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Abstract: The rise in the interest in addressing the issues relating to degeneration of natural resources and the efforts needed to conserve them by the policy makers, academia and the civil society are the expressions of an understanding of the increasing interdependence between people and the nature. This paper is based on the belief that more than the natural disasters produced by ecological degradations, it is the manner in which they impact the different categories of human population in its ethnic, gender, economic and cultural dimensions that deserves serious attention today. For example, scholars like Murray Bookchin, began to highlight that the present crisis in environment is because of the hierarchical organisation of power or hegemony and authoritarianism which are deep rooted in the social system. He explained that the human destiny is dependent upon the nature. But the gender aspects of social ecology has been largely ignored by such strong advocates. This aspect in a social set up generally transcends the ethnic, class, regional and political boundaries in their interconnection with the environment and in the context of its changing profiles. This paper also discusses how feminist scholars have tried to see social ecology with the perspectives of the principles of feminism and subaltern ideology. The interlinkages between social ecology, gender and development are increasingly inviting the attention of academics and civil societies having some policy importance, especially in the context of the developing societies like India. This paper delves into the attention paid to gender concerns in development in their links with issues of environment. Conceptual framework for studying the inter-relationship is discussed to understand the intricacies of women's interaction with nature against a patriarchal and traditional set-up. It also tries to identify some gaps and inadequacies in knowledge and approaches in understanding the issues and challenges ahead.

Keywords: Social Ecology, Gender, Development, Interdependence, Concepts.

### INTRODUCTION

## Social Ecology, Feminism and Eco-Development

The rise in the interest in addressing the issues relating to degeneration of natural resources and the efforts needed to conserve them by the policy makers, academia and the civil society are the expressions of an understanding of the increasing interdependence between people and the nature. It also indicates that such exploitation of natural resources has created a crisis in environment. The studies in social ecology focus to establish a link between human beings and their environment, with a belief that almost all our present ecological problems arise from deep-seated social problems. It has also replaced the traditional, fragmented view of looking at the environment in its various parts. Thus, the contemporary understanding about social ecology is that it establishes a link between human beings and their environment, believing that all the environmental problems largely arise from our

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social problems.

Murray Bookchin, began to highlight that the present crisis in environment is because of the hierarchical organisation of power or hegemony and authoritarianism which are deep rooted in the social system. He explained that the human destiny is dependent upon the nature (Bookchin, 1964). But the gender aspects of social ecology has been largely ignored by such strong advocate. This aspect in a social set up generally transcends the ethnic, class, regional and political boundaries in their interconnection with the environment and in the context of its changing profiles.

For the last several years, feminist scholars have tried to see social ecology with the perspectives of the principles of feminism and subaltern ideology. They are of the views that women are both the victims of the development of modern technology and the scientific paradigm as well as the possible deliverers from such a situation. Shiva's spiritual ecology theory views Indian environmentalism as a critique of Judaeo-Christian values, such as the desire for mastery over nature. Her approach has a strong feminist dimension, arguing for a rediscovery of the "feminine principle" in human relations with nature (Shiva, 1988).This concern of social ecology with feminism is labelled as eco-feminism. It developed into a kind of socio-political movement and its advocates (eco-feminists) contend that women's oppression and the exploitation of nature by human beings are strongly inter-linked.

Ecofeminism points out the oppression of women and the exploitation of nature in a capitalist-patriarchal world. It argues that women see themselves as being closer to nature, as they share reproductive experiences with nature and also similar experiences of domination and subjugation. The oppression and exploitation of women and nature, they point out, reflects a dichotomy between man and nature (Merchant, 1980; Warren, 1987). This shift in perspective was generated in Europe by the male-dominated scientific revolution, capitalism and colonialism, which showed how women and nature share a close relationship, feminising nature. The dualisms of nature-culture, feminine-masculine, and emotion-reason are traced back to Western patriarchal thought that juxtaposes the relations between the human and natural world. Oppression underlies these dualisms. The human capacity for reason and thought is considered to be hierarchically above wild and unreasonable nature (Plumwood 1993).

