have, provided a different picture stating that the ecofeminist connection is often romanticised when seen at grassroot activism. Exploring the theme of gendered power structure does not provide positive results in this case. In order words, a greater participation of women in ecological movements may not necessarily bring a major change in the social structure or challenge patriarchy in the society.

Besides these general limitations, both Ecofeminism in general and Shiva's model in particular lacks some theoretical propositions that limits to take up this perspective for my research. We have already discussed about Shiva's over-emphasised critique of western developmental models and patriarchy that seems to be less appreciated. Moreover, her romanticised idea of women's collective struggle as a root cause to challenge degrading environment and patriarchy in India, fails to develop some inherent linkages that are required for engendering environmental politics. These linkages are based on questioning the three basic aspects, that is, gendered access to resource use and management; gendered knowledge system and gendered power relationship. Although, Ecofeminism tried to answer the themes related to access to resource use and importance of traditional knowledge system, they still could not reason out the role of gendered power relationship in the society as a hindrance to women activism at grassroot level and decision making processes.

Western Ecofeminists remained too engrossed in drawing out mere interconnections between gender and environment and were mostly silent on the giving any practical experience and knowledge of success of ecological movement due to greater participation of women. Ecofeminist

⁴⁵ Gauri Devi was a prominent women activist during Chipko movement

of the Third World could, however, engage with these three elements, yet, could not explain the failure of gender recognition in ecological movements at activists phase despite claiming greater women participation. Although, Shiva's analysis focused on greater access to resource use and management to women, it became narrow while analysing the gendered knowledge system as important condition for grass root activism. Also, none of them could fully address the problem of gendered power relation or juxtapose women's movement and environmental movements, as claimed by ecofeminists, since the practical experiences showed that participation of women in public domain (through ecological movements) didn't necessary generate similar confrontation with men and patriarchy in private domain.⁴⁶

An important speculations on Ecofeminism is given by Bina Agrawal⁴⁷, who, besides pointing to its formulation of universal category of women, argues that the ecofeminists located the 'domination of women and of nature solely in ideology, neglecting the interrelated material of this dominance based on economic advantage and political power'⁴⁸. She adds on that, it fails to acknowledge women's live experiences and responses with the environment. Further, those strands of ecofeminism that trace the connection between women and nature to biology may be seen as adhering to a form of essentialism⁴⁹. The debate here highlights the significant effect of ideological constructs in shaping relations of gender dominance and forms of acting on the nonhuman world.

It is equally important here to critically examine the women's relationship with the non human world at levels beside the ideological propositions so as to address the material realities in which women of caste, race, class or religion with their varied responses are rooted. Agrawal, here examines, the responses of women in the West as compared to the Third worlds. In order to examine it further, she developed her own theoretical model, as progression to Ecofeminism, as named-Feminist Environmentalism. We shall now look into another perspective formulated by Bina Agrawal and see whether it can answer the theoretical limitation of Ecofeminism with regard to engendering environmental politics.

⁴⁶Shiva and other leading ecofeminists are of the opinions that in order to overcome the so-called ecological crisis, we have to regenerate values which have been devalued in patriarchal society.

⁴⁷Bina Agarwal is a Professor of Development Economics and Environment at the Global Development Institute at The University of Manchester. She has credited for her writing on gender and environment, livelihoods and property rights; the political economy of gender; poverty and inequality; legal change; and agriculture and technological transformation.

⁴⁸As quoted by Agarwal, Bina. "The Gender and Environment Debate: Lessons from India." *Feminist Studies*, vol. 18, no. 1, 1992, pp. 119-158.

⁴⁹some notion of a female "essence" which is unchangeable and irreducible

II. FEMINIST ENVIRONMENTALISM

This section further explores the variable perspective in gender and environment, developing into a new theoretical outlook while addressing the problems of Ecofeminism and bringing the further intricacies of addressing women issue in environmental politics to the forefront. The major proponent of this theoretical perspective is Bina Agrawal who, though, astute to a third world perspective of Vandana Shiva, yet speculates some analytical problems in her work, while she delves into her own conception of what she termed as ‘feminist environmentalist’⁵⁰. The subsequent sections will begin with Agrawal’s main criticism to the theoretical models dealt in Ecofeminism in general and Vandana Shiva in particular, moving towards building a new model to deal with our main research queries related to gender and environment. A final analysis in the last shall include the positive outcomes as well as the drawbacks of this theoretical perspective, and would be succeeded by our third model of Feminist Political Ecology.

Agrawal’s three analytical problems with Shiva’s exploration on the Third World Connection between women and environment begin’s by positing on the question of the basis of this relationship and how do women acquire this special understanding. She thereby postulates three critical points while evaluating Shiva’s work: Firstly, the universalist category of women across the Third World, without distinguishing the differences within the category such as that of class, caste, religion or race distinctions.

Secondly, lack of reference as to what concrete institutions or ideological constructs of gender have evolved or changed in India, as compared to other developing countries, with no recognition of plurality of ideological strands considering India’s ethnic and religious diversity.

Thirdly, the association of degradation of environment and oppression of women primarily to the Third World’s colonial history and imposition of western science through modern developmental model. Agrawal’s criticism to the latter is rooted on the idea that colonialism cannot be blamed for the preexisting social and economic inequalities that impacted the gender structure through centuries before. She argues that, it is necessary to have a distinction between a particular model of modernisation that clearly has been imported or adopted from the West by many Third World countries (with or without a history of colonisation) and the socioeconomic base on which this model was imposed.

By analysing these criticism, Agrawal tries to give a new direction to the gender-environment debate by raising some different issues into perspective. She problematises complex legacy of

⁵⁰ Quoted in Agarwal, Bina. “The Gender and Environment Debate: Lessons from India.” *Feminist Studies*, vol. 18, no. 1, 1992, pp. 119–158.

colonial and precolonial interactions, in order to analyse this debate from the perspective of structural changes and its related causes of environmental degradation.

Amid such criticism, Agrawal explained her own 'feminist environmentalism', as a distinctive framework for the gender-environment debate of the developing world, in which she allocates male-female relationship with nature to be rooted in their 'material reality'⁵¹. In other words, until gender and gender and class/caste/race based division of labor exists and distribution of property and power is based on such division, it would so structure people's interactions with nature and their effects of environmental change and the subsequent response to it. In fact, such a division would also shape the knowledge about nature which is gained on the basis of the experience that structural division provides. For instance, as discussed earlier, the division of labor among tribal and rural communities have made women responsible for fetching fuel and fodder, as they are the main cultivators. This makes them to be affected in a specific way in comparison to male members. So in the process of day to day activities, they acquire their own specific ways of interaction with environmental degradation. In the meantime, this specific understanding of environment or 'knowledge system' is passed on by women from generation to generation. That is why, it is said that women are conditioned to provide special perspectives and knowledge on environmental planning and preservation. However, losing the contact with these experiences and knowledge may lead to possible loss of transmission of it to others. Agrawal explains this as;

“In this conceptualisation the link between women and the environment can be seen as structured by a given gender and class/caste/race organisation of production, reproduction, and distribution. Ideological constructions such as of gender, of nature, and of the relationship between the two, may be seen as interactively a part of this structuring but not the whole of it. This perspective is termed feminist environmentalism”⁵².

Agrawal postulates a new course to environmental politics in India wherein the real action to save the environment requires to be addressed from two fronts:

“on the feminist front there would be a need to challenge and transform both notions about gender and the actual division of work and resources between the genders; and on the environmental front there would be a need to challenge and transform not only notions about the relationship between people and nature but also the actual methods of appropriation of nature's resources by a few.”⁵³

Feminist environmentalism underlines the necessity addressing these dimensions from both fronts.

Agrawal here tries to answer the questions left by Ecofeminists related to gendered environmental

⁵¹ In their specific forms of interaction with the environment

⁵²Quoted in Agarwal, Bina. “The Gender and Environment Debate: Lessons from India.” as she defines her ecological feminist theoretical model.

⁵³ ibid

politics. Let us further analyse her perspectives on feminist environmentalism based on the three basic parameters of environmental politics.

Firstly, over the issue of gendered access to resource use and management, Agrawal locates the most important factor in the erosion of community resource management systems resulting from the shift in 'control rights'⁵⁴ over natural resources away from community hands, population growth, and technological choices in agriculture and their associated effect on local knowledge systems. In turn, the shift from community control and management of common property, to state or individual ownership and control, has increased environmental degradation. What makes it worse is the reflection of this shift in the environmental policy well supported by the government. Citing the work of Daniel W. Bromley and Michael M. Cernea (1989) who notes, 'the appearance of environmental management created through the establishment of government agencies, and the aura of coherent policy by issuance of decrees prohibiting entry to - and harvesting from - State property, has led to continued degradation of resources under the tolerant eye of government agencies', she tries to deal the issue gendered resource use, knowledge system and environmental policy together. Agrawal simultaneously deal with the problem of nation-state that restricts the engendering activism to take place. According to her, two parallel trends are principally responsible for the erosion of available natural resources of the country. These are, first, the growing degradation of resources both in terms of quantity and quality; and secondly, the increasing statisation (appropriation by the state) and privatisation (appropriation by a minority of individuals), leading to an associated decline in what was earlier known to be as communal (community ownership). It is this appropriation, both independently and interactively, underlie many of the differential class-gender effects of environmental degradation outlined by her and explained in the subsequent section.

Agrawal explained the class-gender effects of the environmental degradation and the erosion of local knowledge system and resource management, they have major impacts on livelihood on rural people, specially women, since the latter are far more dependent on local techniques for resource conservation. This class significance of communal resources has to be accompanied with gender dimension, according to Agrawal, as females and children are the adverse impacted group.

As stated earlier, women are associated with the livelihood activities and burdened with agricultural responsibilities as well. However, there is systematic differences between male and female in terms of distribution of resources such as food and health care, within rural households, and significant

⁵⁴ Agrawal uses the term "control rights" here, rather than the commonly used term "property rights," because what appears critical in this context is less who owns the resources than who has control over them. Hence, for instance, the control of state-owned resources could effectively rest with the village community.

inequalities in access to productive resources. Women have systematically disadvantaged position in the labor market, fewer employment opportunities, less occupational mobility, lower levels of training, and lower payments for same or similar work. Seasonal fluctuations in employment and earnings is more than men because of greater task specificity of their work, this fluctuation is constant with sharper peaks and longer slack periods in many regions. Limited access of private property rights further deteriorate their conditions, although in rural areas communal rights provides women and children (mainly of rural, tribal, landless, or marginal peasant households) a regular source of subsistence, unmediated by dependency relationships on husbands or senior male members. For example, being linked to membership of village community women are in position to access to village commons and therefore they are not deprived in the way they may be in, a system of individualised private land rights. This acquires additional importance in places and regions where norms of female seclusion are very strong such as in the regions of northwest India. It is so because, in these regions women's access to the cash economy, to markets, and to the marketplace itself is restricted and dependent on male counterparts. It is against this analytical backdrop that the term "class-gender effects"⁵⁵ is shown by Agrawal. With this analysis, one can primarily say that Agrawal's propositions regarding resource use and management is gender inclusive in nature.

Considering another theme under environmental politics, many environmentalists have rightly pointed out such a shift from commercial approach to forestry, popularised as "scientific forestry," as "reductionist" in nature⁵⁶. Here, Agrawal raises a question: 'should we see people in general and women in particular solely as victims of environmental degradation and of ill-conceived top-down state policies?' It requires a pragmatic approach to deal with such questions. For instance, particularly in the past decade, there has seen an increasing resistance in form of social mobilisation against ecological degradation caused by many reason and resisted in many forms. This can be seen either through a direct deforestation as in case of Chipko in Garhwal or Appiko in Karnataka. Others are against large irrigation and hydroelectric works, such as Narmada Bachao Andolan, the Koel-Karo in Bihar, the Silent Valley Project in Kerala. Yet others are against large dam constructions causing huge displacement and appropriation of forest resources, such as the Inchampalli and Bhopalpatnam dams in Andhra Pradesh and the controversial Tehri dam in Garhwal. The common factor in all these protests have been active involvement of women participation. Another important dimension it suggests is that those affected by the environmental degradation are the real agents of change. However, common to all these streams is that the present

⁵⁵the gender effects as mediated by class

⁵⁶ As Vandana Shiva has pointed out in the earlier discussion.

model of development has not succeeded either in providing sustenance or in ensuring sustainability.

Agrawal's environmentalism postulates a possible link to connect the tradition-modern divide while highlighting the importance of local knowledge system. She mentions an account of Meiji Japan, where the farmer's knowledge and innovative skills were incorporated in the broader body of scientific knowledge by a systematised interaction between the farmer, the village extension worker, and the scientist⁵⁷. This necessitates exploring such a possibility within rural Indian society that would involve a deliberation between local people and policy makers. In fact lack of a proper deliberation has already seen a drastic consequence associated with the Green Revolution technology adopted to increase crop output that ran into high environmental costs at the latter stage, such as falling water tables, waterlogged and saline soils, declining soil fertility and water pollution with pesticides. Thus, the above examples shows that, Agrawal's proposition on importance on local knowledge system as an imperative condition for any environmental policy. She even supports a gender inclusive environmental policy based on local experiences with women participation in decision making and activism.

Thirdly, Agarwal's criticism to ecofeminist's assumption of a special relationship between women and nature stands on the point that, 'whenever one's livelihood is in danger, everyone has a stake in maintaining the environment'⁵⁸. She asserts that generally people tends to work for environmental change when it directly affects them or until they have the capability and power to do so. She is of view that the change from the side of women must begin from home/private sphere, by exercising their rights in equal decision making and distribution work. This shall help in reclaiming agency and independence. Once achieved a certain bargaining power at home, they can make a greater impact on policy decisions at public space. Further initiatives can then be made in establishing both woman-friendly legislation and greater access to economic resources. It is the power relation within home and outside that restricts an effective women's organisations and gender-progressive agendas. It is here, Agrawal's proposition could be challenged. For women to acquire for a better bargaining position, many factors must come into alignment such as a greater bargaining power within domestic sphere, the inner consciousness against patriarchy which comes with more awareness, education and exercise of rights, etc. Most importantly, patriarchy operates at the level of

⁵⁷Quoted in C.H. Hanumantha Rao, S.K. Ray, and K. Subbarao, *Unstable Agriculture and Drought*. This enabled a two-way flow of information from the farmer to the scientist and vice-versa: Intimate knowledge of the best of traditional farming methods was thus the starting point for agricultural research and extension activities.

⁵⁸ Ibid

consciousness, and has to be accepted by individual agency first. Until, the women who are under patriarchy accept that it exists, a change at household level is difficult.

Moreover, As Abraham Maslow (1998) has argued that, 'humans operate on a hierarchy of needs and wants. Accordingly, people who are concerned with feeding themselves and their families cannot spend much time worrying about improving gender relations'⁵⁹. This formulation goes in tune with the process of challenging the gendered environmental politics which begins by addressing the issue of access and control over resources at a public place rather than individual private level. In fact, there are some more prominent questions left unanswered satisfactorily by Agrawal such as: Can we expect the situation to improve from the household base when it has been so unequal for hundreds of years? How do women's organisations and gender progressive agendas get started by this improvement at household level? How do they effect the bargaining process? Until the answers to these questions theoretical framed by Agrawal, her perspective remains incomplete for this research.

We must now think of a theoretical perspective that is not limited to a particular region, as the issue of environment is not local but global. Also, the passage of 1990's initiated the era of globalisation, where integration of economies have become common and so are their problems too. In this backdrop of liberalisation policies, the possible implications of globalisation in form of 73rd and 74th constitutional amendments is visible in India, as empowering institutions of local self government like panchayats and Zila Parishads and providing one-third reservations for women. The eleventh schedule transfers women and child development, anti-poverty programmes, elementary education, health, land reforms, forestry and conservation programmes, etc, to the panchayats. However, the question is, does the local power structure allow space for women together to reshape their lives? For this to happen Ela Bhatt points out that,

“a restructuring and reordering of power structure is necessary and it should take place at the local level... The lesson is decentralisation of decision-making and management of resources, local planning based on local needs, skills, resources and local implementation”⁶⁰.

The biggest problem that the state policies have created in the village communities is their alienation from their commons. Studies have shown that access to village commons reduces income inequalities between poor and non-poor households. Degradation and encroachment of village

⁵⁹Quoted in Gerdes, Paul, "Response to Agarwal," *Macalester International*: Vol. 6, Article 1, 1998

⁶⁰Quoted in Sharma, Kumud, "Gender, Environment and Structural Adjustment." *Economic and Political Weekly*, vol. 29, no. 18, 1994.

commons and declining community control and usurp rights due to erosion of community resource management systems have affected poorer households' capacity to meet subsistence needs.

Finally, there are some important questions that are left unanswered by feminist environmentalists. The environmental movement is a by-product of popular participation at the local level questioning national policies for natural resource management. The issue of local communities, setting their own environmental agenda where women have a voice in decision making process, is a political question. Do they have an operational framework to discuss the trade-offs between local environment management and economic development policies? How local democracies in India shape and respond to ideological and economic pressures from the changing global scenario? Are their such policies that handle the concern of 'commons' of the local community as well as follows gender-sensitive approach? Lastly, an important question is the idea of environmental politics and grass root activism fails at third factor, that is, making changes in the gendered power relation, that holds an important key to women participation in environmental movements across globe. This has so far been neglected in the analysis of Bina Agrawal and other ecological feminists. These are some of the emerging questions that need to be understood by another theoretical framework that encompass much broader perspective while acknowledging the leading developments up till now.

III Feminist political ecology

The classification of first two perspectives, though, projected a wide range of contestations in gender and environmental connections, yet seems to be incomplete in addressing the issues related to gendered environmental politics that concerns with both the grass root activism and social power structure in a coherent way to deal with emerging global and local perspectives on feminism and ecology. Therefore, it is pertinent for this research to introduce the conceptual framework of feminist political ecology that incorporates the thematic framework of both ecofeminism and feminist environmentalism on one hand, and extending their concepts to its broader framework of environmental politics while dealing with gender sensitive concerns in ecological activism as well as challenging the gendered power structure. Such broader framework of feminist political ecology has been subsequently dealt under three themes: gendered access to resource use and management; gendered local knowledge; and gendered power structure that finally defines the gendered environmental politics. In order to understand the framework let us began with defining the basic concept of political ecology.

The term 'political ecology' was first coined by Frank Thone in an article published in 1935. It has been widely used since then in the context of human geography and human ecology, but with no

real systematic definition. However, common assumptions across the field give it relevance. Raymond L. Bryant and Sinéad Bailey (1997) have developed three fundamental assumptions in practicing political ecology:

“first, costs and benefits associated with environmental change are distributed unequally; second, this unequal distribution inevitably reinforces or reduces existing social and economic inequalities; and third, the unequal distribution of costs and benefits and the reinforcing or reducing of pre-existing inequalities holds political implications in terms of the altered power relationships that now result.”⁶¹

It has been widely proclaimed in writing of various scholars, that the discipline of political ecology, has been an important area of enquiry in directing common attention towards some important questions of our age: poverty, social justice, the politics of environmental degradation and conservation and the neoliberalisation of nature with its associated problems. Being a pluralistic in its conceptual claims, the aims of Political Ecology include understanding of webbed and complicated relations between nature and society through an unbiased and careful enquire of access and control over resources. It is also committed to analyse impact of ‘access and control’ duo on environmental health and sustainable livelihoods’ and in order to explain ‘environmental conflict especially in terms of struggles over ‘knowledge, power and practice’ and politics, justice and governance.’⁶² What has been an important enquiry into the political ecology by the feminist scholars, is its gendered aspect in analysing struggles, objectives and strategies. This has led to emergence of a feminist branch within circle of political ecology which propose to understand gender as a critical variable in shaping and structuring resource access and control. It also claims to treats gender as core variable to understand ‘resources conflict’ in relation with complex structure of class, race, culture and ethnicity. It maps processes of ecological damage and change along with monitoring the struggle of men and women to search and sustain ecologically viable livelihoods and the future prospects of any community for ‘sustainable development’.

In globalisation era, the debates for environmental preservation has moved towards the idea of ‘sustainable development’ wherein the logic of resource use and its distribution is carried at a pace, such that it is able to sustain the needs of present as well as future generation. The complicity of the global versus local agency of power and technology of resource use, access, control and management is quite prominent. Moreover, with this separation, there is a visible division of human agency and the nature that divides home, habitat and workplace into separate domains, with women

⁶¹These assumptions were necessary to understand the usage of political ecology. It is thus, a theory that is used to inform policymakers and organisations of the complexities surrounding environment and development, ignore in order to ensure viable environmental governance. Further it comprehends the important decisions taken by the communities about the environment in the context economic and societal regulations.

⁶² Quoted in Watts, M., 2000. Political ecology. In: Barnes, T., Sheppard, E. (Eds.), A Companion to Economic Geography. Blackwell, Oxford, pp. 257–275.)

at 'home', men in the 'workplace' and protected 'habitats' devoid of human. In fact, in their struggle for environment conservation, local communities are further deprived over forest produce and natural resources under the scientific categorisation of 'biodiversity parks' and 'wildlife sanctuaries' that has excluded people's traditional rights and disrupted local economy.

With the growing alienation of the local from the global and replacement of customary right with technocratic system, there has been a gendered division of rights and responsibilities and gendered knowledge and work. In the contemporary era, men are either working for cash intensive crop production or migrated to urban centre to work as local wage labourer. This has left the female role behind with responsibilities to manage complex system of rural landscape that support plant and animal life. They take charge of community and environmental management when men are not around. They face increasing production demands with less adult labour, and restricted rights to access and management of resources that hampers their growing responsibilities. These factors have mainly emerged post globalisation period, that had led to identification for role of women with a new and different perspective.

Why role of women is important now?

Understanding the emergence of women's role in contemporary times is important to this research since it is only recently recognised that gender and environment have a close connection wherein women are major player for its conservation. Also, in response to emerging environment movements with a less successful rate needs a redefinition to ecological activism as well. In this context emerging role of women needs to be recognised.

The aspects of a particular ecosystem that are important to the people who live in it vary according to the circumstances of history and the specific demands of their system of production. Regardless of these variations, issues related to environment are inherently political and decisions about it are not political neutral. Access to and control over resources are inherently linked to the positioning of people by gender, race, caste, class and culture. Environmental issue is thus central to concern of nature and society, defining the role of each individual into its conservation that could lead to environmental justice.

In order to define the role of women in environment movements, one needs to follow few considerations. Increasing role of women in ecological movements is as a result of difficulties faced by them in ensuring survival of their families due to ecological and economic crisis. These difficulties have increased in the last decade with the changing social and economic relations due to capitalism, migration, divided families and uncertainties and insecurities.(Hart 1991, Chen 1991). This is seen with the impact of structural adjustment policies and associated retreat of state from

welfarism, public services and environmental regulation have become disadvantageous to women by insufficient food, rising cost of living, and eroding economic and environmental conditions. Increasingly, people are linking the immediate impact of ecological and economic crisis with recognition of a need for structural political changes. Organisations that may have begun from a specific objective, say in Chipko movement, have now taken up serious social and political issues. There has been an issue of political marginality of women which has restricted their activism on local level that is critical to their homes. It reflects the pressure and distress generated by the system and its impact on the family welfare.

In fact, in the last decade, the problem of women has become more severe. The system does not address their needs and so they collectively try to secure the necessary conditions to guarantee health of the family and the integrity of the surrounding ecosystem. Moreover, the women's movement across the globe has generated an international interest in women's issues and perspectives. Even so, UN decade of Women (1975-1985) contributed to the growing awareness of the distinct roles and interests of women. Such global platforms have time and again proved as a platform to address the women rights as basic human rights. They provide crucial political and ideological underpinnings of support for the increased political activism of women on environmental issues.

Gendered environmental politics, thus, needs to be studied through the framework of gendered relations that work in all the sphere of local resource politics, power structure and grassroots activism which would contribute to a redefinition of women's identity, meaning of gender and the nature of environmental problems and finally lead to environmental justice. Feminist political ecologists rightly explained reworking of these spheres in three broader themes as pointed out earlier.

Considering the first theme, gendered access to resource use and management is reflected as an attribute of a power structure in the society, that distinct women's right and responsibility to their disadvantage. Here rights and responsibility regulates control over things and processes, direction and impact over environmental changes and distribution of that impact. Categorising women with *de facto* (custom or practice) and men with *de jure* (legal), gives a glimpse of gendered environmental rights, where customary rights often creates gendered division of resources. While at a global level, there is demand of more role to customary rights (seen from a perspective of distinctive community), at local level, women demand the public space to be gender neutral with equal access to resource use and control.

Parallel to this gender division of rights, it is equally important to address gender division of responsibility. This includes responsibility to procure particular inputs or products for home use (such as fuelwood, water, milk, herbs) and responsibility to manage particular resources (such as protection of water sources, maintenance of community forests and soil conservation in rural areas and food shopping, meal planning, protection of parks, workplace health, urban waste management, in urban areas). The point is, women carry a disproportionate share of responsibility for resource procurement and environmental maintenance, from New York city to Lower Himalayas and yet have the limited formal rights to determine the future of resource availability and environmental quality.

This leads to analysis of second theme related to gendered knowledge system, that follows much from the argument of feminist environmentalist literature. Even Feminist political ecologists acknowledges differential knowledge base of resource management by male and female, arguing for gendered 'science of survival'⁶³ needs to be questioned by bringing an alternative perspective on environmental issues which should address many questions related to gender, environment and ecological movements. The diverse role of women (as producer, consumer and reproducer, etc.) require them to formulate new capacities to incorporate the complex domains of household, community and landscape into their lifestyle. However, the modern world with specialised sciences that focus on only one of the domains have often dwindled women's capacities to cope up. This conflict revolves around the 'separation of domains of knowledge, as well as, the separation of knowing and doing and of formal and informal'⁶⁴ science. While women across the world are involved in commercial activity while simultaneously handling the fundamental necessities of daily life, such responsibility puts them in a position to oppose threats to health, life and vital subsistence resources despite the economic incentives. Feminists approaches to ecology and health focus on the objects and experience of everyday life, mostly through direct confrontation. Over the period many of its aspects have become technical and scientific. Yet the feminist practice of ecology uses such specialised tools differently and for different ends, based on their ancestral knowledge and practice. The epistemological gap related to knowledge system has to be bridged at two levels: One is the gap of traditional versus modern/technocratic knowledge base and other is the male versus female knowledge system, practice and life experiences. While former is the problem of scientific rationale as opposed to conventional practices; the latter signify gendered knowledge base that is

⁶³ Dianne Rocheleau defines it in terms of traditional knowledge and women's experiences in day to day experiments with nature.

⁶⁴ Quoted in Rocheleau D., B. Thomas-Slayter and E. Wangari (eds). "Feminist Political Ecology: Global Issues and Local Experiences", Page 7, London and New York: 1996 Rutledge. Here the formal science relies on fragmentation, replication, abstraction and quantification while the informal science follows a distinct approach based on skills acquired in their socialisation as women.

exclusionary and based on politics of ascendancy of male over female. Feminist Political Ecologists argues that, both the threads need to be broken by gender-inclusion, participation and assimilation of local cultural practice with scientific method (such that assimilation is co-relative and pre-dominative) and associating native women lived experiences within government strategies and environmental policies. Feminist political ecology, thus, address the convergence of gender, science and environment in academic discourses as well as in everyday life and governmental policy and programmes.

Such an intrinsic relation between resource uses, users, owners and managers creates a disentangled relationship of conflict and cooperation, that raises the third important themes related to issue of power and gender. Gendered power relationship, therefore, restricts women to a private domain with restricted rights and responsibilities, that becomes a hindrance to women's collective struggle in environmental politics. Recognition of this power structure is imperative at first stance. Such power has to be studied in two spheres. Perhaps, what appears to be an internal hierarchy imposed by state or patriarchy prevalent within society is just the outer sphere of power structure. The most crucial aspect of power domination lies in the internalisation of cultural prejudices as ethical values, that justifies paternalism of state over society and ascendancy of male over female. Human being, thus, subjected to discursive formations (disciplinary mechanism and biopower) need to be driven out of these mechanisms which requires a continuous struggle that reclaims the agency through consciousness and locates the disciplinary structure within the system.

The continuous struggle would lead to a gradual transformation that need to fundamentally question the dominating structure and make it more inclusive, gender- neutral and sustainable enough to not let the hegemonic forces retrieve to its original form of oppression and domination. Therefore, unlike feminist environmentalist that argued that private sphere power structure to change first, feminist political ecologists would suggest that the struggle of women must begin at both private and public domain simultaneously. A greater activism in public domain would gradually lead to changes in the private sphere which would in turn lead to more space for women participation. Hence, the two domain are interdependent and work together with gradual improvement.

One can therefore conclude that, the theoretical perspective of Feminist Political Ecologists could, at best, deal with the question of gendered environmental politics and grassroots ecological movements. The examination of environmental movements can, in a better way, be dealt with this theoretical framework, through its special emphasis on the role of women highlighting their involvement in common struggles over natural resources on one hand and reasserted their individual identity to challenge the power structure and patriarchy, on the other. Many case studies

(such as forest movements in Kenya as discussed later) demonstrate that this phenomena is not local but occurring around the world. This surge in women's activism is a response to actual changes in local environment conditions as well as to discursive shift towards 'sustainable development' in national and international politics. Gillian Hart (1986) conceptualise it as 'multiple and interconnected sites of struggle by which women are beginning to redefine their identities and the meaning of gender through expression of human agency and collective action emphasising struggle, resistance and cooperation'. In doing so, however, they have also began to redefine environmental issues to include women's knowledge, experience and interests. What still remains apparent here is that the results and process in any one place reflect historical and social specificity which differentiates the nature of struggle and its consequences. Therefore, the basic idea or content on which this struggle is based cannot be formulated on a universal principle or methodology but needs to be followed as per the context (social circumstances) in which such movements began or yet to take it course.

In the above discussions, we have already explored the connections between women and environment. However, an important question that still remain unanswered is whether participation of women in environmental movements will bring any sufficient change in environmental protection in general, and women empowerment in particular. There has been cases, wherein, the participation of women in these movements have made them valiant and to speak in public about their rights and responsibilities and come out of their clinch bonds at home against issues of alcoholism, domestic violence, and many more. However, many feminists have argued this as a romanticised view, associating it to the privilege of few. Yet one cannot completely deny the fact that such organisations have increased the involvement of women, leading to a sense of agency and empowerment. As a result, there are new perceptions of women's role, rights and responsibilities. Increasingly women are finding voice, being aided by more organisations and questioning the hierarchy as well as patriarchy in the social structure.

Feminist political ecologists projects certain victories of women around the continent, for instance, Green belt movement in Kenya, protection of Himalayan forests in India, safe disposal of toxic waste in North America, all that brings out local concern to national and international political arena. These grassroots organisations are significant in women involvement and are stressing the value of all human beings and their rights to satisfy basic human needs. Their claim is that the 'myriad of grassroots, with women and men involved in them, have begin to blur the distinction

between public and private, productive and reproductive, home and workplace.⁶⁵ These organisations have been helpful in redefining the ‘political’ and ‘environmental’ in ecological movements.

To sum up, most of the work done within feminist political ecology demonstrates how gender, understood as “culturally defined male-female sex roles, structures access to particular types of knowledge, space, resources and socio-political processes” (see Carney 1996, Freidberg 2001a, Rocheleau, et al. 1996b). With a greater emphasis on these structures, a better foundation is conditioned, so as to argue in favour of differential role of male and female in challenging environmental degradation. Feminist political ecology, thus, provides important tools for political ecologists to examine gender aspect as an important condition to understand these structures and distinctive roles in natural resource management.

Many scholars have recently used this theoretical model to further develop the perspectives on gender and environment. Rebecca (2011) in her writings presents a poststructuralist critique of Feminists political ecology claiming gender as a “destabilised analytical category”⁶⁶ by giving emphasis to an exploration of “multidimensional subjectivities”⁶⁷ where gender is constituted through other kinds of social differences and agency of power such as race, sexuality, class and place, and practices of ‘development’ themselves. Gender is, thus, seen ‘neither as analytically central nor as the end point of critique and analysis’ (Fraser, 2005).

Rebecca argued in favour of human being’s multiple and fragmented identities of constituted through social relations that include ranges of identity from class, religion, sexuality, race/ethnicity to post-coloniality, placing gender at core. Going beyond the simplistic understandings of gender divisions and static and one dimensional gendered power relations, she inclined towards understanding the challenge of revitalising efforts around a re-politicised recognition of gender as tool for examining the power effects of the socially constituted fault line of difference. She tried to demonstrate numerous ways for feminist theorisations and new conception of gender, to be taken as tool to enquire forward within and through the permitted boundaries of an open-ended feminist political ecology.

Nightingale (2006) argues that gender as a social construct needs to be investigated as it is further entrenched in the struggles over the resources. Concerns such as issues of environment and their

⁶⁵Quoted in Rocheleau D., B. Thomas-Slayter and E. Wangari (eds). “Feminist Political Ecology: Global Issues and Local Experiences”, Page 7, London and New York: 1996 Rutledge.

⁶⁶ Elmhirst, Rebecca. "Introducing new feminist political ecologies." *Geoforum* 42.2 (2011): 129-132.

⁶⁷ Ibid

effect are moulded by the struggles of gender and caste as they sensibilities too affect the issue at hand. Similar to Rebecca, she too draws from post-structuralism, to argue that forest are shaped from the social and political aspect of work, access and biophysical properties. By citing a case study from the forests of Kumaon she demonstrates that there is an entrenched understanding of social networks and relationships that also form the environment which is constantly moulded by the exchanges of people, forest and their work. This leads to groundwork of interactions from where one can investigate the communal composition of community relationships and environments.

Nightingale further recommends that the work on environment and gender should shift away from an overt emphasis on how gender shaped environmental and developmental results, to how both gender and environment are mutually instituted and coexisting. This would comprise an involvement with the relations between development projects, social sensibilities and reproductive capabilities as well as material changes of the ecosystems. To state, gender here does not only imply women or to the distinct characteristics between men and women. The meaning associated with gender here means that, based on biological differences, men and women are defined and imagined which becomes deeply entrenched in the specific process. Here, gender is a kind of performativity whereby the gender has to perform its roles associated with men and women respectively. This act of performativity is heavily loaded with power and any effort to rebel socially prohibited acts are commonplace.

Another theoretical analysis of Feminist Political Ecology was given by Truelove (2011), while demonstrating some conceptualisations of water inequality and the associated water practises, taking urban areas of Delhi as a case study. In particular, Truelove's documentation draws suitable analysis to diverse water practices by households, communities, and places of work in urban areas, to argue for further examination of how water policies and improvement strategies contribute to wider patterns of urban and social differentiation. Making the urban water access in Delhi as a critical issue of survival and gender inequality, Truelove explores how women suffers from discriminatory behaviour starting from collection to distribution of water for their everyday livelihood practices. Quoting from Nightingale(2011) she adds;

“Bodily experiences, including the wear and tear of water labor, water-related health problems, the physical experience of criminalisation for illegal practices and the discipline required for water-related health issues (including diarrhoea and menstruation for example), are intimately tied to the experience of urban space and rights. Such embodied experiences serve to re-enforce gendered and classed social differences, materially shaping and constraining physical hardships and life opportunities while

discursively producing social differences and particular groups of women as excluded from rights and spaces in the city.”⁶⁸

This study is important to analyse the Feminist Political Ecologists approach to water conservation purification in order to examine the reason as to why accessibility to water is tied to social inequalities despite the fact the water quantities and access points have increased. The reason to this is determined by the fact that, a sole focus on access, control, and distributional differences of water resource is insufficient to capture the scope of inequalities related to water in the cities. For instance, as the study shows, the consequences of water and sanitation practices on economically vulnerable section, especially women, has actually increased and became worse even as water sources are legalised and improved. This reflects that along with the criteria of gendered access to resource use and management, one has to simultaneously look at the possibility to solve the gendered power structure in the society so as to make progressive changes in social fragmentation. The theoretical perspective of Feminist Political Ecology, can thus, have a tremendous contribution in understanding the inequalities with social and spatial differences that are produced around water resource access and practice.

To sum up, we may say that this chapter has set the premise of the research by laying down the perspectives in gender and environment discourse. The use of these perspectives have helped us to frame the larger question of gendered environmental politics and ecological activism that would define the role of women and their participation in the ecological movements. Although, the three different perspectives marked some different world views and approaches, yet they all emerge on some common thematic issues while dealing with the problem of subordination of women and degradation of environment. In the subsequent chapters, these perspective, particularly the Feminist Political Ecology, has been used to look at the global environmental movements and tries to fetch out the role of women’s participation as pertinent in the success of these movements; foster gender inclusive environmental policy and whether such role at public sphere has led to contestation of the social structure and patriarchy in the private domain.

⁶⁸ Quoted in Truelove, Y., 2011. (Re-) conceptualising water inequality in Delhi, India through a Feminist Political Ecology framework. *Geoforum* 42(2)

CHAPTER 2

Environmental Movements and Gender Question

“An environment movement could do a better job incorporating the message about the connection between poverty and environmental degradation, and building that message the grassroots level”
Helene D. Gayle⁶⁹

“The environment movement can only survive if it becomes a justice movement. As a pure environment movement, it will either die, or it will survive as a corporate greenwash”

Vandana Shiva

This chapter is framed as an extension to the previous theoretical perspectives on gender and environment. It is formulated around a pragmatic approach while dealing with both the theoretical perspectives, as well as, some practical experiences of major environmental movements around the world. Here, I, attempt to look at three popular movements, that is, Chipko, Green Belt and Plachimada, with the help of immense secondary literature available on them. The main idea behind writing this chapter is to explore the conceptual core of these movements in terms of gender sensitive concerns in the ecological movements as well as the change in nature of the movement and its demands with more women participation. Overall, the chapter tries to explore the gendered environmental politics by studying the nature of grassroots activism and women participation in the environmental movements. Thus, the selection of literature as well as the style of writing the chapter remains guided by that.

Though numerous movements over ecological concerns have taken place in India and worldwide, but I have taken up only three out of them. It was for the purpose of this research, that I have selectively chosen these three (two of India and one from outside). The first two movements are Chipko and Plachimada. These movements have raised fundamental questions regarding rights and access to natural resources. While Chipko raised the question of ownership and management of forest resource being linked to the livelihood of local people, particularly women; Plachimada became a torch-bearer for river protection/conservation, an issue that was enormously raised by women, highlighting the nefariousness of big corporate houses making profits over river pollution. The last movement described in this chapter is Green Belt Movement of Kenya, a non-government organisation, that mobilises local rural women in their drive to plant trees, adopt local conservation

⁶⁹Helene D. Gayle (born August 16, 1955), is an American doctor who is the CEO of The Chicago Community Trust. She was president and CEO of McKinsey Social Initiative and the humanitarian organization CARE from 2006 to 2015. Gayle previously directed the HIV, TB, and Reproductive Health Program at the Bill & Melinda Gates Foundation, and spent 20 years at the Centers for Disease Control and Prevention (CDC), focusing primarily on HIV/AIDS.

practices and oppose any governmental action that disrupt the local ecology and gender-specific livelihood concerns. This chapter will help in testing the hypothesis of the research, that is: enhanced gender sensitivity in environmental movements and civil society processes is a prerequisite for expanding the possibilities of gender inclusive measures to foster sound and regionally appropriate development measures for environmental conservation. Therefore, to understand the role of these movements, we must examine the need of social movements in general, and to understand the gender-specific environment concern for this research, in particular. The following section will try to deal with it.