Ecofeminist scholars like Vandana Shiva (1988) have criticised western ecofeminists for their narrow focus on the conceptual world and for ignoring the lived realities of postcolonial societies. Bina Agarwal (1992) similarly pointed out the importance of the concrete reality of women's lives in the Global South, putting forward the idea of "feminist environmentalism". Feminist Political Ecology (FPE) endorses these critiques, by looking at the intersections of gender, race, class and caste in shaping environmental relations. The FPE perspective emerged in the 1990s to redress the negative, essentialist colour that was related to the feminist analysis of environmental issues. It is an offshoot of political ecology and questions the way

power influences people's access and control of resources at different scales, from the local to the global. It focuses on the links between environment and society, as they co-produce each other (Castree / Braun, 2001). FPE draws on ecofeminism, feminist science studies and feminist critiques of development. The idea that women can also be creators, knowers and producers of knowledge is a core aspect of FPE.

Bina Agarwal's "feminist environmental" perspective is rooted in material reality and sees the relation between women and nature as structured by gender and class (caste/race) organization of production, reproduction and, distribution. Bina Agarwal (1992) explains that women's relation to the environment is socially and historically variable. Women, particularly in poor rural households, are both victims of environmental degradation as well as active agents in movements for the protection and regeneration of the environment. They act in both positive and negative ways with the environment. The unquestioning acceptance of woman-nature link and the idea that, since women are most severely affected by environmental degradation, they have "naturally" positive attitudes towards environmental conservation is, therefore, unacceptable.

The advocates of the theory of ecofeminism argue that patriarchal and capitalist systems are dependent upon the issues of domination into women versus men, nature versus mankind, and so on. Thus, feminism, social ecology and ethnicity are the natural allies and hence the common grounds to which the issue of class and caste is also added as being central to this inter linkages.

## **Gender Issues in Social Ecology**

Gender and social ecology as a multi-dimensional and interdisciplinary subjects have originated out of certain theoretical approaches that address socio-ecological issues. After the terms development and underdevelopment included into academic debates, the economic roles of women were basically perceived in the area of reproduction while their contributions to economy was overlooked. This was brought to attention by the feminists about the contribution that women made to the GDP of the economy which was hitherto unnoticed and later the feminist's movement caught up on this debate of women's contribution to the economy. The main arguments in the context of sustainable development and its relation to environment reflect upon the role of women in socio-ecological changes, role of women in managing the resources, women and population growth, impact of empowerment on sustainability and conventional location of gender and sustainability issues.

The UN Commission on Sustainable Development held in 2001 and the 2002 Earth Summit focused on how to ensure full participation of both women and men and the balanced reflection of their respective concerns throughout the project. With the World Bank declaring that women have an important role in mainstreaming of natural resources with a vast indigenous and contemporary knowledge of the natural world around them (World Bank, 1995), gender concerns in natural resource management were recognised.

# Gender Issues and Policies in India

During 1980s gender issues in socio-ecological set up and natural resource management were given attention in the policies and programmes of the government of India. This made a big impact upon the design and management of environmental projects, which soon caught the attention of the policy makers. It was realised that the neglect of women's role and contribution in environmental management would be detrimental to the project's success. To undermine their link with ecology and to believe in the gender neutrality of development projects, both would, therefore, be inviting marginalisation and exclusion of women in these projects (World Bank, 1991). It was also realised that their role as resource managers of environment may also have a negative effect on women, who become victims of the degradation of ecological resources. On the other hand, women were also recognised as the major assets to be harnessed in the interests of better environmental management.

As a result, India also ratified various international conventions and human rights instruments committed to secure equal rights for women. Important among them is the ratification of the Convention of Elimination of All Forms of Discrimination Against Women (CEDAW) in 1993. The National Policy for the Empowerment of Women 2001 has the goal of mainstreaming gender perspectives in the development process as catalysts, participants and recipients. It also envisaged a critical role for women in agriculture and allied sectors in view of their role as producers. Efforts were made to ensure that they benefit from training, extension and various programmes in proportion to their population. Women workers in agricultural sector were involved in programmes like training them in soil conservation, social forestry, dairy development and other allied occupations like horticulture and fishing. The concern on the issue of gender and ecology has also reflected in the state policies and action programmes.

# **Gaps and Inadequacies**

It is well recognised that connection between women's issues and ecological question is an important social and political debate. Women's skills in resource and communication management are well-established. The key demands of the sustainability debate have been the need for an increased involvement of women in both socio-economic and political decision-making processes. However, there are many inadequacies in the efforts at mainstreaming gender in environment. Some of them were brought to the Earth Summit 2002. The summit resolved to integrate three sectors, i.e. energy, transport and information for decision-making.