Why do we need to study social movement?

It is important to study social movements as they are dynamic in nature and aims for bringing change in the society. They are the result of conflicting interests of different groups in the same society. Social movements also emerge, when there is a dysfunction in the relationship between systems. They are mainly generated through systematic inequality. It's purposeful range of activities tend to address multifold problems related to discrimination, orthodox norms and social justice in order to speed up social change, where existing systems (related to political, economic or social) failed to perform. Gradually evolved ecological movements are best suitable in the line of above mentioned social movements as its surface range from socially, economically and politically contested and debated issues such as social and economic discrimination, inequality and marginalisation, and further relocate gendered nature of politics of reforms and re-correction.

Similarly, we need to explore the reasons behind the outbreak of the protests that took the formation of movements in due course of time. All the three movements discussed in this chapter, began as a protest against ecological misbalance that later on became national and international benchmarks for environmental movements. The centrality of gender-specific concern and women participation through a locally developed knowledge system became a core method of environmental politics in all the three movements. This commonality was the main reason behind choosing these movements that would help me to further explore the case study of this research-Save Ganga Movement. Besides these commonality, we need to differentiate between the procedural aspect of each of them. This will help us understand the factors like role of leadership, the mass base of the movement, ideological leanings in different movements. These factors could be also understood by looking at the changing dynamics of ecological movements with novel concerns, around the world.

There has been a gradual shift in the reasons and pattern of ecological movement that began during late 1960's. While the initial phase dealt with protest movements mainly in response to increasing

industrialisation that led to overpopulation, intensive agricultural methods and chemical pollution. The recent incidents of protest are seen under backdrop of the post effects of industrialisation such as the effects of the depletion of the ozone layer, global warming, proliferation of nuclear weapons and the impact of fuel emissions, that have brought in wide range of perspectives within protest movements and participatory base. The shift in nature of the movement is seen from a 'social' response to a 'political movement'. The emerging environmental concerns have resulted in 'social' response for creation of a political response and political action to preserve the environment and its inhabitants' (Gaard, 1998). In fact, few scholars have been arguing that without political aim or objectives, success of an ecological movement is doubtful. This is seen in recent cases in India as well, where people like Medha Patkar, leader of Narmada Bachao Andolan, entered into active politics. However, the impact of this transition on ecological movement is still unknown through any particular example, but highlights a bridging gap of social and political sphere through ecological movements.

Another important shift, over the time, is seen in the perspective of gender consideration in environmental movements. As mentioned before, the ecological activism has taken the perspective of gender in environmental politics considering its connectedness with the nature, traditional knowledge system and wide participatory base as real conservators. In this context, Sklar (1991) noted that, study of the role women in ecological movements adds to a greater understanding of any ecological movement. Ecologists and the ecological movement widely believe that a reorganisation of the political, social and economic system is required by reinforcing a stronger focus on agency of women, its mobilisation and political restructuring in order to achieve change in relation to the environment. The three environmental movements in this chapter represents very core issues of contemporary ecological movements and specify need of gender sensitive approach at the same time re-establishes claims made by gender theories regarding environmental gender politics. These environmental movements are linked with the struggles for both social justice and the understanding of gender.

Study of environmental politics in ecological movements

As mentioned earlier, gender-environment perspective has been an important for the this research to understand the ecological movements. In the following section, I would revisit some theoretical issues to develop gender politics framework to understand the nature of ecological movements. I would, then, deal with the three movements (Chipko, Plachimada and Green Belt) and explore whether the gender specific aspect of the movement was the main contributor to the success of these

movements or not. This would be explored through some common and distinctive role of women that each movement brought in their protest approach.

In order to understand gender politics in environmental movements, we must recapture the theoretical idea that was developed in the previous chapter. I had argued that, feminist political ecologists model aims at exploring the relationship between the oppression of women and the exploitation of nature by relocating the role of women in a gendered environmental politics perspective. Such a perspective focus on some common themes like- gendered access to resource use and management; gendered local knowledge practice and gendered power relationship. These themes must be further explored so as to define them in context of ecological movements and then try to understand the nature and place of gender.

As mentioned earlier, social movements are the result of systemic inequality, that can be generated at social, political or cultural level. This inequality at social or cultural level begins with gendered access to resource use and management that further leads to political inequality, seen at grass root activism and decision making processes. For instance, it is the women who works in field but control belongs to men and market oriented decisions are mainly take by men with non access of many resources to women. So, it is important that women's inclination to participate in forest protection and management have to be deconstructed within the gendered political economy in which women articulate their livelihood strategies. Further addressing the issues highlights that women get fewer opportunities to increase their agricultural production and paid less than men in case of hired labour. We can simultaneously see, how local knowledge and power relation in society, hinders the political space for women participation and restricts them at public domain. For instance, undermining local knowledge and women's experience in crop and livestock management, gender conservativeness in decision making policies and programmes, ultimately questions the government's claims of environmental justice. The three ecological movements mentioned in this chapter are classic illustrations of how adaption of women experiences and traditional knowledge intensified effectivity of these movements. Needless to say, gendered lens to the relationship between local knowledge and adaptive practices alters the conventional and largely positive appraisal of sustainability of human and environment.

In totality, a pertinent approach, to study ecological movements, adheres to a gender sensitive approach in the environmental movements and governmental policies, through a 'civic public'⁷⁰ of women participation, their involvement in decision making by use traditional knowledge, and the

⁷⁰ Iris Marion Young describes civic public as place in public sphere where both men and women could debate and discuss and reach to a conclusion through an informed and participatory decision ;Young,1990,p-109.

subsequent contestation of modern patriarchy in the traditional power structure. In other words, formal resource rights, gendered control of knowledge and information, and the ability to shape local environmental or development discourses are important to the production of gendered vulnerability (Tuana 2013). It is therefore, important to re-establish the interdependence between women and natural resources for a successful environmental movement both at national and global level⁷¹. It would be worthwhile here, to discuss the three movements which display integrated core role of women to ensure successful environmental strategies.

Chipko Movement: Epitome of gender inclusive participation

The topography of Uttarakhand is characterised by high peaks, deep valleys, plain fertile land, and a wide variety of vegetation. Agriculture is the dominant activity of the state. An important characteristic of this region is the presence of substantial high proportion of women in the workforce. Women folk are engaged in low productivity activities in the primary sector comprising a backward and stagnant agricultural sector where contribution of the males is limited. It is important to study the place of women in the society due to significant role played by women in economy. The women of the hills are strong and hardworking and enjoy considerable freedom of movement as compared to women in the plains because of the important role that they play in the economy.

The roots of the Chipko movement goes back to several decades. During 1960s, the Himalaya region received their biggest shock, when under a governmental action plan to commercialise the region, trees were cut down on large scale. This generated series of ecological movements in the region. One of these movements, that started as a regional protest movement but came to be internationally recognised was Chipko movement. There are differences of opinion on the actual date of beginning of the Chipko movement, however, Sunderlal Bahuguna, a prominent leader of the Chipko says that it was started on 30 May 1969 during the 'Ziladan' of Uttarakashi in the wake of Acharya Vinoba Bhave's Gram Swaraj Movement. The term 'Chipko' loosely translated in Hindi for 'hug' and the word 'andolan' means movement. The Chipko movement is a movement that originated in the Indian Himalayas (Garhwal) dedicated to saving trees by hugging them if necessary, upon the arrival of axemen (who came to fell off the trees to rebuilt the area for commercial purposes).

⁷¹This has been reflected in the international regimes on environmental preservation. For instance, in the post-UNCED (United Nations Commission on Environment and Development) era of 'global environmentalism,' it began to be recognised that the problems of gender, poverty and environmental degradation are interlinked.

- Resistance to destruction of forests spread in the hills of Uttarakhand in 1970's
- Birth place - Gopeshwar in District Chamoli.
- First Chipko action March 1974 in Reni village.



IMAGE 1 : LOCATION OF CHIPKO MOVEMENT

SOURCE : <https://www.google.co.in/search?q=chipko+movement>

It was in the April 1973, that Chipko movement gained a public attention with group of women in Mandal village, of Uttarakhand, ‘hugged’ trees in order to prevent them from being fell down. It was just the beginning of confrontations. In the next several years, many confrontations between women and lumberjacks occurred in Uttarakhand. They were non-violent and effective, cherishing forever the term, ‘tree hugger’, in conservation parlance. Once again, a confrontation took place in Reni Village of Uttarakhand. Here a women’s group led by Mrs. Gauri Devi, obstructed by singing: ‘This forest is our mother’s home; we will protect it with all our might’. They admonished the lumberjacks claiming that, ‘if the forest is cut, the soil will be washed away. Landslides and soil erosion will bring floods, which will destroy our fields and homes, our water sources will dry up, and all the other benefits we get from the forest will be finished’ (Bhatt, 1992).

The main objective of the Chipko was to put an end to the ruthless destruction of forests that was already in progress and to encourage their systematic development to save the country from environmental hazards like erosion of soil, depletion of water resources and floods. Finally the

Chipko activists prepared a six point memorandum of demands related to communities role in decision making and management of the forests, administrative rights to local people, contract system to be abolished and village industries to be promoted. Therefore, the demands of the movement reflected a community sensitive approach, wherein decision making policy was to be held by the local people. Even the technocratic approach was criticised in favour of local experience based solutions.



IMAGE 2 : Main Leaders in the Movement; the strategy of ‘hugging trees’

SOURCE : <https://www.google.co.in/search?q=chipko+movement>

A reflection at the grassroots activism showed a new kind of environmental politics emerging within this movement. One of the important and interesting aspects of the Chipko movement was the involvement of women. It was for the first time, women were involved in a way that was to an extent unusual in any ecological movement in India. Though, it cannot be classified as a women's movement but women were actively involved and their participation was important as it gave us a clear idea that women from hills have a specific understanding of the forest and environmental regeneration. Bina Agarwal has made some important observations regarding the involvement of women in the movement and explores how women participation led not only to the success of the ecological movement but also led to the contestation of social structure and patriarchy at a later stage. Initially, women's protest against the commercial exploitation of the Himalayan forests was against the non-local contractors, along with the men of their community but after that, in some instances, women confronted men due to differences in priorities about resource use. Here women were not

only successful in stopping tree auctions but were active involved in guarding the forests against illegal felling. Afforestation was an important component of the movement and women were at the forefront in the replanting drives. However, they differed from men on the priorities of the kind of trees to be planted. From an ecology movement, Chipko grew into a wider movement against gender inequalities with women taking up issues of alcoholism, domestic violence and demanding greater share in decision making. The protest was not only against felling of forests but to save their livelihoods and to prevent natural disasters. Women brought about their holistic ecological understanding of forests. Such a level of participation affirms our theoretical framework of gendered environmental politics that reflects upon greater role of women in grassroots activism as an important criteria for success of any ecological movements.

Another important theme of our theoretical framework, that is, the gendered access to resource use and management is too reflected in this movement through various instances. At first, the women had been silent spectators, sitting at the back in the meetings, listening to the speeches of the Sarvodaya workers and when Chandi Prasad Bhatt (another prominent leader of the movement) suggested the tactic of 'hugging the trees' the women were amused at the thought. However, it was the Reni action that brought about direct confrontation of the women with the loggers. In 1973, in the Reni village in Niti valley (Chamoli district), while grazing her cows in the field, a women saw the axe-men coming towards the field. All the women were called together who surrounded the contractor's men and stopped them from cutting any trees. It resulted in formation of small groups or vigilance parties to keep an eye on the axemen until they finally retreated. The group was led by a 50 year old woman Gaura Devi, with others like Gunga Devi, Rupsa, Harki, Masi, Bhakti, Phalgi and Bala Devi. These women guarded the forest till the government of Uttar Pradesh responded in their favour. It was forced to set up a committee to investigate the matter. This resulted in the declaration of the Alaknanda catchment as an ecologically sensitive area and a 10-year ban on commercial felling.

Gaura Devi had later recounted,

“It was not a question of planned organisation of the women for the movement, rather it happened spontaneously. Our men were out of the village so we had to come forward and protect the trees. We have no quarrel with anybody, but only wanted to make the people understand that our existence is tied with the forests.”⁷²

⁷² Gaura devi is a legendary figure in Chipko movement and a prominent women activist.

As quoted in, Georgina Drew. (2014). Mountain Women, Dams, and the Gendered Dimensions of Environmental Protest in the Garhwal Himalaya. Mountain Research and Development, 34(3), 235-242

This incident holds a significant importance for the movement in two ways; firstly, it was the beginning of women participation in the movement in general, in the absence of men; and secondly, the movement could not be treated as merely a reaction of local industry as deprived of raw materials, by the government. It was after the success of Reni that Bhatt and other Sarvodaya workers realised the potential of women and began to address themselves to districts of Uttar Pradesh. The connection of the landslides and erosion due to deforestation was fairly established by now. Now the Chipko activists demanded for a total ban on felling and women were at the forefront of the movement. A 50 year old woman, Hima Devi, an active member in the prohibition movement in 1965, mobilised public opinion by moving from village to village to spread the message. She spoke for women in public demonstrations and auctions to convince the loggers to stop the felling. In January 1975, women started padyatras (foot-march) to mobilise public opinion on women. They found that padyatras are responsive and sensitive to the ecological problems. Women were invited to attend the meetings and they welcomed this opportunity and came out in large numbers.

The most prominent theme reflected in this movement was the use of traditional/ local knowledge and culture as an instrument for protests. Such local knowledge and innovative tactics used by women became not only the a reason for the success of the movement but, till today recognised as the most radical approach to deal with ecological issue. Such tactics are still implemented in different parts of the country such as Apikko movement of South India (that was inspired by the Chipko technique of hugging trees).

An important instance of the movement, wherein, the forest officials tried to threaten the women and the Chipko workers but the women resisted the officials by holding up lighted lanterns in their hand in a broad day light. It was a sign of protest and a great example of strong unity among women. The women by this action brought to bear on the movement their holistic ecological understanding of forests just as providers of essential products, but closely interconnected with and necessary for regeneration of the ecosystem as a whole. This is clearly brought out by the women who present their views in the form of a dialogue between themselves and the foresters on the importance of forest resources;

The Women: (In chorus)

“Do you know what the forests bear? Profits, resins and timber.

What do the forests bear?

Soil, water and pure air.

Soil, water and pure air

*Sustain the earth and all she bears*⁷³

Thus, it gives us an idea that the interdependence between various material components of nature and between nature and human sustenance, brings out women's perspective in ecological movements.

Finally, in 1980 with recommendations of the committee, a ban on felling of green trees for commercial use was announced. Food, fodder and fuel bearing trees were to be planted within the radius of three kilometres radius of villages. The people's right of access to dry twigs and leaves was upheld. This decree came as a direct result of the women's activism. According to Vimla Bahuguna (an activist), 'it was a victory for the women'. In other words, one can say that women have succeeded in adding to the world's consciousnesses of environmental issues significantly with their slogans of *mitti, pani, aur bayar* (soil, water and air). With the imposition of the ban on felling of trees, the activist phase of Chipko came to an end but then started the phase of regeneration. This was accompanied by a massive afforestation programmes, launched all over the hills with the community workers, programmers and other activists acting as catalysts to the augmentation program of forest resource conservation.

Thus, we can trace the elements of environmental politics in the case of Chipko movement very well. The movement significantly examines, how women's demand of access and rights to resource use and management with their local experiences led to shift in the political sphere of gender activism and decision making policy. It has too been reflected that the women's active struggle in the public domain gave them strength and courage to alter relations in the private domain, though the latter is yet to be realised fully. However, even the Feminist Political Ecologists have argued that the process of this transformation between public- private domain is gradual and time tested.

Plachimada Movement: Exemplify gender politics against water pollution

Plachimada is a small hamlet situated 5 km from the Tamil Nadu border and 30 km east of Palakkad town, forms a part of Perumatty Panchayath of Chittur taluk in Palakkad district in the state of Kerala. There are three revenue villages in Perumatty Panchayath (Perumatty, Vandithavalam and Moolathara) with a total land area of 60.79 sq. kilometres. The average rainfall in Palakkad district

⁷³ The women in crowd highlighted the importance of land for their sustainability during Chipko movement. As quoted in, Georgina Drew. (2014). Mountain Women, Dams, and the Gendered Dimensions of Environmental Protest in the Garhwal Himalaya. Mountain Research and Development, 34(3), 235-242

in 1998 was 2425.8 mm, which subsequently declined to 17750.3 mm in 2002 (whereas the state average in 2002 was 2515.1 mm). To quote the report of ground water department of Kerala on Plachimada region ‘although the area has less rainfall than the coastal region of the state, conditions for ground water recharge are better here because of the gently undulating nature of the terrain’ (Pillai, 2008., p.89). Hence, people of this area excessively relied upon dam irrigation and ground water resources for domestic and agricultural requirements.



IMAGE 3 : LOCATION OF PLACHIMADA

The people in this area hail from a poor socio-economic background. Half of the population is migrant from rural Tamil Nadu who came here in search of labour and livelihood. The major livelihood of the people was agriculture and agro based labour forms. However, disenchanted with low productivity and returns, people were finding opportunities to shift to different professions. This was provided with India’s new economic policy of 1991 and its decision to liberalise the financial laws and business rules to attract foreign investments resulted in revival of Coco-Cola’s company that was restricted under FERA act. The company officially applied to Perumatty Panchayath for permission to set up a bottling Plant in Plachimada on 8 October 1999. It then began its operation in Kerela. In the words of local community,

“they came to our village with glittering offers; that our people would get many job opportunities in the plant; the overall development of our village would be taken care of; the economic growth of the area would be strengthened...”⁷⁴

The working capacity of the plant was 15 lakh litres of water-based products. According to the company estimates it extracted 0.4 to 0.6 million litres of ground water per day (132 to 218 million litres of ground water per year). For this purpose it had obtained a license for installing 2600 H P Electrical motors from the Perumatty Grama Panchayath. The soft drinks like Coca Cola, Miranda, 7Up, Sprite, Fanta and Kinley Soda were the main products from the plant. The company provided about 400 employment opportunities out of which nearly 300 were casual labourers with only 30-50 local people. This shows how the promised jobs remained merely on words and not in reality. Moreover, the casual labourers chosen were mainly men, and that too had menial services to do.

The great environmental hazards began at Palakkad gap basin, where the factory was established is unique for water scarcity. The river system in the region has become non-perennial with low infiltration rate. There is also a notable reduction in the rate of ground water discharge. The failure of monsoon, low infiltration rate and high ground water draft have collectively caused depletion of ground water resources in the entire gap region leading to adverse effect on the ecosystem of the region. According to Jananethi report,

‘the factory had a working capacity of 15 lakh litres water based products. Around 85 trucks of soft drinks and mineral water left the factory compound everyday carrying approximately 600 cases each containing 24 bottles sized 300 ml. Something like 60 bore wells and two open wells were used to extract water for soft drinks and for mineral water production. The slushy waste from the factory was distributed to local farmers as manure.’⁷⁵

As the production continued, it unveiled a series of environmental issues such as water scarcity and contamination, soil pollution, health hazards and finally had a major cultural impact.

Depletion of water resources and its drastic pollution were the most significant environmental issue involved in the Plachimada conflict. In fact, there was no reliable mechanism to estimate the real volume of water extracted by the company. The factory had extracted around one million litres of clean water per day (Jayakumar, 2010, p. 51-64). Because of this unpredictable extraction of ground water, the water table in the Plachimada area reduced to a considerable level. The water quality analysis held at the environmental laboratory of Integrated Rural Technology Centre exposed high levels of hardness, salinity, alkalinity and other chemical components such as chlorides, sulphides, etc., which are not in conformity with the drinking water standards.

⁷⁴ As quoted in , Wramner, E.(2004). ‘Fighting Coca colonization in Plachimada’.MKU:Spring Term.

⁷⁵Jananethi, ‘Report on the Amplitude of environmental and Human Rights Ramification by the HCBPL at Plachimada’ (2002). Thrissur:

The pollution of water and soil finally culminated in serious health problems among the people of Plachimada. There were frequent reports of restlessness such as vomiting tendency, cough, pain in abdomen, hair loss, burning eyes etc. There were mainly three ways of soil pollution in the region. Firstly, the factory had discharged its liquid waste carelessly allowing it to mix with nearby water bodies. Secondly, it had developed a practice of distributing solid waste (sometimes sold sometimes given free) among unsuspecting farmers in the guise of fertiliser or soil conditioner. Finally, soil pollution resulted by the transformation of paddy land for industrial purposes and by the unusual extraction of ground water resources.

Another major dimension of environmental impact caused by the Hindustan Coca Cola Beverages Private Limited (HCCBL) at Plachimada was the cultural transformation with an adverse effect on the sustainable life style of Adivasi community, the most vulnerable sections of people in Kerala. Firstly, due to the decline of agriculture there was steep fall in the employment opportunities in the region, which forced around one thousand people to leave the village in search of work. This led to an extra burden on women with domestic chorus already in hands. The outmigration had all the negative impacts of so called development induced displacement. Secondly, the food culture of the people underwent basic changes. This again had much impact on women as the paddy lands dried-up or contaminated, many stopped cultivating paddy and vegetables. Finally, it caused political apathy, a unique political culture characterised by the tendency to abstain from the political process. The pollution and contamination of groundwater and the ensuing miseries drew the people of Plachimada into protests. The protest was not an organised one in the initial stage. Only later, with the involvement of civil society organisations and NGOs, the movement became organised. It resulted in the closure of the factory . The movement is still going on for the demand for compensation from the factory.

The protest strategies involved in this movement had a distinctive character. It was not restricted to any particular group, ideology or method. In fact, women improvised their role with the growth of the movement. This could be seen through the progress of the movement. At the initial stage, the problem of environment pollution impelled people for agitation which began in 2002 as a blockade before the factory by Adivasi women. People formed Coca-Cola Virudha Janakeeya Samara Smithi against planters. Manushi, a women's welfare cooperative, People's Union of Civil Liberties (PUCL), Kerala Sastra Sahithya Parishath (KSSP), and the Ayyan Kalipada, a pro-naxalite group were strong supporters of the agitation and later joined by political party (Nair, 2009). Navdanya movement under leadership of Vandana Shiva supported this anti Coca-Cola movement (Decosas, 2010). The agitation gain attention with its Gandhian method of satyagraha and non-violence that

included rallies, marches, meeting, hunger strike in spite of lathi charges of police (Fillipchuk, 2007; Harris, 2005). It also got worldwide attention with International Water conference held at Plachimada in 2004 and got support from international community (Nair, 2009). After the refusal of Perumatty panchayat on the renewal of permit for company along with the high court's decision to limit company's intake of water up to 5 lakhs, company caught into trouble to move further. Finally, the passing of Plachimada Coca-Cola Victims Relief and Compensation Claims Special Tribunal Bill, 2011 based on the polluter pays principle, brought in great relief to the victims of environmental degradation in the region. The bill was proposed by Left Democratic Front (LDF) government.



IMAGE 4: Women protests in Plachimada Movement

SOURCE : <https://www.google.co.in/search=plachimada+movement>

Looking at the protest strategy reveals tremendous role of women in grassroots activism, reflecting a new gendered environmental politics in South India. In this struggle too, we can find participation of women mainly due to loss of traditional rights over natural resource that had a greater impact on them, with their attached role to subsistence activities.

The sit-in-demonstration against the company at Samara Pandal saw women from all spheres, young or old, along with their children. They were often arrested and held without charges by the police officers, yet this could not diminish their fight. Most of these were women from tribal communities, since they were the one's who were severely affected but the Company's operation. This was so because, they were neither employed in the Company nor they had any access to clean water resource to carry their day to day activities. Scarcity of drinking water and the mile long walk in search of water forced the women folk to leave their available casual labour. Moreover, water-borne diseases and other health hazards drew the attention of those community who were previously reluctant into the struggle.

Among these women, Mayilamma, an illiterate women from Eravalar tribe, rose up to mobilised other women to form Coca-Cola Virudha Samara Samiti (Anti Coca-Cola Struggle Committee) in Plachimada. The committee held a continuous protests outside the Coca-Cola's factory gates, demanding its permanent closure. Their main reasons of protest were the demands related to reclaim their rights to access of resources, safe and clean drinking water. Her movement was joined by many native people, both men and women, in order to protect their natural resources. Mayilamma inspired women to participate in struggle by stating that, 'When you drink Coke, you drink the blood of people.' A lot of coverage and importance was given to it by the ecofeminist leaders like MedhaPatkar and Vandana Shiva. Vandana Shiva (2006) stated for the movement that, 'women in a small Indian hamlet in Kerala succeeded in shutting down a Coca-Cola plant'. Mayilamma was then given the Speak Out award by Outlook magazine and the Sthree Shakthi Award.

Undermining the gendered environmental politics through grassroots activism and decision making policy could be noticed throughout the movement. This has further questioned the gendered access to resource use and management reclaiming the traditional rights and knowledge system in preservation of water resource. As Nair (2009) states, 'the participation of women in large number in Plachimada (as in Chipko) has been influenced by the impact of recent economic changes in intensifying their traditional dependence on the natural environment'. The women, Dalit and Adivasi participation in this struggle reinforce the theory that deprived sections and women are always severely affected by environmental degradation as they are very much related with nature.

The active struggle of women specially Adivasi and Dalit women's right to safe water proves the feminist ecologists emphasis on women's affinity with nature as well as proves that, women are more affected than men by environmental degradation as they have to face burden of collection of water and performance of duties prescribed by patriarchal society of this region in Kerala.

Therefore, like Chipko movement, in Plachimada too, we could find women activism as a main reason for the success of the environment movement. As Feminist Political Ecologists claims, this women activism has been necessarily due to the challenge of gendered access to resource use and management and use of traditional local experiences by the women. This has been time and again reflected in the movement with greater participation of pregnant women, old age women and Adivasi women, who were mostly suffered by shortage as well as the contaminated water.

Green Belt Movement : Kenyan experiment on engendering activism

In Africa too, as in many parts of the world, women are restricted to subsistence activities, responsible for meals, rearing children, domestic chorus and collecting firewood. Increasing deforestation not only implies desertification, but it also meant that women now have to struggle to collect firewood and have to travel much more than they used to earlier. This had negative impact on the children and family of these women, because by living close to the home women used to engage in sustainable harvesting which was not only productive but also provided stability to families. Education opportunities for women and children also dwindled with increasing deforestation and concomitant desertification. This cycle of empowerment where women gained materially from conservation is unique and worth emulating.

Formed as a non- governmental organization (NGO) in 1964, Green Belt Movement (GBM) of Kenya focuses on environmental conservation, community development and capacity building. It promotes these objectives through a nationwide grassroots tree planting campaign, development of green belts and fuel woods plots for local people, particularly for women for self-sustenance and empowerment and to tackle the problem of soil erosion. GBM was the product of The National Council of Women in Kenya (NCWK)⁷⁶ . The Scarcity of firewood, clean drinking water, balanced diets, shelter and income led to the formation of GBM by the rural women of Kenya. The women, here, are organised to plant trees by GBM to plant trees, combat deforestation so that they could restore their main source of fuel for cooking, generate income, and stop soil erosion.

⁷⁶NCWK was a forum where African women could meet and discuss their future in post-colonial Kenya. Currently it provides a common forum for action for many of the national women's organisations and groups, both rural and urban for self-determination, justice, equity, reduction of poverty, and environmental conservation, using trees as the entry point

Kenya's Green Belt Movement

- **Founded in 1977 by Wangari Maathai**
- **Encouraged rural women to plant trees**
- **Participants have planted over 30 million trees**
- **Women maintain tree nurseries and engage in environmental conservation along with community development activities**



IMAGE 5 : Wangari Maathai, leader of Green Belt Movement



IMAGE 6: Women engaged in plantation during the movement

SOURCE : <https://www.google.co.in/search=green+belt+movement>

Wangari Maathai (the leader of the movement) has incorporated advocacy and empowerment for women, eco-tourism, and just economic development into the Green Belt Movement. Since Wangari started the movement in 1977, over 51 million trees have been planted, and over 30,000 women have received training in forestry, food processing, bee-keeping, and other trades that help them earn income while preserving their lands and resources. The movement has mobilised women and has gained success in planting thirty million trees over the period of thirty years. This has provided fuel, fodder, shelter, building material and has also provided income to support the children through the sale of aforementioned materials. The watersheds have been improved employment has been generated by tree planting activity (Maathai, 2004a). Furthermore, tree plantation has been used as a focal point for community development by the GBM. GBM through tree planting programmes have been focused to developed civic education, advocacy, food security, green belt eco-safaris, and "women for change"⁷⁷. A pilot civic education and advocacy project has been made by the GBM in the domain of civic education so that it could enhance public consciousness on the need to protect the environment and be active participants in the political process by voting. Seminars on good governance, advocacy, culture, environment and environmental justice are being offered by GBM learning Creche. Advocacy activities has been initiated by the GBM through its advocacy programmes since the late 1980s directed towards protecting environment and trees by preventing deforestation, ending poor model of governance and putting an end to human rights atrocities such as tribal fights and corruption.

A Green network that was Pan Africa was established by the GBM in 1977 to share the GBM approach. It was a two-week training workshops. Sharing its approach while enhancing awareness on the importance of protecting local biodiversity was its comprehensive aim. The movement reduces, both, the effects of deforestation and provides a platform for women to be ingenious and effective leaders. Working with Green Belt provided women, the agency and the ability to transform their environment and make their own decisions. The movement also involves the transfer of technology from experts to the masses, transforming small scale farmers into agro-foresters. Ideally, public awareness is raised on issues related to environment and development, and meetings related to tree planting, etc. Income generating activities such as tree planting, bee keeping and food processing to empower women economically is also being aimed by the programme. Tree planting has also been useful in providing a platform for women in leadership. Activities encompass discussions on the relationships between food, population and energy. One of the most important objective of the National Council of Women of Kenya (NCWK) is promoting a positive image of

⁷⁷It is the newest GBM program. Commissioned in early 2003, Especially young girls and women are assisted by the program,so that they can confront the challenges of their growing up. Challenges like making complex decisions about their sexual and reproductive health, and gaining knowledge and skills to protect themselves against HIV and AIDS

women and its Green Belt Movement. Women getting equal opportunities to be equal participants and developers of the Green Belts leads to building of positive self-image for women. The models of significant female achievement is being provided by it. Women could assist in reforestation and generate a source of income for themselves as they are trained in planting and cultivating seedling. According to Maathai (2004a), women's involvement in the GBM has given them some degree of power and agency has been gained over their own lives. Their social and economic position and relevance in the family has also improved. The women, through their work in the GBM, have gained self-confidence although they were deprived in certain aspect. She states that,

“GBM has given training to thousands of women in environmental conservation and management. As a result, some of the women have initiated group projects, for example revolving funds, while others have become independent leaders and decision- makers capable of addressing community related issues ”(Maathai, 2004a: 37).

While educating the one who joins it, the Green Belt Movement has made women aware about that planting trees or fighting to save forests from being chopped down is part of a larger mission. It has helped in creating a society that respects democracy, decency, adherence to the rule of law, human rights, and the rights of women. Women act as leaders. They take roles like running nurseries, working with foresters, planning and implementation of community-based projects related to water harvesting and food security. Such roles develop more confidence in them and it give them more power over the direction of their lives.

The movement best exemplify how the advancement of women in public domain challenged the gendered power relationship in society. It was seen during one of the opposition movement against the government's decision to construct a multi-million dollar high-rise complex in Uhuru Park of Nairobi city in 1989. Maathai opposed the decision very strongly by mobilising women all around the places. She was even ridiculed as ‘mad woman’ and a threat to the order and the security of the country. The government censured the GBM and it was denounced as ‘subversive with its members being described as a group of ill-informed divorcees’⁷⁸. She was further ridiculed as a frustrated divorcee, who had no credentials to challenge a state decision. The then president, Daniel Arap Moi, declared that it was ‘un-African and unimaginable for a woman to challenge or oppose men’ (Davison, 1996:7). They held that the male authority was divinely determined and criticised Maathai and other women as a violator of African tradition. Despite greater academic credentials of few women parliamentarians, male members preferred to deal with them not on the basis of their intellectual capacity, but rather as a woman who in the Kenyan patriarchal society is supposed to be

⁷⁸ Maathai's former husband is said to have divorced her on the grounds that she was "too educated, too strong, too successful, too stubborn and too hard to control",

subordinate to a man. However, Maathai stood firm with her decision to oppose the capitalist intrusion and destruction of the environment and encouraged other women to follow the same. In the end, she won the battle both against state bureaucratic order and the patriarchal, male dominated society and became the torch-bearers to thousands of women who could lead successful environmental movements in the future.

The above discussion has given a background to examine the nature and role of gender in ecological movements. It has simultaneously dealt with the themes associated with the theoretical perspective of Feminist Political Ecology as an approach to deal with my research questions. We can further examine the theoretical perspective by a comparative analysis. For instance, ecofeminism as explained in the previous chapter, has been critiqued for homogenising women by not considering issues such as class and resource content among women. It assumes that all women have the same relationship with the environment and seems not to make a sufficient distinction between the urban women who may be driven by consumerist ethics and rural women who easily identify with nature. However, Maathai and the GBM as an ecofeminist activism make a departure from this homogenisation by identifying a group of rural women and focusing on their needs. Here, the word rural is problematic as one cannot define whether rural women are termed as such by their proximity to the urban areas or in terms of their ability to access economic, social and other needs. For instance, it is difficult to classify women living in the slums of Nairobi as either urban or rural. Indeed, ecofeminism has also been accused of defining the environment as ecologically based, resulting in a rural bias, hence ignoring the issues of urban areas such as women living in the slums (see Goudie & Kilian, 1996). Therefore, our theoretical emphasis on feminist political ecology is pertinent to understand the differences within women as a larger/universal category, to include region specific gender concerns.

To sum up, this chapter tries to build up gender as a pivotal framework to understand the crisis in the ecological movements and develops gender-specific environmental concerns as an important basis or parameter for the success of the ecological movements. The chapter is important for this research as it builds up the final basis to deal with the case study of this research-Save Ganga Movement. We can conclude from this chapter, some important linkages to be addressed while understanding the nature of the ecological movement, that could further help in achieving the success of the movement. These linkages are related to greater women participation as key to success of environmental movements since greater interactions, experience and proximity with environment make them well equip to become activist and leader and the knowledge system of local women community is important for environmental preservation. This chapter further

highlights that the environment and women help to sustain each other specifically in developing countries through their extraordinary story of women participation that helps to decode sustainable and corrective measures to protect environment. The greater role of women in environmental movements has been important for women to enter into grass root activism and develop an environmental politics that is not gendered in nature, but sustainable in making correct and informed environmental policy, leading to environmental justice.

CHAPTER 3

Save Ganga Movement and Gendered Activism : An Exploration

“The Ganga, especially, is the river of India, beloved of her people, round which are intertwined her memories, her hopes and fears, her songs of triumphs, her victories, and her defeats. She has been symbol of India’s age long culture and civilisation, ever changing, ever flowing, and yet ever the same Ganga.”

Jawaharlal Nehru

This chapter is an extension to the previous chapters of the thesis and would lead to conclusion of my research. The first chapter engaged with the theoretical framework on gender and environment, wherein I argued in favour of Feminist Political Ecologist perspective. The second chapter, then, dealt with the role of women in prominent environmental movements, to show how the nature of movements is positively influenced by participation of women. These two chapters are important predecessor to my third chapter on feminist analysis of Save Ganga Movement, that engage with both the earlier chapters in some way or the other.

To begin with, I would like to discuss why I chose river water pollution and its conservation movement as my case study. The answer to this lay in some astonishing facts. Water resources are central to life-support systems but are severely threatened by pollution.

“In India alone, nearly 70% of the available water is polluted and waterborne diseases such as cholera and typhoid account for 80% of all health problem. The World-Watch Institute in Washington DC estimates that 42% of the Indian population has access to a safe water supply while only 20% of the population have access to sanitation facilities”⁷⁹.

In fact, communities living around rivers which were earlier considered as most secure in term of resource availability are now most threatened by its pollution, which, for many reasons, goes unacknowledged by both the communities residing near them and the state agencies to mitigate it. This has been reflected in the case of the country’s holy river, Ganga, that has sustained thousands of communities since Vedic times, but now stands too incapacitated and frail for its own survival. Not only the River Ganga has been important in physical and economic terms, but sustains immense symbolic and religious value to millions of people, specially Hindu, who use the water for ritual bathing and drinking, even chose it as the reservatory for their ashes, cremation or half burnt bodies. In the growing phase of urbanisation and industrialisation, these practices, as followed over the years, have significantly contributed to large scale pollution of river water, that is coupled with lack of efficient sanitation measures and waste-disposal systems. Thus, a staunch movement against

⁷⁹ Statistics as quoted in Ahmed, S. (1990). Cleaning the River Ganga: Rhetoric and Reality. *Ambit*, 19(1), 42-45.

the river pollution of such a pious river had been imperative to initiate a beginning for cleaning Ganga, ironically, a river that had been cleansing the population of entire country and people around the globe for thousand of years.

Another question which seems to be important in this case study is-what should be mode or nature of any social movement? On what factors shall the success of the movement depend? I tried to answer these questions in the previous chapter. For my case study, I would try to further explore these questions in this chapter. Inputs from the previous chapter shows that, success of an ecological movement is based on a strong organisational and participatory base of local communities in general and women in particular. Here the combined action of the agitators would be influenced by their degree of association with the concerned issue in the movement and a level of collective consciousness that the people would subsequently share. In the case of river water pollution, a movement would require a collective struggle by locals as well as the real sufferers of the water pollution such that the collective engagement could be reflected at both ground level activism and policy formulation.

Water is an important resource which is administered and utilised by human beings for their usage. Thus the management of the water resource comprises an indispensable portion of and requirement for the holistic social and economic advancement of humans. However, the duties, power and concerns of people engaged and affected are different in nature. As people will have varied concerns and power over the usage of power for instance, in agriculture, domestic water supply and waste disposal, industrial use and waste disposal, transport, energy, ecosystems. Different interest clusters include policy makers, utility managers, industrialists, rich and poor farmers, and domestic users. Apart from their diverse roles, there is no further differentiation. In the groupings of end users, women and men have diverse interests and resources at their disposal.