The basic gaps in understanding this approach relate to the complexity of

130

relationships between environmental objects and gender, and the lack of a thorough understanding of many inter-related issues. There is also a fear that women are the victims and not the beneficiaries of the process of socio-ecological development.

# LINKS BETWEEN GENDER AND ENVIRONMENT: THE TWO-WAY PROCESS

The lack of control over and access to the ecological resources by women are the major gender issues in environmental conservation. There are many environmental support groups, which have been fighting for the cause of women in the conservation of natural resources and in establishing people's rights over them. The natural resource getting the status of a global resource from being a local resource has only increased the exploitation of women as it has caused alienation for them. It has also affected the gendered roles responsible for their maintenance or conservation and use apart from posing many other threats at different fronts.

In the reciprocal relation between gender and social ecology, the role of the indigenous communities in the maintenance and conservation of natural resources is well known (Swaminathan, 1995). By local communities, emphasis is made here on the role of womenfolk whose contribution in the conservation of natural resources is very big. However, the gender bias against women's work has consistently been a barrier in giving due recognition of women's work and contribution to natural resource management in both rural and tribal societies.

# **Government Policies and Programmes**

During 1980's and 1990's the importance of the protection of the ecological resources received further support when gender issues were included at the planning level. Instead of Women in Development approach, which had limitations in addressing women's subordinate position, the Gender and Development approach was favoured. Although the government policies and programmes came to emphasise the gendered nature of women's and men's ecological dependence, use and conservation, the rise of new environmentalism influenced the conceptual framework for women's empowerment and development.

# **Theoretical Framework for the Links**

There may be three types of framework to discuss gender issues in social ecology. First is the Approach of New Traditionalists. In the pre-colonial period in India, there was a relative socio-ecological balance as termed by environmental experts with some ethical commitments to conserve the environment. This cultural practice or norm was grounded in religion so as to make it mandatory in practice. For example, it is quite common to find places dedicated to religious objects in the agricultural fields, near ponds and village tanks, etc. with many cultural variations. In the

pre-colonial period, communal institutions were set up to protect, conserve and manage the natural resources. However, in the name of modernisation and industrial expansion, these natural reserves of plants, trees and animals came to be destroyed which contributed to environmental degradation. Apart from these, such policies like the states taking over forests and community lands, violated the very ethics of community ownership of natural resources. Women were particularly affected by these, who had multiple responsibilities and roles, linked to such resources like water, land and forests. The state taking over the forests and communal land as its right, in fact, eroded the property rights of both the rich and the poor. The latter had an access to these as common property resources. These steps also largely ignored the role of traditional institutions in managing village resources.

Apart from these, the access by the poor and women to natural resources also suffered a lot due to the caste system. It is also well known that forests and other forms of rich natural resources belonged to the dominant communities who had hegemonic control and access. Hierarchies were also maintained on the basis of gender, caste and class even in the post-colonial period. This is somewhat missing in the works of traditionalists (Guha, Gadgil and others, 1993).

Second is the Approach of Eco-feminism: Ecofeminism, also called ecological feminism, a branch of feminism that examines the connections between women and nature. Ecofeminism uses the basic feminist tenets of equality between genders, a revaluing of non-patriarchal, holistic connections, and the merits of intuition and collaboration. To these notions ecofeminism adds both a commitment to the environment and an awareness of the associations made between women and nature. Specifically, this emphasises the ways both nature and women are treated by patriarchal society. Ecofeminists examine the effect of gender categories in order to demonstrate the ways in which social norms exert unjust dominance over women and nature.

Ecological feminism has been described as one that captures a variety of multicultural perspective on the nature of the connections within social systems, of domination between those humans in subordinate positions. This refers to a variety of women-nature connections, from historical, empirical, conceptual, religious, literary, political, ethical, methodological and theoretical orientations on the links between women and the nature (Warren, 1994). This theory basically describes women's potential to bring about ecological revolution.

The third one is the reproductive approach which looks at the gender analysis in the social sciences. It argues that perspectives on nature and environment by women and men have to be viewed from the point of view of their context. For example, environment is differently perceived by rural women, urban women, tribal women, elite-urban women, civil societies and officials. This approach becomes the basis of gender analysis in such key sectors as natural resource management or ecology (Jackson, 1995).