As mentioned in previous chapters, the usage of water by women and men cannot be taken as the same. Differences are required to gauge the knowledge that both categories (men and women users) have in usage of water resource and what are the consequences of the same for their individual being, their families, the communities and the program. This inadvertently means that a balanced approach is optimal for all user categories to achieve social and economic development thereby diminishing competition and fights over water. The management and development of water resource will be negatively impacted if women as different categories users are not accounted in. The projects that exclude women as actors and as an interest group tend to ignore half of the population thereby staking the efficacy and efficiency of the project.

From the above discussion, one can project that, Ganga movement requires a thorough analysis of the region specific issues, policy implementation and subsequent failures and the public participation involvement with gender specific concerns so as to claim the possibility of environmental justice. Therefore, this chapter is divided into three sections: first section deals with the origin of River Ganga, with an introduction to the some basic problems of pollution, the beginning of the Save Ganga movement and subsequent governmental policy with a critical evaluation; second section deals with region specific study of the issues and movement (particularly Garhwal, Kanpur and Varanasi) with specific environmental policy and the problem of local participation from gender perspective; and the third section deals with the comparative analysis of Hills (Garhwal) and plain region (Varanasi and Kanpur) to show a feminist critique of the movement by comparing the nature and success of the movement at two different regions.

My conclusion derived from this chapter contemplates, that the movement is more successful in the Garhwal region owing to greater women participation at grass root level and decision making process, unlike the plain region, where women are excluded from both protest strategies and governmental policy. The chapter shall be followed by the concluding remarks of the thesis.

I. Save Ganga Movement: Locating the problem of pollution and policy perspectives

From the South of Tibetan border, Ganga River emerges from an ice cave Gaumukh (the Cow's Mouth), flowing through five Indian states namely, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. Among its main source of confluence, Bhagirathi, is considered as the source of sacredness of the Ganga River, constitutive of the 'purity' element in the river. The purity element makes the river being associated with a self-purifying quality, that can destroy viruses and bacteria within. The river has a significant economic advantage too. With its flow from higher altitude areas, Ganga is a source to large Hydropower projects at Tehri, Garhwal region. However, this has led to the beginning of pollution too. Firstly, the Uttarkashi region, that is the source of the river, does not have a proper disposal of garbage. Instead, the waste is burnt in open site, where it lashes out to the river after heavy rainfall. Moreover, the region faces huge displacement of people, felling of trees and environmental disturbances associated with commercial activities and dam construction.

At Haridwar, where the Ganga river enters plain, is a site of many small irrigation canals, that leaves the river ill-equipped to cope with the pollution and inefficient use of water for river flowing downwards. In the plain region, River Ganga picks up effluents from sugar refineries, distilleries,

tanneries, and pulp and paper industries. It is accompanied by the agricultural runoff from the Gangetic plain, that is largely lacking a proper sanitation system. With these major polluting sources, Ganga has now become the ten most polluted river in the world.

The problem of pollution in the purest river and the subsequent mobilisation could only be realised at a later stage which led to the initiation of Save Ganga Movement in 1998 by Smt. Rama Rauta through a seminar on 'Ganga aur Humara daayitva' at Kanpur. The movement was mainly conceptualised by Gandhian ideology and joined by various experts, environmentalist, professors, local communities and turned to a nationwide collective movement.

River Ganga

Stretches 2,525 km Himalayas and flows through Gangetic Plain of North India into Bangladesh and empties into the Bay of Bengal



IMAGE 7 : GANGA DRAINAGE SYSTEM

SOURCE: <https://www.google.co.in/search?q=GANGA+RIVER+SYSTEM>

Rama Rauta defined the objectives of the movement as;

“The objective of the Movement is, on the one hand, to create mass awareness for an eco-friendly non-violent culture of development for the protection of our life-sustaining natural systems in general and of the sacred Ganga and the Himalayas in particular; on the other hand, to put moral pressure on the government, to take time-bound decisive steps to completely and permanently save the Ganga symbolising all rivers and water bodies, and the Giriraj Himalayas, symbolising all mountain forests and wildlife.”⁸⁰

Along with these objectives, some of the major demands of the movement were directly related to the pollution and construction works over Ganges, there are several demands related indirectly to these such as disallowing construction, pollution regulations, industrialisation control, spreading more awareness about river pollution and a permanent monitoring committee. It could, thus, be seen that the movement rose largely against the government’s disgruntled environmental policy that alienates the local communities of its natural resources, bounded by corruption and lack of public participation, and completely isolates women who are real sufferers of the water pollution. We could here consider how governmental programmes and policies dealt with these issues and subsequent response of the general public and activists.

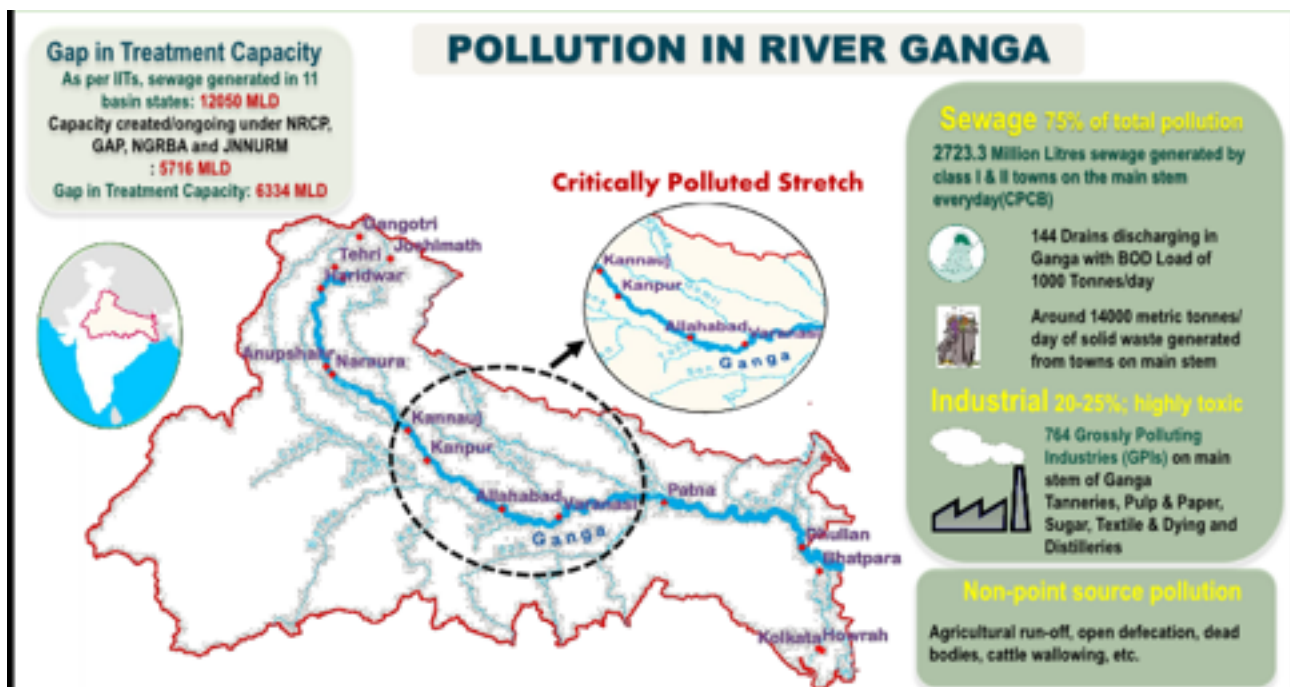


IMAGE 8: POLLUTION IN RIVER GANGA

SOURCE: <https://www.google.co.in/search?ganga+river+pollution>

⁸⁰gangamovement.org , retrieved 3 march, 2017.

Policy implementation through Ganga Action Plan (GAP): A Critical evaluation

This section is important to answer one of the main research question, that is-How far the environmental policy in Ganga Action Plan (GAP) and subsequent policy developments have been in congruence with the real ecological problem and women question? This question helps us to explore the whether the governmental policy has led to any positive change that proves their claims to environmental justice. Also, policy perspective is important element to analyse the environmental politics and its gender inclusive approach. This section concludes into a significant analysis of the policy perspective in Ganga Action Plan. The analysis would show how the government relied too much on foreign Dutch technology to clean the river which finally led to wastage of huge money and land resources with almost nil contribution. Moreover, states technocratic approach of cleaning the river is here apprehended against the local knowledge and experiences that the local communities, especially women, could have contributed, had the governmental policy followed a gender inclusive community approach.

Shri Rajeev Gandhi, launched the Ganga Action Plan in 1986 with the main objective to improve the water quality by the treatment and diversion of domestic sewage and prevent the risk of toxic and industrial chemical wastes, from identified polluting units, from entering the river. Some other objectives of the program were related to control of non-point sources from agricultural run off, cattle wallowing, human defecation, and disposal of human bodies from the ghats. Another focus of the policy was on research and development, and development of sewage treatment technology such as Up-flow Anaerobic Sludge Blanket (UASB), rehabilitation of turtles, afforestation and spread such awareness to cities around the Ganga flow. With all these objectives, it was the first policy that recognised the problem of pollution in the River Ganga. However, some of the major limitations at the implementation level, left the policy perspectives only on the paper.

While the GAP initiation has been significant step towards recognising the pollution in the Ganga River, it faces severe criticism at its implementation level particularly arising from bureaucratisation, red-tapism, impersonal commitment, corruption and financial incompetency. However, some scholars and research groups have critically analysed some of the technological inputs proposed by the GAP officials regarding setting up of waste water treatment plants, tanneries, etc claiming that the high end imported technology to setup such plants were in fact could be and are developed in India as well, thus raising the technocratic versus indigenous debate and knowledge system. This argument was well supported by some theoretical parameters and empirical

evidences brought up by comparing Indian technology with imported technology especially Dutch companies.

A theoretical advance was given by analysing the 'additive effect and the connecting effect of the technologies'⁸¹. In order to consider whether there is an additive effect due to the Dutch technology introduced for waste water treatment, we need to make a comparison between the imported Dutch technology and the technologies which would have been applied with the existing knowledge in India. The relevant technologies can be ranked according to the 'technological distance'⁸² they have from the specific technology being introduced. Thus for example, the knowledge available in the country about the UASB (Up-flow Anaerobic Sludge Blanket) process can be considered to be at the same distance or negligible distance from the technology being imported⁸³.

The setting up of waste water treatment plants is the focus of the plan to clean up the Ganga river. The principal thrust of the Ganga Action Plan in the first phase is immediate reduction of the pollution load on the River Ganga and establishment of financially self-sustaining treatment systems (Ministry of Environment report on GAP, 1985 p 4). Foreign aid in the actual execution of the Ganga Action Plan is confined to two projects. The integrated sanitation project at Jajmau, Kanpur and the low-cost treatment and conveyance system at Mirzapur both under Dutch development aid. In the words of the Ganga project directorate (GPD), this Dutch project is to supplement the Indian know-how, because the Dutch technology relates to anaerobic processes as distinct from the aerobic processes generally followed in India (GPD report, June 1987, p 14). A perusal of the developments shows that the foreign inputs were not invited on the basis of any technology plan. Indeed, no detailed assessment was made on the basis of which a rational decision to import technology could be taken. Related to the absence of a plan, is the fact that the participation of the Dutch in the GAP and the effort for the cleaning of the Ganga took place on the basis of two independent processes.

In order to assess whether the Dutch technology to be applied in Kanpur is more efficient in the given concrete conditions, a detailed assessment of the different alternatives have to be made. This is further validated by the fact that the choice of UASB technology as the most appropriate for

⁸¹ Menon in the article 'Technology and Development Aid: The Case of Ganga Action Plan' argues that, in case the Dutch system is more efficient in the given concrete conditions, than what would have been applied on the basis of existing Indian technology, then we can consider that the imported Dutch technology has had a positive additive effect on the Indian technological level. In order to assess the connecting effect, we need to invent the relevant technologies available in the country and the extent to which they have been utilised in the project.

⁸²By technological distance I refer to the amount time required to train those operating, maintaining, designing, etc, of an existing technology to do the same functions for a new technology being introduced

⁸³Economic, institutional and technological criteria function as selection criteria in mapping out the path of a technological trajectory. The possibility of a new trajectory is inherent in the fact that the economic and institutional environment changes during the transfer of technology from a developed country to an underdeveloped country.

upgrading the sanitary and environmental conditions in Jajmau, was taken on the basis of the assessment made by the Dutch fact-finding mission. The mission report does not consider the advantages of its proposal as compared to the original proposal of the Ganga Action Plan⁸⁴ but with three other options of its own choice, which are well known and for which the technology exists in India. Therefore the comparison made by the report is too narrow and inappropriate to conclude whether the Dutch technology can have an additive effect.

Moreover, the investigations in Colombia conducted by the Dutch company Haskoning shows that UASB treatment removes only 50 per cent of the pathogens (Van Velsen, A F M and J.A.W. Maas, p 4). On the contrary, normal treatment methods using maturation ponds achieve pathogen removal of 99.9 per cent measured in terms of the removal of faecal coliform, as well as the removal of cysts and ova of intestinal parasites. Even the other anaerobic method tried out in India, the anaerobic filter has a higher efficiency in the removal of pathogens than the UASB alternative. At the same time, the studies conducted in India have shown that the other anaerobic reactor, the anaerobic filter gives total removal of the parasites ova (ascaris and hookworm) and 70-75 per cent removal of total coliform (Raman, V. and B B Sunderesan, 1989, p 40). Therefore, in case, the sewage farm workers are not to be exposed to infection, maturation ponds or other methods of removal of the pathogens will have to be utilised. The treatment efficiencies used in the report also need to be questioned. A paper by two engineers of Haskoning, the firm which conducted the pilot plant studies in Colombia (Van Velsen, A F M and J A W Maas, p 5) conclude that a BOD⁸⁵ reduction efficiency of 80-90 per cent has to be considered as the maximum for anaerobic treatment of domestic sewage. This indicates that even without the import of technology, the indigenous technology could make up to that figure.

Rationally it can be assumed that, lesser the, technological distance of the imported technology from the indigenous technology, the easier it would be to connect the imported technology with the existing R&D system in the country. In the case of the Ganga Action Plan, in spite of the existence of considerable amount of know-how the Dutch project did not connect up with the existing R&D basis in the country. The National Environmental Engineering Research Institute (NEERI), Nagpur, established in 1958-59 is the premier research organisation in the field of wastewater treatment. NEERI has so far developed 300 flow sheets for industrial wastewater treatment plants of which

⁸⁴The process suggested in the Ganga Action Plan for the treatment of sewage consists of primary settling followed by methane recovery from the digestion of the primary sludge and effluent treatment in a high rate pond from which algae is harvested.

⁸⁵BOD (biological oxygen demand) and COD (chemical oxygen demand) 13.6 indicate the oxygen required to degrade the wastes present in the water. When wastewater with high COD or BOD enter water courses, they deplete the oxygen dissolved in these waters and thus lead to the death of aquatic life and to putrefaction. According to the Ganga Action Plan the treated effluents to be released into the Ganga should have a BOD of less than 20 mg/l.

two hundred have been already-erected. Yet, the Dutch project does not in anyway make use of the expertise available at NEERI. For sewage treatment, NEERI has opted for the non-conventional methods of treatment since they make use of the higher temperatures and abundant sunshine available in India, and because they are more appropriate for the skills available in India. Along with Central Leather Research Institute, NEERI has also been a centre for work on tannery effluents, having played a pioneering role in the study of the treatment of vegetable tanning effluents. The main work of NEERI on tannery effluents was concentrated at the zonal laboratory in Kanpur, which was established in 1962. Since the inception of this laboratory, considerable work has been undertaken by the laboratory in the survey of tanneries in the state of Uttar Pradesh, and in characterising and treatment of tannery effluents (NEERI, 1986a, pp 10-11).

On the basis of the information available to us, it appears that the project built under Dutch development aid, has no positive additive effect on the Indian economy. It is even likely that it has negative additive effect. The superiority of the Dutch alternative as compared to the alternatives proposed indigenously has been argued without proper technology assessment. This criticism of the role of Dutch development aid should not be construed to mean a criticism of all technical collaboration programmes between governments. Even in the specific case of the UASB technology we have studied, it can be envisaged that a rational decision to import the Dutch know-how in the field can be taken, in spite of the existence of local expertise, since the Dutch are the originators and the leaders in this technology. But our conclusion after a study of the collaborative processes is that supplementing our expertise in the field of UJASB technology was hardly the motive for the involvement of the Dutch in the Ganga Action Plan.

In my analysis of GAP, various facts have shown that the state's technocratic approach had proved to be degenerative to both the government as well as community. To the state, there was huge loss to the government with the burden of 60 m USD loan taken up for Dutch technology. To the community, the land area used by displacing the people could not be returned back, crating a havoc of resettlement. Moreover, the jobs, that were promised in the plant, to people were mostly given to men since they could handle the required skill and complacency to work while women were assigned the menial work. Huge displacement further created a greater problem to women since they were distanced with their routine work and day to day activities of water collection and domestic chorus. Adjusting with the new place and housework without much financial and other support proved to be more arduous to women. However, the gender question still remained unanswered and even unspoken at both the public level or the Ganga Movement organisers.

At various levels in India the demand was still on import of technology should take place only on the basis of a clearly formulated plan and that too, in case the decision to import technology is taken, then the prime consultant should be Indian and the concerned research organisation should be involved in the process. Here again, the involvement of local community and participation of women while making environmental policy is completely ignored. With widespread protest movements, and criticism of GAP by various environmentalist and scholars, the governmental policy took a brief shift. The recent project launched by the government under “Namami Gange” was completely devoid of foreign fundings and developmental aid and is fully financed by Indian government. However, it suffered from its own faults which could be further analysed in the next section.

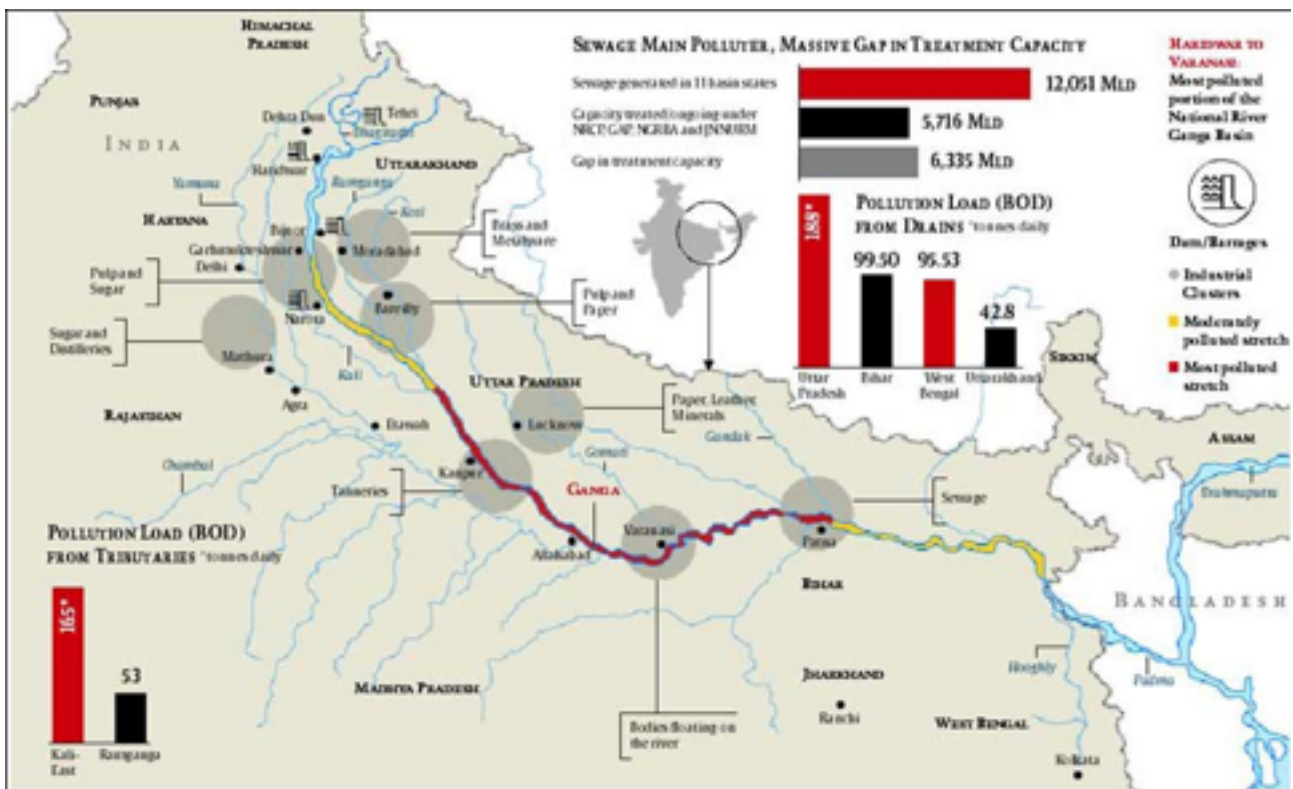


IMAGE 9 : MAIN POLLUTION LOCATIONS

SOURCE: <https://www.google.co.in/search?ganga+river+pollution>

Further developments in government's policy and the response of Ganga movement activists

This section will deal with some criticism and key recommendations by Save Ganga Movement activists in their resolution. These would be analysed from gender perspective as well as government's response in their policy making. The section concluded with an analysis that, although the state accepted its fault in overlying on foreign technology in river cleaning, yet the new policy formulation state suffers from problem of over-statisation, that is, inclusive of more state officials and less of community participation. The Ganga movement activists, though, gave importance to community participation and local knowledge system in dealing with the problem, yet the gender inclusive approach remains completely missing in both the recommendations of the Ganga movement activists as well as the state's environmental policy.

The main arguments and recommendation of Ganga Movement activists in their resolution policy of 2011 were build on the criticism of state policy that was anti common people, according to them. In fact, the activists suggested more comprehensive way such as management of sewage for transforming it into national manure through 'pond system' and 'Plant Based Management of Sewage and Waste Treatment', which are economical and workable and requires least supervision and electricity. They argued that industrial sewage, hospital litter, treated or untreated, should not be disposed into the rivers or come in contact with the sewage, as it should be transformed into valuable natural manure for organic farming. Industries should manage their sewage and use water that is recycled. Disposal of harmful chemicals from agricultural run-off into water bodies must be stopped through the advancement of organic farming which has a huge potential. Techniques of irrigation needs to be modified to suit the E-flow necessities of our national river. Their arguments mostly favoured community participation and tried to reach out to solution that could be locally solved rather than going to international technologies.

The activist also recommended with regard to Uttarakhand region of the Ganga Basin that it should be treated as 'Ecological Fragile' and its rivers 'wild rivers' in order to protect them and the natural eco-systems that lie on them. At the level of the community, they suggested to emphasise on ethics in the domain of environment. This should be part of the school curriculum as well as taught at college too. The three values of the natural ecology of Ganga and Himalaya that is utility, aesthetic and religious is precious and irreplaceable. Thus to preserve its values, developmental undertakings should be stopped at any cost otherwise the people will be deprived of these values which they have received since generations. The recommendations widely suggest the role of community participation and local knowledge, but it could not well distinguish the role of women in the public participation and gender inclusive nature of policy making. The recommendations widely suggest

the role of community participation and local knowledge, but it could not well distinguish the role of women in the public participation and gender inclusive nature of policy making.

In response to these recommendations, government further constituted, National Mission for Clean Ganga (NMCG) on 12th august, 2011 as a society under the Societies Registration Act 1860. It was the execution wing of the National Ganga River Basin Authority (NGRBA) which was established under the aspects of the Environment (Protection) Act (EPA),1986. National Council for Rejuvenation, Protection and Management of River Ganga (referred as National Ganga Council) was constituted after NGRBA was disbanded from the 7th October 2016. The Union Government in June 2014 started the Namami Gange Programme as their 'flagship Programme'. This was started as an Integrated Conservation Mission with a budget estimate of 20,000 crore rupees. The twofold aims of this flagship programme were abatement of pollution, conservation and rejuvenation of National River Ganga.

Its enactment consist of Entry-Level Activities (for direct visible influence), Medium-Term Activities (to be executed within 5 years of time structure) and Long-Term Activities (to be employed within 10 years). The important accomplishments under Namami Gange programme were: a) forming Sewerage Treatment Capacity under which; b) Generating River-Front Expansion; c) River Surface Cleaning; d) Bio-Diversity Preservation; e)Afforestation; and f) Public Awareness. Varied kinds of actions such as events, workshops, seminars and conferences and numerous IEC activities were planned to make a robust terrain for public outreach and community participation. Numerous awareness activities through rallies, campaigns, exhibitions, shramdaan, cleanliness drives, competitions, plantation drives and development and circulation of resource materials were prepared and for extensive publicity the mass modes such as TV/Radio, print media advertisements, advertorials, featured articles and advertorials were published.

This factual data gives us an understanding that, the Ganga activists recommendation could have an impact on the government's policy making since the state acknowledged the role of community participation. However, the policy remained so enlightening only on papers and not on grass root level. The project comes to severe criticism when a survey on allocation of funds was done by CAG. Close to Rs 200 crore allocated for Namami Gange project was found lying unused in banks because no action plan had been finalised, the CAG concluded after studying the project from 2014 to March 31, 2017. Of the Rs 198.48 crore sanctioned to the Central Pollution Control Board (CPCB) for three projects on monitoring and evaluation of work under the National Mission for Clean Ganga (NMGC), only 7.44 per cent, or Rs 14.77 crore, was used. The impact of this, as per the CAG, could be felt in the pollution level of the Ganga. 'Total coliform [bacteria] levels in all the

cities of UP, Bihar and west Bengal was very high - ranging between 6 to 334 times higher than prescribed levels,' the CAG report said. This presence of coliform bacteria is often used as an indicator of disease-causing pathogens. Thus, crores of money sanctioned could hardly be put to any use in policy implementation.

It was further added that the National Mission for Clean Ganga could not even finalise a long term action plan even after more than 6 and half years of signing an agreement with IIT. This highlighted that the NMCG does not have a river basin management plan even after a lapse of over eight years of National Ganga River Basin Authority Notification. In UP, Bihar, Jharkhand and West Bengal, the river conservation zones were not identified in till May 2017, the report said. These states were found guilty of failing to achieve the target of 100% construction of household toilets. The CPCB came up short in compliance verification too. Of the 5,016 checks it was supposed to conduct for 988 grossly polluting industries from 2011 to 2017, only 3,163 had been done. The report recommended that the NMCG prepare an Annual Action Plan, align its budget estimates based on such a plan and regularly review expenditure. It asked the mission to consult with the Ministry of Drinking Water and Sanitation to ensure optimum utilisation of available funds with state governments, and to ensure realistic planning, data integration and strict monitoring of targets.

The reports, thus, show us that none of the policy included a deliberated policy procedures that could include local people in decision making. Huge money taken in the name of policy implementation went futile on actual ground work since the local people were not taken into participation. Moreover, none of the policy indicates special gender sensitive concern or to include women in policy implementation since they are the most affected beings.

Ganga as a living person: A feminist interpretation

In a landmark ruling by the Uttarakhand High Court in Nainital (March 20, 2017), River Ganga and River Yamuna were been accorded the status of India's first living entity and shall have all the fundamental rights available to a person under the Indian Constitution. Uttarakhand HC also ruled that the Centre should form a Ganga Administration Board for cleaning and better maintenance of the most sacred river of the country. High court while passing the judgement said;

"The Ganga and the Yamuna, all their tributaries, streams, every natural water flowing continuously or intermittently of these rivers, are declared as juristic/legal persons/living entities having the status of a legal person with all corresponding rights, duties and liabilities of a living person to preserve and conserve them,"⁸⁶

⁸⁶<http://www.livelaw.in/first-india-uttarakhand-hc-declares-ganga-yamuna-rivers-living-legal-entities/> , retrieved on 4th march 2017

The high court elaborated that the rivers have spiritual and physical sustenance. They support and assist both the life and natural resources and health and well-being of the entire community. The Ganga and the Yamuna are breathing, living and sustaining the communities from the mountains to the sea. The present matter dealt with the issue of Khannan (Stone crushing) by the boundaries of River Ganga. While hearing a PIL, the court had taken serious note of irregularities in the use of funds allocated to clean the river and had ordered a special audit by the Comptroller and Auditor General (CAG) of expenses related to various schemes to clean Ganga. But River Ganga is not the only one which has been accorded such a status. A similar ruling was also passed in New Zealand when their parliament passed a bill declaring 145 km long Whanganui River as 'legal person'.

The Uttarakhand High Court judgment that had stated the Ganga, the Yamuna and their tributaries as "living entities" to warrant their preservation was stayed by the Supreme Court in July 2017. Chief Justice J.S. Khehar and Justice D.Y. Chandrachud, a two bench committee held the stay on the petition by the state government. The stay stated that the order issued in March was constitutionally unworkable, thereby leading to legal hitches and opening floodgates for lawsuits. The directive also put in place the state chief secretary and advocate-general as "loco parentis" – someone who performs the role of parents to 'protect, conserve and preserve' the primordial rivers and their streams. Water Bodies such as Ganga and Yamuna are state rivers which come under the direction of the Union Government, thus the government stated that Uttarakhand could come under legal disputes as families could file case for compensation for those who die in the river and its offshoots. The government further argued that the High Court Order was unconstitutional as the state chief secretary would issue directives against other states. Moreover in situations of natural and man-made disasters, the state will have to pay compensation to people as they were considered 'living entities'.

Although the ruling of the courts is still a debated issue based on logical or liberal interpretation of the Indian constitution, yet what is significant is the attitudinal change in the perception put forward regarding River Ganga. Treating a river as a living entity is itself a sign of progress for the hardships of various organisations, activists and communities involved in saving the river. Moreover, as a testimony of female personification it delves into the picture of women's role as an imperative in conserving nature and ecology, being the real protectors and bearers of its degradation in day to day activities. Quashing such judgements would bear significant repercussions for the progress of Clean Ganga Mission. Also, we cannot totally defy the reasons as stated by SC. Thus, the urgent need to formulate proper guidelines so as to address the current problem without losing the essence of the judgement.

II. Exploring three sites of Ganga Movement: Garhwal, Varanasi and Kanpur

Under region specific case study, I would take up comparative analysis between the progress of the movement in the Himalayan region (Garhwal) and the plain region (Kanpur, Varanasi). My starting observation of the movement is that, while the movement is more or less successful in the Himalayan region with huge local participation against the governmental policy in encroachment of the forest resources, similar action is not seen in the plain region that encounters the real challenge provided the main sources of pollution lay there. Also, another important factor is the women participation that have largely contributed to the success of the movement in the Garhwal region but lack similar kind of achievement in the plain region (Kanpur, Varanasi). This is further detailed upon by a thorough analysis with empirical evidences of the region specific issues, dealt by various research scholars, regional experts, and reports by activists.

Himalayan (Garhwal) region: torchbearer of women participation

The problem in Garhwal region began with the construction of three dams on Bhagirathi River that led to divergence of the flow of the river and subsequent problem of ecological de-stability and disturbance in the flow of pure water to Ganga River. Run of the river required various constructions such as dynamite blasting, drilling and road construction, which attracted the opposition response. The destabilisation of land, landslides, drying springs, dust pollution increased tremendously. It occasionally hindered the flow of pilgrims and tourism industry. Hastily created infrastructure often led to fatal car accidents. In fact, 'many of those affected by the dam construction stated that they, felt they had very little to gain from the projects.'⁸⁷ This was mainly because the construction work didn't help the mountainous region much as compared to the plain region who got benefits with the transfer of electricity produces in Garhwal land. In fact, the latter complained that electricity at their homes was expensive and proved unsustainable. This posed a real question as to who stood the gain from the construction from these new projects.

Considering the River Ganga as most pious river of the country, concerns of its longevity and continuity united women across variety of backgrounds, with disparate interests, in the opposition to the state policy implementation. While some women expressed fears regarding their daily access to river water, maintenance of cultural and religious rites, others argued that they had known the consequences that the destruction of dams would cause, and decided to launch an opposition soon.

⁸⁷ Quoted in Georgina Drew. (2014). Mountain Women, Dams, and the Gendered Dimensions of Environmental Protest in the Garhwal Himalaya. *Mountain Research and Development*, 34(3), 235-242.

In many interviews done by the activists in the Garhwal region, women were seen optimistic ‘regarding their participation in opposition to dams on the upper Ganga with many saying that they had rights (haq, a Hindi term), including a right to debate how their river should be managed.’⁸⁸ Using the tactic of “overspeak”⁸⁹, women in Garhwal asserted their right to speak and to be heard. The women’s engagement with ‘overspeak’ made themselves establish a true leader among others, with elevated roles in the social formations.



IMAGE 11: Protest movement organised and participated by women in Garhwal

SOURCE : <https://www.google.co.in/search=ganga+pollution+at+garhwal&oq=ganga+pollution+at+garhwal>

⁸⁸ ibid

⁸⁹ According to Bina Agrawal, Overspeak was not only gendered but could include class and age hierarchies among women.



Problem of participation: the activist phase

This section shows how women, though actively involved in the movement, didn't get the desired recognition, in comparison to the male leaders. For instance, only few regional newspapers had women images of participation in the dam opposition movement, while the national papers covert leadership from elite group, mainly men. An important figure who got into limelight was Prof. G.D. Agrawal⁹⁰, a Gandhian ideologue, who stated fast unto death campaigns. Although his campaign was well participated and ended in success, but many women activists of Garhwal region claimed that his campaign didn't took into account some core issues related to their survival and livelihood while negotiating policy perspectives.⁹¹ From the women activism, it was further revealed that mountain women some particular concerns about Ganga and regionally appropriate development, and not just mere recognition.

As discussed by Drew (2014),

“the women, from the villages, wanted people to know that their land was slipping into the ravines because of the blasting, their springs were drying, and they were worried about traveling on the unstable roads. They additionally wanted to remind people that the desire to see the upper reaches of the Ganga in an uninterrupted state is what drives many people from around the world to visit their

⁹⁰ Prof. G.D. Agrawal was a retired professor of Indian Institute of Technology in Kanpur who took the vows of a Hindu swami in 2010.

⁹¹ Some women activists were worried that his campaign from ecologically sensitive zone would also lead to the creation of a conservation zone that would leave little place for mountain residents to demand and realise regionally appropriate development measures such as micro dams on small tributaries.

area and to spend money on pilgrimage and tourist services, which is an important source of economic survival.”⁹²

Women used their own tactics to deal with state officials as well as local male community. They sang Garhwali songs for protection of river, exercised their claim over river and land resources, held public meetings together, and highlighted the importance of river for their survival and sustenance. They popularised this culture of protests that was spread to other districts as well, so as to unite women from nearby community and have much stronger influence on governmental policy and decision making processes. These examples highlight the process of engendering the resource access and managing the traditional rights and knowledge system. Women of Garhwal were able to work at grass root activism in order to deceive a gendered environmental politics working in other regions of the movement.

Thus, the case shows that women participation was well organised and received by the local and government organisation which made them contest the social hierarchy and speak up for their rights and resources. In fact, sometimes it was the male interferences that disrupted their main livelihood demands and influenced the governmental policy different from the actual demands of the people who were real sufferers of the river pollution. This calls for a gender sensitive approach to the environmental policy and gender inclusive participation in development measures with simultaneously addressing the problem of patriarchy and gendered power relationship in society.

Varanasi: Religious practices and problem of environmental protection

An impeccable study of another region of the flow of Ganga waters, that is, the holy city Benaras, engulf various imperatives at cultural, empirical and rhetorical level, combining into, of what is commonly called the ‘pollution versus purity debate’⁹³. The debate here begins with the locals aligning charges to the governmental authorities about modern-technocratic methods to clean the river which by itself has the ‘healing capacity’, on the other hand, the government is firm on its scientific cleansing of the river water, aloof of the local and traditional practices of water management. In the process, the social structure of the region which is highly patriarchal, alienate women participation in the movement as well as the acknowledgment of their local experiences and knowledge of water conservation and management.

One of the oldest cities in the world, Varanasi, occupies a central position on the crescent-shaped left bank of the Ganga in the alluvial, fertile land of the Middle Ganga Valley. It derives its name

⁹² Quoted in Georgina Drew. (2014). Mountain Women, Dams, and the Gendered Dimensions of Environmental Protest in the Garhwal Himalaya. *Mountain Research and Development*, 34(3), 235-242.

⁹³ As quoted in Alley, K. in the article, ‘Ganga and Gandagi: Interpretations of Pollution and Waste in Benaras’. Here pollution symbolises not a metaphorical for caste identity but the actual pollution of the river and the element of purity in the Ganga water that overrides the logic of pollution.

from two tributaries of the Ganga, the Varuna in the North and the Assi in the South. Hindus believe that death or cremation in Varanasi brings "moksha", or liberation for the soul, therefore, the city has a relatively large population of the old, the dying and the sick. However, the development of Varanasi's infrastructure has not kept pace with the growing residential and fluctuating population. As a result, major problems have emerged, particularly in relation to water supply, sanitation and stormwater drainage.

The water quality of the Ganga has been seriously affected as have the lives of the people who depend upon it. Sewage outfall from eight major drains and more than 70 small household drains are major polluters. This is due to the fact that the city's seven pumping stations cannot cope with the capacity of sewage generated daily (about 100 million litres which even the treatment plant being built will not be able to cope with). About 30 million dead human bodies are burnt annually at the city's two cremation ghats, Harishchandra and Manikarnika, and the resulting ashes, some 100 tonnes per month, are deposited directly into the river. It is not unusual for partially burnt bodies to be pushed into the Ganga (illegally) because of the prohibitive cost of fuelwood. About 60000 animal carcasses are also consigned to the river every year. The ash dumped into the river makes it turbid, increases siltation, and promotes the growth of weeds, while half-burnt flesh enhances the growth of pathogenic bacteria and fungi.



IMAGE 12 : POLLUTION AT ASSI GHAT

SOURCE : <https://www.google.co.in/search?q=ganga+river+pollution+at+varanasi&aq=ganga+river+pollution+at+varanasi>

Under the GAP, the government has built an electric crematorium at Harishchandra ghat, despite opposition from religious interests and the Doms, a low-caste group who have earned a sizeable income by their control over the sacred fire essential for the traditional funeral pyre. The crematorium was opened in January 1989 only to be closed 6 months later as the chimneys were not high enough and residents of the area complained of air pollution. Industrial wastewater is yet another source of pollution. The main source is discharge from the Diesel Locomotive Works in the city and the Ramnagar Industrial Estate further upstream on the opposite bank of the Ganga. A number of small-scale industries, like sari-printing, discharge chemical dyes into the river and these sources of effluent are difficult to regulate. This is accompanied with some other minor sources of river pollution such as transfer of water from washed clothes and utensils, bathing of buffaloes, leaching of pesticides from irrigated lands and defecation along the river banks. In various studies (see Pandey, 2005; Alley 1994) on the water quality of the river, there were evidences of high occurrence of enteric diseases⁹⁴ in Varanasi city. This was increased further with the passage of seepage from old supply pipelines into the river. The result if these studies indicated that the increasing level of coliform could not be removed even if the Ganga water is treated properly.