Women and men have multiple roles in all these along with rights, responsibilities and expectations. Thus, reproduction as a concept that may be very useful to understand gender issues in environmental changes. The impact of changes in the natural resources and social ecology on women's work and responsibility, access and control and decision-making in their management and maintenance are suitable examples. The concept is also helpful to understand the connection between societal processes of reproduction, setting up of norms and values, notions of accumulation, use and nurture of environmental resources and the changing role of development interventions in this context. In fact, Jackson used the concept of cooperative conflict which was developed upon the original concept that was propagated by Amartya Sen to capture the dynamics of perception of the value of work by women. It is also useful in understanding the dynamics of power between men and women in a household as well as bargaining power relationship. Thus the concept of sustainability is analogous to environmental reproduction.

These three theoretical frameworks for understanding gender issues in the context of environmental resources highlight women's contribution in maintaining and conserving the nature. Though, they suffer from the drawback of labelling women's role as eco-feminine, and are blind to the traditional stereotypes of gender roles, they also provide some background to the attempt to understand gender issues in socio-ecological resource management with reference to complex societies.

# WOMEN AND SOCIO-ECOLOGICAL RESOURCES

Women among the poor are the worst sufferers being seriously affected by environmental degradation. The ecological degradation has forced village women to travel for a larger distance. These are resources for which, in a patriarchal society, women alone are responsible as per household division of labour between the sexes. As a result, women have also ended up wasting vast amounts of their time and physical energy, besides their valuable time that could have been devoted to some other remunerative work.

In many villages, in different states even today water for everyday use is brought from a far distant place. This is a discriminatory and biased approach in the household where women alone are responsible for domestic water supply. Fodder scarcity also affects women in a big way, since the care of livestock is, again, something considered as women's responsibility. Such kinds of burden on women impacts the girl children in the household, who are discouraged to study and withdrawn from school to take care of younger siblings when the mother is away on the above works. Thus, women's work load leads to girl child dropout from the school, deprivation of childhood and poor access to quality of life, like nutrient and timely food, play and studies. Girls are burdened with household work as well as small amounts of outside work to relieve mothers to attend to their work in the wake of difficulties in accessing the scarce natural resources.

# Development Programmes in the Context of Gender and Environmental Resources

Government is making efforts in ensuring gender equality by taking initiative to establish legal, institutional and other structures necessary for ensuring the same. A major effort in recent times was the thrust given to integrate gender issues in the annual budget preparation by the union and state governments. However, till recently, there is no exclusive schemes designed to cover natural resources, social ecology, environment etc., for women. This marked the inclusion of the need for separate allocation in the budget to promote women's participation. At the policy level, within the framework of a democratic polity, laws, development policies and plans have aimed at women's advancement in different spheres. Thus, right from the Fifth Five Year Plan onwards (1974-78), there has been a marked shift in the approach to women's issues from welfare to development. Empowerment of women has been recognised as the central issue in determining the status of women. The National Commission for Women was set up to safeguard the rights and legal entitlements of women. The 73rd and 74th Amendments to the Constitution of India have provided for reservation of seats in the local bodies of panchayats and municipalities for women.

Studies have argued that decentralisation has challenged the basic distribution of rights and access to environmental resources but it has not been able to increase the access of the rural poor towards them. The decentralization programmes are also criticised for creating a space of political negotiating and allowing for strategic local political mobilisation. Decentralised ecological resource management programmes need to be more aware of their political and ecological limitations and have to be more strategic in order to resolve them (Farrington 1996).

# Some Programmes focussed on women and social ecology

The Planning Commission constituted a Working Group on watershed development and natural resource management in 2000, for the formation of the 10th Five-Year Plan (2002-07). One of its goals was to review the existing schemes and programmes on watersheds etc. The plans for women's empowerment also gave much importance to involve women's perspectives in the policies and programmes for environment, conservation and restoration. This was an acknowledgement of the impact of socioecological factors on women's livelihoods. Women's participation was ensured in the conservation of the environment and control of ecological degradation.