It was seen that, within the debate of pollution verses purity, the category of Gandagi combined both the bodily and ritual impurities, yet people made important distinctions of this category to that of Ganga's purity or holiness identified with self-purifying capability. This purity of the Ganga was eternal sort of power explained by turning to the shastras and oral narratives, conveyed more personally through confessions of faith. In the early fieldwork, Kelly D. Alley asked: 'What happens to Ganga Ma (Mother Ganga) after the gandagi, the corpses of humans and animals, bathers' soap, and human excrement enter the river?'⁹⁵ Residents were keen to argue in favour of a co-existence of Ganga's purity with pollution as they often regarded Ganga as their 'mother who cleans messes, her child makes'. Many remarked,

"The Ganga can never be impure. Ganga Ma does not observe or accept gandagi"⁹⁶.

However, many expressed frustration about Ganga's predicament and anger toward those who abuse her by dumping waste. Some remarked: "The Ganga is pure, but we people make it polluted"⁹⁷. Boatmen, tirth-purohits, and ghat merchants, pointed out the places under the ghats had exploded through the stone floor. They also emphasised that, quite often, the pumping stations

⁹⁴ There were incidences of high concentration of Chloride, Nitrate and faecal coliform leading to major water- borne diseases.

⁹⁵ Quoted in Alley, K. (1994). Ganga and Gandagi: Interpretations of Pollution and Waste in Benaras. *Ethnology*, 33(2), 127-145.

⁹⁶ *ibid*

⁹⁷ *ibid*

along the ghats were not working. Their favourite and common phrase usually is, "kha liya" (it was all eaten), 'meaning the money allotted for sewage is usurped by the officials'⁹⁸.

Technocratic State approach in Varanasi

This section is important to understand, how far, the governmental policy is in congruence with the demands and participation of local communities in general. Also, it throws light on the gendered approach in state policy formulation that is more scientific (mostly regarded as a male domain in modern parlance) and bureaucratic (state officials as superior than local experiences). The section begins with a historical background of the sanitation campaign in Benaras and move to the current developments with a critical account and associated gendered perspectives.

In Benaras, the first drains to carry away storm water from the city to the river were laid during sixteenth-century Moghul rule⁹⁹ (Sankat Mochan Foundation). The disdain for waste, however, does not appear until the administrative period of the first British Resident in Benaras, in the late eighteenth century. Expressing disgust for the lack of public sanitation, Duncan, the first British Resident, diverted fees and fines collected in the courts of Benaras to construct public latrines waste receptacles. The Benaras residents interpreted these measures as government intervention and to some extent resisted them.

A century later, Fitzjames, Superintending Engineer of Allahabad, outlined the first large-scale sewage and storm water drainage plan for the city. He wrote, 'to realise the filthy state of Benaras is quite beyond the power of anyone who has not visited it'. In 1886, the Kashi Ganga Prasadini Sabha sought to execute Fitzjames's proposals. The scheme to construct a waterworks and complete drainage system was approved by the municipal board in late 1889 and projects were completed in 1892.

Observing the developments, it was seen that by 1898, drinking water was provided through two main pipelines to bring a total supply to 6,000 houses and 400 stand posts and wall fountains (Ministry of Environment report, Government of UP,1985). By 1956, domestic tap connections had increased to 20,393 in 1895. At the turn of the century, the main sewer line was completed on Fitzjames's design. An additional line, the Orderly Bazaar sewer, was made by 1914. From 1913 to 1917 a line was laid under the ghats to divert the main bathing area around Dasashwamedha. During the 1970s, five sewage pumping stations were installed along pump sewage flowing towards

⁹⁸ibid

⁹⁹In 1982, Sankat Mochan Foundation, founded as a non-profit, non-political organisation with a vision to-restore the Ganges by reducing its growing environmental deterioration; promote education and health care programs for the less privileged and maintain and encourage the age-old cultural traditions of Varanasi, in tune with its current environmental needs.

the Ganga back to the main trunk line but they broke down after a short time and remained dysfunctional until restoration Action Plan began (Uttar Pradesh Jal Nigam report, 1991). These developments, though, reflect a greater concern towards the sanitation of the region, yet the solution is built on a narrow presumption of technocratic-machination of the region without any coordination with the local people, who could have been involved for a good support and participation in the sanitation campaign. Also, the projects so approved failed to deliver the desired results on time that further disgruntled the general public against the state officials.

From 1981, discussions of waste management developed three themes: the definition of state responsibility for pollution abatement; the development of management infrastructure; and the measurement of pollution. Rajiv Gandhi created the Ganga Project Directorate as the authoritative body to oversee the Ganga Action Plan (GAP) wherein foreign capital was solicited from France, USA, Holland, and the World Bank, while the Planning Commission proposed a 250 crore (2.5 billion rupee) expenditure to complete first phase. However, their renovations were later refigured by residents and failed to provide lasting contribution to the maintenance of this intensively used infrastructure. The following analysis again shows the GAP's failure based on a technocratic approach. Moreover, the inclusive policy to include local communities and a gender sensitive policy was completely missing.

While there was growing of modern-technocratic approach of state, in the matter of waste management, with non compliance to the traditional policy structure and without involvement of the local community, people felt disgruntled with the public sector model and saw it as the beginning of the 'gross commoditisation of sewage'¹⁰⁰. This resentment led to protests and rise of movement against the pollution. In July 1982, the Sankat Mochan Temple, one of the three most important temples in Varanasi, established the Sankat Mochan Foundation. In Sanskrit, "sankat mochan" means the removal of all suffering and hardship. The "mahant" (hereditary head) of the temple and leader of the movement was Veer Bhadra Mishra, Professor of Civil Engineering at Banaras Hindu University. The Foundation was supported by private contributions and an endowment from the temple, while it received professional expertise from interested individuals in India and abroad. The Friends of the Ganges Fund based at the Tides Foundation, San Francisco, endorsed the work of the campaign by providing technical and limited financial assistance, while publicising the problem of water pollution in India and around the world.

¹⁰⁰With growing scarcity and competition for water, urban wastewater is increasingly marketable because of its water and nutrient values. Commodification has implications for the current "residual" uses of wastewater (particularly by poor farmers in developing countries), for the risk of disease transmission, and for wastewater-dependent agro-ecosystems.

In November 1982, the Swatch Ganga Abhiyan (the Clean Ganga Campaign) was launched by the Foundation to raise civic consciousness and to restore the ecological balance of the river. An intensive Jan Jagaran Pakhvara (a public awakening fortnight) was organised where posters, handbills and stickers were distributed informing people of the poor condition of the Ganga in an attempt to enlist support. Since then the Foundation has held an annual children's painting competition on the theme of river pollution, music festivals along the banks of the Ganga and opened forums where the public can question the relevant authorities on the design and implementation of the GAP. Swatcha Ganga recognises that although the Ganga is a holy river it is not necessarily pure. As a symbol of motherhood, the waters of the Ganga are said to be nourishing, they both give and sustain life as they embody amrit or nectar, the immortal fluid, similar to mother's milk.

Today, the campaign has two basic objectives. Firstly, to educate children in order to create a "force" aware of environmental problems. Secondly, to monitor water quality on a regular basis. Thus, members of the Foundation collect water samples which are then analysed in a small water laboratory for simple biological and chemical indicators of pollution. However, the role and participation of women remained aloof in the movement. Though, few women participated in the protests, but unlike Garhwali women, their role couldn't have much impact on the nature of the movement, nor could they articulate their demands on the question of sustainability and livelihood of their family. Therefore, even the environmental policy, both by the activists and the government, remained gender exclusive in structure and functioning.

Problems with Participation: the activist phase

Although, Professor Mishra had been one of the four nonofficial members of the Varanasi Divisional Task Force (a monitoring body for the GAP at the local level), he laments the lack of a genuine people's participation in the program. Swatch Ganga had not yet presented its program of action to those directly affected by the contaminated untreated waters of the Ganga. Prof. Mishra highlighted that, this was partly due to the fact that the leadership of the campaign is composed almost entirely of high-caste and upper class Hindus. People of a lower caste are in subordinate positions and have little, if any, decision-making power. Moreover, the institutionalisation of efforts to clean the Ganga has hindered the development and growth of the campaign as a broad-based movement. Swatch Ganga started out as a campaign to increase awareness of the problems of the Ganga and to encourage the government to take action to control the continuing pollution.

Another factor in expansion is the difficulty of sustaining action. Since all the executive members have full-time jobs, they are not always able to constructively sustain the momentum and interest that is generated by public activities. The office-cum-information centre is only open in the late evenings, which means that women and children, crucial to the campaign objectives are unable to visit unless accompanied by a male or older family member. Though the centre has adequate resources, these need to be disseminated more effectively and a full time information officer is required to meet this need. The local administration has installed a river police force and home guard to patrol the river and the ghats to prevent people from dumping rubbish or unburnt dead bodies and animal carcasses or defecating along the river banks. However, such a policing system only serves to widen the gap between the bureaucracy and the community.

The co-existence of Ganga's purity with gandagi or 'secular pollution' highlights the root cause of the problem in the residents interpretations which must be understood at three different levels. This three-tiered grid distinguishes between the knowledge that local residents share which are derived from cultural logic (theoretical level), the second from observations and experience (the empirical) and the third from the dynamics of power (the rhetorical level).

At the cultural level, the conflict between Ganga's purity and Ganga pollution is worked out by residents when they hold fast to Ganga's purity to denounce secular gandagi. Logically, Ganga and gandagi are separate entities, they are not collapsed or dissolved, as scientific theory would have them. At the level of cultural logic, purity cannot be reconciled with pollution, even though some residents may embrace both logics as sources of knowledge or ways of knowing. The scientific view of river pollution evaluates Ganga in terms of water quality parameters. Government policy is imbued with this theory even as those who execute such policies do not accept the assumptions they carry. Since the government's scientific interpretation of pollution could not be reconciled with Ganga's purity, many residents interpreted purity against science and government. As one merchant exclaimed: 'Ganga is God. You do not mix Ganga, God, and science.'¹⁰¹ In more denunciatory terms, a few tirth purohits, while eschewing the scientific interpretation of pollution, saw the 'corruptive' danger science posed in the prevailing 'non-vigilant' environment.

At empirical level, debates about the effect of gandagi on Ganga's purity clearly show that urban waste is acknowledged as a critical problem for residents. What remains unclear is an accepted procedure for dividing responsibility to solve it. Personal responsibility was possible but group conformity is problematic to solve it. As one silk merchant explained, 'for every one clean person

¹⁰¹ As quoted in Alley, K. (1994). Ganga and Gandagi: Interpretations of Pollution and Waste in Benaras. *Ethnology*, 33(2), 127-145.

there are ten doing gandagi. So how can one person stop ten?'¹⁰² Complaints by boatmen, ghat merchants, and tirth purohits about the ineffectiveness of the Jal Police revealed the common apprehension that a lack of respected authority and a lack of civic code go hand in hand. Tirth purohit pointed out, unacceptable behaviours, those labeled part of "doing gandagi" and even provided percentages for their occurrence¹⁰³. These observations contested the truth about how social behaviours create and sustain the waste problem.

At rhetorical level, the residents linked up problems of waste to problems of power. Blame was conveyed by the SGC (Swatch Ganga Campaign) through scientific data showing an increase in pollution. The SGC debated parameters of water quality put forth by government offices in a rhetorical confrontation by the local and national press. The SGC's contest over the definition of parameters provided the means to challenge government policies and projects and suggest alternative technologies. For ghat merchants, boatmen, and tirth-purohit, linking Ganga's purity degenerated into political corruption¹⁰⁴. Any proposals to remedy Ganga's predicament would meet what they saw as the overwhelming power exercised by the government nexus.

From the above analysis, we could conclude that, if the environmental policy is to be successful and sustainable, especially in the long term when plan funds run out and maintenance of the systems is at stake, then a constructive dialogue is necessary between the macro and micro levels to define an alternative approach towards the management of an open access resource such as the Ganga. This means taking into account the significant role played by groups like Swatch Ganga. Pollution control is just one aspect of water management. Moreover, the missing role of gender needs to be acknowledged and create platform for greater participation of women both at grass root activism and decision making process. One has to make public space, gender inclusive, so as to incorporate the interests of every section, enrich local knowledge and improvise the demeaning power structure of society. The Ganga Movement would remain fragile, unless such a holistic view is taken which recognises the extent of degradation and disruption in the ecology and the importance of local participation with debates and discussions by both male and females, to make a comprehensive nature friendly and community friendly environmental policy.

¹⁰² ibid

¹⁰³ ibid

¹⁰⁴ This is while the beliefs and commitments over the sacred river were pitted against large-scale struggles over public resources and portions of national fiscal outlays.

Kanpur: Industrial development and environmental crisis

Among the most polluted stretches of River Ganga comes the case of Kanpur with an area of 1040 sq. km and municipal area of 672.56 sq. km. This includes the specific polluted stretch of 22 km that is within the City limits. Kanpur is one major industrial centres of Northern India which also boasts of historical, religious and commercial importance. Numerous leather industries are established in the oldest part of the city, Jajmau. The villages in the area come under municipal limits with some of them being on the river banks. The Jajmau villages were supplied with untreated sewage from the city mixed with water from Ganges in equal proportion for irrigation purposes till Ganga Action Plan(GAP) came into force in 1986. After the introduction of GAP, the arrangement changed to a post-treatment mixture of sewage with tannery effluent excluding the waters of Ganga. This is more preferred since in the earlier arrangement the supposedly treated sewage extensively damaged agriculture and other means of livelihood, for instance, flower cultivation has reduced majorly, the pollution has permeated the groundwater and there is a clear rise in skin and stomach diseases along with greater instance of cattle diseases. There are apprehensions that poisonous metals and chemicals have made their way to the food chain as well. Clearly, the ill effects of this was prominently seen on women and children of the villages. Toxins like DDT entering food chain would have an impact on children more rigorously, as it hampers their growth process. Women, who are most involved with domestic cooking and rearing have to handle this hazard alone with less power and rights.

As per the villagers the problems arose because of the failure of both types of treatment plants , namely the sewage treatment plants (STPs) and Common Effluent Plant (CETP) in treating the waste effectively. The issue has various stakeholders at conflict with each other: villagers of Jajmau against UP Jal Nigam who handle operation and maintenance of GAP installation, a tri-party conflict between Lis, UP Jal Nigam and UP Pollution control board along with problems visible below the surface of villages with Lis. In addition to the above there are disputes between the Jajmau Villagers and agency responsible for collecting irrigation cess i.e. Kanpur Nagar Nigam(KNN).The most crucial aspect of this crisis is the proliferation of tanneries in Kanpur , which has far exceeded the capacities of effluent treatment plants. Only 88 units have installed their own chrome recovering plants while it was stipulated that 110 of the total 220 will do. Several directives were issued during June 1997 to October 1998 as a result of a PIL being filed in Allahabad high court in 1997 (R.K Jaiswal vs State of UP and Others). The impact of judicial intervention was unfortunately temporary due to absence of continued support from the

administration. For e.g. the authorities even failed to provide for sufficient diesel for generators which were meant to ensure sustained power for the crucial installations of GAP. These incidents reflect on the policy making attitude of the state, that lacks the concerns and demands of community while making public-policies and its failure at implementation level. Moreover, any kind of gender sensitive environmental approach to solve the issue is seen completely missing.



IMAGE 13 : Pollution at Kanpur

SOURCE : <https://www.google.co.in/search=ganga+pollution+at+kanpur&oq=ganga+pollution+at+kanpur>

The state authorities followed more of technocratic approach in dealing with environmental issue rather than acknowledging the local experience base of the community. This was seen in case of Rooma village was chosen to dump the toxic sludge from tannery by the government. In spite of orders from High Court to dispose the sludge safely, the authorities at KNN went on dumping it at Rooma, post collection from nearby villages, without even initiating the construction of a proper landfill. The UPJN in fact made use of the dried toxic sludge to repair the canals. KNN eventually stopped only when the villagers decided to stop paying the irrigation cess. The unabated media glare on the issue and civil society pressure resulted in a serious problem for the Mayor and the corporations. The issue became more and more politicised with continued visits of politician and bureaucrats.

The villagers had already suffered a lot due to various health issue, decline in crop yields and dairy production. It is expected that there will be comprehensive studies to assess the long-lasting detrimental impact of the polluted water on their farms and their own well-being. It was argued by the leather units that they have already contributed 17.5 per cent of the overall cost of Common Effluent Treatment Plant (CETP). The mainstay of the economy in Jajmau, the floriculture has almost come to a halt. Agriculture has massively suffered, alongwith contamination of land and groundwater. The impact could soon become permanent unless action is taken. Drastic health issues like skin lesions, stomach diseases and unnatural abortions can be seen both in the villagers and their livestock. The flora and fauna have been damaged due to risen levels of biological oxygen demand (BOD) and chemical oxygen demand (COD). Residents of the area are becoming victims of industrial air pollution from chemical laden exhausts, putrified smell of dead leather and adhesive factories. But in the absence of scientific studies, the extent of damage to environment and society cannot be ascertained. The main cause of this is too many agencies involved in the issue but no one to actually lead or coordinate it and take decisive actions. There is an immediate need for creation of accountable and well defined responsible structure. Associated with this problem, is the missing role of women in all the aspects of cleaning campaign, from protest movement, articulation of interests and demands in environmental policy. Therefore, similar to previous case of Benaras, here too, we find the environmental politics in favour of men, and women are seen alienated both at theoretical approach and in practice.

Public attitude in two sites : Varanasi and Kanpur

The problem in these two cases is that the religious significance of the river has not translated into practical steps to keep the river clean. One possible way is to sensitise the people towards the

threats posed by river pollution. The idea of river protection is disinclined to most of the people in nearby areas. Mostly, they believe that the 'river is omnipotent and it is ultimately they who are in need of any protection from her ire' (Upadhyaya, V, 2009). It might appear that such human tendency may be futile at this point, but because the Ganga is so inexorably linked in Varanasi with religion and with spiritual purity in Kanpur, that this aspect must also be explored if a viable solution is to be found. In fact, 'most people just too embroiled in their day to day problems that they do not care much about the river' (Upadhyaya, V, 2009). Even those who are well-off remain insensitive towards the issue. The same nonchalance marks the attitude of local administration. Most of the people in high posts are mainly concerned with plum positions and pleasing their political bosses indicating gross nepotism and corruption. There also exist administrative incompatibilities where the treatment of rivers around the cities and cleaning of sewers fall under the jurisdiction of the municipal authorities but the decision-making powers are under district officers such as district magistrates and divisional commissioners. Garnering political consensus on the issue also has its share of problems. For example, it is probable that the state government may not cooperate with the centre if both have different political parties in power. This harbours reasonable doubts on spreading environmental awareness through the agenda of political parties as these efforts may not adequately translate into practical action to save the river.

The local community do not see the desiccation of the Ganga in this region, as a challenge to their survival. For the millions afflicted by extreme poverty, the cleaning of the river is hardly consequential. People still do not see the Ganga as an irreplaceable part of their life. But a deeper understanding of the issue may dispel much of such cynicism. The truth is that if urgent measures are not taken to stem the fast-growing river pollution, the very survival of people who live by it would be threatened. In this case, the river cleaning issue has to be raised as an urgent need, as a conscious drive may bring about the desired change in the public attitude and governance. Although there has been an increase in the number of protests and awareness rallies that are being taken out to sensitise the people towards the river's current state of distress in the plain region. The public, even now, does not perceive the current situation as a threat to their existence. Rather, they act out of the illusion that everything will be taken care of by the river. So all the rallies being sponsored by political organisations, schools and NGO's in different parts of the city everyday to generate awareness seem ultimately inconsequential. Moreover, clearly the gendered nature of participation, exclusion of women from public debate and policy making does not capture the demands related to survival and livelihood.

Any solution to the problem of the Ganga would have to encompass a multidisciplinary approach. People need to be made accountable and realise that the pollution of the Ganga poses an existentialist threat as their main source of revenue is at stake. Along with being a major pilgrimage site, the Ganga is also a major tourist attraction. If the river is polluted, the tourism industry would virtually collapse. The local hotels and district authorities must work together to develop new ways by which they can combat non-point pollution. Both these groups must understand that they have a lot to lose if the pollution levels in the Ganga increase even a bit. It is not as though the administration cannot do anything about the pollution. In 2008, when the then new elected chief minister of the state was to arrive, the local administration spent Rs 1 crore on the beautification of the ghats and adjoining areas (Times of India, Varanasi edition, 3-8 May 2008). All the work stopped once she left. There is a, thus, a need for strict application of the Public Nuisance Act under Section 277 which provides for a jail term upto 3 months or a fine of Rs 500 or both, if someone is caught voluntarily polluting the water of any public spring or reservoir thus making it less fit for its intended purpose. There is a need to create deterrence and responsibility among people by implementation of the tougher laws by a proper investigative agency.

Since each problems related to the river are inevitably so interlinked, despite all cultural, religious and logical issues, it raises some core political concern too. One such example is the Snowy River in Australia¹⁰⁵ where the public put pressure on the government to increase the water supply to the main tributary of this river. The manner in which the public mobilised over the protection of the river raised a serious political issue that made it an important electoral matter which ultimately became a parameter to define the success of the movement.

The problem with these solutions is that there exists a conflict of interests among the public and the government. This is exactly where stakeholders and the common people need to be included in policy making decisions. Most people believe that their voices will ultimately not be heard. It is absolutely necessary that all the stake holders are taken into confidence before making important decisions. Only by doing so one can ensure greater accountability and involvement by the public. Finally, as already stated, the condition of the Ganga is part of a much larger problem regarding the conceptualisation of progress and development. We must try to locate the problem of environmental crisis within the conceptual framework of development and gender exclusivity.

¹⁰⁵ As part of the Snowy Mountains Scheme, a network of dams was built to collect and divert 99% of the Snowy River's flow through the mountains, to provide more water to the Murray River and Murrumbidgee River for irrigation and to generate electricity. During the 1990s the low level of water in the Snowy River was a major environmental concern in Victoria, with a political campaign to increase the water from 1% to 28% of its original flow from the dam at Jindabyne.

The present mode of development has threatening ramifications for our natural resources and it is necessary to initiate a broad based debate to choose the path of development that draws upon our own experiences as well. Vandana Shiva, here, rightly condemns the developmental model in the third world country as borrowed from a western framework that propagates modern western patriarchy leading to 'maldevelopment'. While the ecofeminists in their third world critique tends to acknowledge the distinctive role women could play while contesting some technocratic understanding of preservation and ecology. This is more so in case of India since the division of labour makes women more intertwined with the subsistence activities and thereby have a real livelihood concerns since the environmental degradation affects their real economic, social and existing day to day lifestyle. It is this factor that make the Garhwali women to come at the forefront to fight against the encroachment by the state into their livelihood matters, and a similar kind of struggle by women in Kanpur and Varanasi might as well be helpful in their struggle not only against environmental pollution but patriarchy too.

III Comparison of Hills (Garhwal) and Plain region (Kanpur, Varanasi) : Relocating the missing gender links

In a comparative analysis of Hill region to that of plain region one can see the nature of movement changing with the greater participation of women. Women at grass root are more likely to suffer with environmental degradation, as seen in chapter 2 and 3, that makes our research question based on gender-environment relationship true, both in terms of theoretical perspective and practical examples. By understanding the gendered environmental politics in India, we can conclude that greater women participation has led to success of ecological movements at many instances (Chipko, Plachimada and Garhwal region of Ganga Movement). This has been mainly due to several factors as formulated in our first chapter, that is, challenging the gendered access to resource use and management, gendered local knowledge and gendered power relationship.

We have also looked at the environmental policy by the state that is more technocratic and gender exclusive in nature, and have suffered the wrath of local people in its implementation. A greater women participation, for instance in Garhwal region, have rather brought in its own policy perspective through better decision making process and public participation. This has in turn led to a shift in governmental policy and its decisions in the Hilly regions. However, no such shift is seen in the plain region. Even the claims of environmental justice is lame as half of population in the plain region, that is women, is excluded from grass root activism and public participation in policy

formulations. We can, thus, conclude that the plain region has much to learn from the hilly area, so as to engender environmental politics by recapturing its own local knowledge and reshape power relationship so as to address the environmental crisis with support of local community and without much delay in time. It is here, the role of community leaders, NGO's and activists of the Ganga Movement in the plain region becomes important to capture the role of women in public participation and decision making process, similar to that of Garhwal region.

What plain region could learn from Garhwali women?

In order to comprehend the nature and causes for participation of women in the campaign at Garhwal, one needs to understand the following factors. First religious importance of the river was a driving factor for mountain specific concerns that eventually led to Garhwali women stand in opposition to the dam. Second, while women continued to be at the front of the movement at regional level, but they lost it to men who rose to national prominence overtaking their leadership. Third, the demands of encouraging environmental justice were dented by an absence of concerted effort and acceptance of women's crucial roles in the whole campaign. Lastly, feminist political ecology hinted that there is a predefined need for increased sensitivity towards gender in social movements and civil society and this has to be met in order to enhancing the possibilities of greater gender inclusion in creating viable and regionally suitable development measures.

In the Garhwal region, a group called Clean the Ganga Movement or Ganga Safai Abhiyan, sponsored the event to call-in women volunteers and protestors, educating them against ecological misbalance in the Garhwal region. Members of the movement had been active in cleaning the banks of the Bhagirathi Ganga in the district capital of Uttarkashi since the early 1990s. In fact, the women here had been involved in antiliquor and anti-meat campaigns before they started cleaning the river¹⁰⁶. Such movements against alcohol consumption were especially prominent in the 1980s in the Himalayas, and women were often the lead organisers of such campaigns. Although, in the early interactions of the movement, women had to struggle to raise their voice and concern, as Pathak writes,

“even though the female-to-male ratio was 12 to 6, the men led the meeting and did most of the talking. When the discussion opened, the women tried to make suggestions, but their comments were often ignored. Some women shouted to be heard. Their voices sounded aggressive, yet they were

¹⁰⁶ This shows how women after coming to public front by mobilising in environment movements have begin to challenge the social structure and patriarchy at private life.

effective in gaining attention. In only a few instances were the more self-assured women able to demand that the group listen to these soft-spoken utterances"¹⁰⁷.

It shows that, although women had been acknowledged as important and long-standing participants in the Clean the Ganga Movement, even then they had to speak aggressively to make themselves heard. In order to get heard, women often adopt some unique strategies, adopted from the Chipko agitation here. This time, they composed a song to sing, to attract the attention of the masses, so as to recount the Ganga's religious and cultural significance in a way that it motivates the listener to protect and conserve it. The women asserted that the song is important because it can be used as a reminder to people that there might be other avenues for development but there is no river on the earth which could match Ganga in terms of its religious significance. As per them, the song could evoke the sense of duty or dharma among other females and persuade them to join the movement. The men also accepted this as a fact but chose to concentrate on creating a strategy for presenting the anti-dam demands to the media. Hence, in showing the importance of Ganga to the masses, it was religious significance that could unite the masses which was later on worked to reconcile it with the polluting aspect so as to address the livelihood concerns as well. Activists of Ganga movement need to explore these techniques in the plain region too, so as to make the movement more successful.

Both men and women have often stated that they are not against development per se . While continuously opposing the disputed projects, a debate on the nature of development emerged from their discussions. Women's pointed out that hitherto the nature of development implemented was mostly leading to ecological damage and degradation. For them development entailed nurseries with locally suitable fauna, better schools and hospitals and more economically viable methods to achieve electrification of villages than the ones proposed by the national grid. Thus, combining the local and state perspective in the developmental projects through a constructive engagement is what the feminist political ecologists claim too.

Garhwali women were able to rightly combine the theory with practical experiences and gain significant knowledge to handle the on field experiments of women engaging in public sphere. It has been acknowledged that, gender sensitive environmental politics and grassroots movements led to evaluation of the major dimensions of construction of meaning and more developed sense of self in females, which can be made possible by such participation in campaigns.

¹⁰⁷As quoted in Pathak, S., 1985, 'Intoxication as a social evil: anti-alcohol movement in Uttarakhand,' Economic and Political Weekly, 10 August 1985, pp. 1360-1365.

Rocheleau argues that the fresh increase in women participation in mass movements for natural resources and environmental concerns is leading to new definition for identities, gender meaning and understanding of environmental concerns. One of the most active female participant commented that this gave her courage to raise her voice in defence of what was legitimate. Because of her participation she felt that she had an opinion, a voice and now she is determined to put it to use as she reflected, 'I understood that I have a voice, and now I will use it.'(Rocheleau , 1996). Success of an environment movement, thus, calls for a similar combination of theoretical and practical experiences, to define the gender- environment interconnections and create a knowledge system that is inclusive of, and formulated around, women experiences and participation.

CONCLUSION

There seems to be a worldwide consensus now, that women have greater role to play in environmental planning and resource management. This research has further tried to explore multilayer perspectives on gender and environment in context of the Third World. The major finding of this research were based few considerations, such as-first, the participation of women as a precondition for the success of environmental movements; second, the role of traditional/local knowledge in environmental preservation; third, gender sensitive environmental policy in cleaning River Ganga and lastly, the environmental politics and ecological movement that is gender inclusive at grassroot activism and decision making processes.

In the above context, the research is formulated to deal three interconnected issues. First is related to the theoretical connections between gender and environment that is important to understand the proximate and symbiotic relationship between women and ecology. Secondly, a theoretical knowledge must be linked to practical evidences, else it remains futile in itself. Therefore, studying environmental movements has been a major focus in this research. This has been done by two ways, firstly, by studying environmental movements that had major role of women in the success of the movement and secondly, by applying the knowledge of the successful environmental movements to understand the nature and partial success of Ganga movement. Both the ways have helped to develop an idea of a new environmental politics that is gender inclusive in nature that shall be provocative to the gendered access to resource, gendered knowledge system and gendered power structure of society.

The major themes and research questions have been examined in each chapter with some major conclusions. The thesis contains three main chapters. The first chapter titled as, 'Perspectives on Gender and Environment', has mapped the available literature on the prospects of interconnectedness between women and environment by defining the idea around gendered nature of environmental politics. It has proposed three major classification of perspectives on gender and environment: Ecofeminism, Feminist Environmentalism and Feminist Political Ecology. I have argued that all the perspectives have dealt with the idea of close association of women with ecology as a reason to for their greater role in environmental preservation. However, my research shows that the theoretical model of Feminist Political Ecology is more closer in defining the idea of gendered nature of environmental politics, thereby, making it more suitable than the other two and therefore, more applicable in this research. My criticism of the other perspectives from the point of view of

gendered environmental politics is centred around three interrelated themes: gendered access to resource use and management; gendered knowledge system and gendered power relation. I have argued that these components are needed for engendering environment planning and ecological movements.

The second chapter titled as, 'Environmental Movements and Gender question', helps to decipher the theoretical model into practice by evaluating the idea as developed in the previous chapter. The chapter explored upon the three main questions of this research which were: a) Do women share a more close relationship with nature than men that make them natural conservers of environment? b) Does women's participation in environmental planning is a pre-requisite for sustainable development and claims to environmental justice?; and c) Does women's use of local knowledge in water resource management succeeds in critiquing the standard/modern developmental knowledge? These questions were important to reason the role of women as a precondition for the success of an ecological movement. More importantly, this chapter is in reference to the supporting claim of importance of active women participation, for the third chapter that deals with my case study of Ganga Movement. Such a claim is made on the basis of few prominent facts as developed in this chapter that highlights the importance of women in grass root activism and decision making policies and processes as a pre-requisite for gender sensitive environment policy and environmental justice.

The third and the final chapter titled as, 'Save Ganga Movement and Gendered Activism: An Exploration' is an endeavour to see the extent to which movement was successful in cleaning River Ganga, as well as to trace out the reasons for its failure or partial failure in fulfilling of its objectives. This chapter helped in answering some crucial research questions like: a) How far are the ecological movements are sensitive to women issues? b) How far the environmental policy in Ganga Action Plan (GAP) and subsequent policy developments have been in congruence with the real ecological problem and women question? c) Does Ganga movement encapsulates region-specific issues and demands that are important to local communities is general and women in particular? What we concluded from this chapter is the partial success of the movement in the Garhwal region, while the cities in the plain region (specially at Kanpur and Varanasi) still remain far behind in cleaning the river. We also, traced the reasons for this partially success, in the active role of women participation in the Garhwal region, unlike the plain region, thus contributing to the environmental planning with their strategies, experience and knowledge of resource use. Women have significantly outnumbered men in this region, while the plain region is yet to learn a lot from Garhwali women's experience of protest movement.

Linking Theory and Action in women's organisation

A feminist political ecologist recognises the interconnectedness of all life and the relevance of power relations, especially gender relations in decision making about the environment. It analyses the powerful underlying structures which operate to the benefit of certain classes and groups both locally and across international boundaries. It also focuses on the site-specific ecological and livelihood systems that could be linked to national and global environmental concerns, the economic and political systems that shape, ensemble and limit the local level constraints. The three cases as explored in the second chapter show as to how women organisations and grassroots movement utilise a direct problem-solving approach for addressing a specific set of issues. They even demonstrate an effective use of non-violence method (such as a peaceful demonstration of Kenyan women or a method of tree hugging in case of Chipko movement). Similar element was seen in Garhwal region in Ganga River pollution movement, but missing out in the plain region of the river flow. It could, thus, be concluded that ecological movements that have been sensitive to women's concern and involve women participation has so far been successful in fulfilling their demand and protecting the environmental destruction.

Importance of resource access and local knowledge base

This has been an important theme in my research in all the chapters. Women, in the environmental movements discussed in the research have always questioned the nature of environmental knowledge and led to expansion of the notion of what is considered as 'environmental expertise'. They ask questions about who defines environmental problems and who measures them. All the cases in chapter two and Garhwal study in chapter three delves into how women are preservers of nature and environment since time immemorial, how they have been passing on the 'techniques of preservation' from generation to generation. This is precisely the reason that any environmental degradation bring subsequent destabilisation in life of women both in domestic life and public chores. This is in fact not limited to developing countries only. For instance, women in US form grassroots organisations that question toxic waste management and disposal, nuclear facilities or pollution from military facilities. Mainstream environmental organisations are not focused on these issues. There is widening gap between mainstream organisations focusing on high technology and nature preservation to that of these groups like Native Americans for a Clean Environment (NACE). All these examples explains another important question in this research that is- Does women's use of "local knowledge" in water resource management succeeds in critiquing the standard/modern developmental knowledge? Although the women in Garhwal region have successfully used the

traditional knowledge system to solve the problem of environmental degradation, the similar didn't come out true for women in plain region in Ganga river flow. Women at Kanpur and Varanasi seems to be less implicated by this idea of cleaning river Ganga, more because they have assumed that there is actually no pollution in Ganga and it has self purification capacity, as it has been discussed some common interviews on the ghats. This requires our environmental policy to be more gender inclusive to include the traditional environmental conservation practices (which is women centric) instead of exposing the local people to technocratic systems (that is more male centric and scientific), that further alienates the native population and delays the process of cleaning river pollution.

Impact of Women's participation in Environment movement on power structure

The gendered knowledge system as discussed above, is shaped around the patriarchal ideology that create gendered access to information, knowledge, resources and technology for improving livelihood. A patriarchal mode situates women in private sphere, conditions both male and female responsibilities, and determine the social value attached to it. Women are thus seemed to be placed in a structurally dissimilar position, in a highly gender differentiated productive system and market. The specialisation and monetisation of local economy are tying women to the land in ways that are qualitatively different from previous patterns of livelihood and resource management. While it helps men to gain access to new forms of specialised knowledge, women are left behind. Thus, in the cases discussed in the chapter, women can be seen as questioning the socially determined modes of specialisation. Individually and through their networks and organisations they are raising concerns about both the customary and newly imported ways of organising economic production, access to resources and environment management. While acknowledging that women are coming out to enclosed private life to public sphere in the environment movements, it intrigues to further analyse an important question in the research, that is- Can women's involvement in collective struggles over natural resource and environmental issues contribute to a redefinition of their identities, challenging patriarchy? Although this question could not be directly analysed through the case studies I engaged with, yet it gave an impetus to explore the possibility of such engagement. Also, in few cases, such as Chipko movement, many activists tried to look into the question of challenging patriarchy through a successful environment movement. What at most they could conclude was that, though some women gained confidence to speak up in the public domain, yet a strong direct confrontation against the power relationship within the domestic sphere may not be strongly indicated by a successful environment movement. Therefore, question of power structure still holds strong linkage here. However, for my research, it is important to understand that women participation in the

environmental movements could at least generate confidence among women to come out of strong power politics in the private domain and exercise their rights and responsibilities in ecological protection.

Engendering activism

Activism for women most often comes in connection with their social roles, particularly in defence of family and community and most often for the reasons of livelihood security, health and safety and a sense of place that is well reflected in the cases of my research. This is well supported by Seager's argument who says for women in US, "the universalism of women's voice on the environment may reflect the universalism of their social location". Also the cases mentioned in this research reflected on how women have been the front liners, unarmed and confident, which is used as a tactic to ensure peaceful outcome in a tense situation. This was especially in the case of Kenyan women or Chipko rebellions, where women believed that police would not target the unarmed women and children and their presence gave a time frame in which men could enter into negotiations. This shows how women played a major role in the movement but the final negotiations were given to men, which was not considered the domain of women. In another case study, women were not only in front line confrontations with police but were also central to the organisations and follow-up negotiations. Women played a key role here in uniting the community, creating authentic mythology and songs and in linking nature and purpose of the conflict with the life of the community. Now women in Garhwal region of Ganga movement too, who were the front liners, are slowly changing perceptions about what is an appropriate role for women as they begin to translate their defence of the forest into new livelihood strategies. In fact few women who reach to a higher level, promote their stand and encourage them to come forward, speak, debate and negotiate at public space among others. Indeed, the environment is becoming an entry point for women into politics in India and women's organisations are serving as points of departure for environmental action and political involvement.

Today, women all over the world and the grassroots organisations in which they are involved are more concerned than ever about the fate of their environment and the linkages among the declining ecosystems, degraded resources and their increasing poverty. Feminist Political Ecology offers a new perspective on structures and processes of social change. Through its recognition of threats to equity and diversity and its promotion of social and environmental justice, it helps to strengthen the balance between men's and women's rights and responsibilities in local communities. It clarifies linkages among gender, environment, livelihood and poverty in ways that benefit both women and

men. In doing so, it addresses the economic and political barriers to environmental sustainability and social justice.

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