Besides wage work, livelihood support through the distribution of livestock, creating opportunities for home-based work, skill enhancement through capacitybuilding and training exercises were also undertaken. But the crucial step was to create space for women in project management. The first step in this direction has been successfully achieved through the creation of women's self-help groups with

#### 134

the introduction of both state sponsored programme called Stree Shakthi Yojana and the Centre's scheme called Swashakthi Yojana. The formation of women's self-help groups encouraged savings and inter-lending activities that proved to be safety nets for poor and vulnerable families. As revealed by studies, women members valued the bonding effect much more than the loan that they could access now.

The efforts of the government to provide environmentally safe and womenfriendly technology-oriented programmes have picked up in the last few decades. These include prevention of drudgery for women in carrying out household work like cooking, access to safe drinking water, sanitation programmes, access to fuelwood, provision of better avenues for fodder to livestock than destroying forests for fodder and fuel-wood and so on.

Making provision for smokeless chulahs (ovens) that are environmental and gender friendly is a significant intervention in the above context. The reforms made in the Public Distribution System has enabled the poor women to access these facilities in a far better way than before. Besides these, attempts have been made to include women in drinking water and sanitation committees under various programmes and drinking water became a priority issue under the Panchayati Raj system.

The presence of women elected representatives has added value to the protection of environment and making provision for basic amenities to the poor in the rural and urban areas with a gender focus. The women members of watershed and forest management committees are expected to be more empowered with the presence of women in the local governing bodies at village, block and district levels.

# **CRITICAL ANALYSIS**

## Issues in Measuring Links between Gender and Social Ecology

Studies dealing with women's role in environmental resource management have highlighted their role in the management of water, agriculture, livestock, fisheries and forest. Based on the findings of studies in rural areas, it has been established that women clearly outdo men in terms of their involvement in the use and management of all such resources. Even then they face exclusion and denial of equal share of benefits from the environmental resources.

In order to ensure sustainable use of these resources, it is recommended that policy makers, researchers, planners and development workers should have a better understanding of the relative and often shifting roles of men and women in the management of ecological resources, including division of labour, access to resources, decision-making and traditional knowledge and practices.

There are similarly links between women, social ecology and health. Reproductive capacity of women and their traditional roles have been eroded due to

manual labour, increasing mechanisms have altered women's roles. Eco-feminists argue for establishing a link between the two by emphasising that poor women are victims of ecological degradation.

It is realised that there has been a research challenge due to lack of baseline data in measuring the variables of environmental resource management in its links with gender. It is argued that women's participation in environmental movements arises from their closer interactions with nature and their respect for community cohesion and solidarity. In the division of labour they are responsible to gather fuel wood, collect water, harvest the edible plants. Thus women are easily able to perceive and more quickly respond to the drying up of nature or deforestation. From such notions the indicators for measuring their contribution and role in environment resource management issues has to emerge.

The efforts by the Government have made some participation for women in the management of their social and natural environment and to form social capital. It has been successful in increasing their level of awareness, commitment and social accountability. It is expected that concerted efforts to integrate women into users' committees, women's self-help groups and other community based organizations through both Government interventions and civil society initiatives are going to evolve with an added emphasis now under the decentralisation regime.

# Analysing the Gender Issues

Since long back macro policies have been dealing with the vulnerability of women, it is more important to become aware and able to focus on their rights and entitlements. What is needed now is to disentangle the issues of gender and sustainability. A clear understanding of the roles of women in development is the need now. The focus is on women rather than on gender relations and the tendency is to take the category of women as a homogeneous entity, whose constituents are performing unique gender roles.

Another grey area is interpretation of gender roles and women's roles as being marked by a shift in position and changing political priority over the last few decades. Feminist studies are required to look at the entire issues and undertake systematically the thematic studies.

For example, feminist thinkers have been campaigning for impact studies to see the impact of efforts upon women, men, on the social organisation of production relations etc. Women have been shaping social affairs and keeping community values together, i.e. reproductive and community roles of women.

Population, poverty and ecological degradation are also linked to gender dimensions. Another environmental problem is generated from industrial practices in the developing countries. It is believed that critical global problems derived from political and cultural domains, associated with industrialisation, are linked with development.

Hence, gender issues have become secondary and women have come to be treated as only victims of all this and have to be attended to. It is argued that political will and financial support are strongly needed to solve their problems. But the fact that women can be put on different forums to design coping mechanisms and strategies are not yet considered significant.

# CONCLUSIONS

Various feminist scholars like Bina Agarwal (1992) have pointed out, the ecofeminist perspective is "ethnocentric, essentialist, blind to class, ethnicity and other differentiating cleavages, ahistorical and neglects the material sphere". Ecofeminist literature portrays the historical exploitation and domination of women and nature as going hand in hand, and both are seen as victims of development. It is taken as self, evident that any harm to nature harms women equally, since women are seen as closer to nature than men. None of the ecofeminist literature attempts to establish this linkage through concrete evidence or strong argument. It is very anecdotal and takes its position as self-evident. It locates the domination of women and nature mainly in ideology, thereby neglecting the "interrelated material sources of dominance based on economic advantage and political power" (Agarwal, 1992) as well as the gender division of labour and distribution of opportunity. These ecofeminist images of women, in fact "retain the patriarchal stereotypes of what men expect women to be. They freeze women as merely caring and nurturing beings instead of expanding the full range of women's human potentialities and abilities. "The use of metaphors of women as 'nurturing' - like the earth, and of the earth as female abound are regressive rather than liberating women. They only reinforce stereotypes. What these arguments seem to overlook is that concepts of nature, culture and, gender are "historically and socially constructed and vary across and within cultures and time periods" (Agarwal, 1992. This essentialism presents women as a homogeneous category, both within countries and across nations. It fails to differentiate among women by class, race, ethnicity and so on. Ecofeminist essentialism fails to put forward any account of historical change in society. Critics argue that emphasizing the special relationship of women with nature and politics imply that what men do to the earth is bad, unlike women, thereby ignoring the fact that men too can develop an ethics of caring for nature. It also fails to analyse capitalism and its domination of nature. Hence, it cannot develop an effective strategy for change, since it ends in polarizing the worlds of men and women while essentializing the two categories. Historically, women's intimate knowledge of nature has helped to sustain life. With colonial intervention and capitalist development, production in traditional societies was disrupted.

Issues of environment and ecology entered the mainstream discourse on development and social movements only during 1970s. It is the poor, lower class

and lower caste, and within them, the peasant and tribal women, who are worst, affected and hence, they are the most active in the protests. Women, therefore, cannot be homogenized into the category (as the ecofeminists tend to do), either within the country or across the globe. Women as women have a special relationship with nature as ecofeminists argue, is proved wrong when one analyses the various protest movements. Women's interaction with nature and their responses to environmental degradation must be analysed and located within the material reality of gender, caste class and race based division of labour, property and power. Women are victims of environmental degradation as well as active agents in the regeneration and protection of the environment. The adverse class-gender effects of these processes are reflected in the erosion of indigenous knowledge systems and livelihood strategies on which poor, rural women depend.

The nature and impact of the processes of environmental degradation and the appropriation of natural resources by a small minority are based in the dominant ideas about development, gender division of labour, as well as on differentials of property, power and, so on. Hence, there is growing opposition to such inequality and environmental degradation, as reflected in widespread grassroots resistance movements. Environment and gender issues need to be taken together.

It may be said that with some planning and advocacy, gender concerns in ecological degradation and use of natural resources can be identified and sustainable development introduced. Reduction in gender gaps should become the priority while addressing socio-ecological issues in rural and urban contexts. A deeper understanding of the ongoing practices and the existing gender relations both at the household and the community levels that shape, guide and determine them may be the primary objective to arrive at a theoretical framework for further analysis and action.

It is hypothesised that the rich and developed countries somehow would control environmental degradation, through trade-offs between economic growth and environmental commitment. The newly industrialised countries are focussing on achieving the development goals without compromising the environmental equilibrium. They face a tough task to bridge the gaps in making collaboration that acts negative on the environment. The third group comprises of the poor and the deprived countries which compete in their use of the environment for comparative advantages, where degradation of environment becomes only the worry of the rich.

India needs to fit itself in this framework as it is influenced by technological and trade policies. Above all, environmental outcome depends upon the manner in which economic growth is pursued and attained. Multidisciplinary oriented environmental studies will have to undertake research and advocacy in socio-ecological issues from a multi-dimensional but holistic perspective. Only through this, a valid and workable policy suggestion may be put forth in understanding, analysing and mainstreaming gender in socio-ecological studies on a long-term basis. Certain issues need to be

studied at the micro-macro levels to show the manner and types of ways in which specific action-oriented programmes have emerged from the Summit 2002.

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