WOMEN AND MINORITY GROUPS IN ENVIRONMENTAL MANAGEMENT

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The work reported here explores how women and indigenous groups could potentially contribute to the process of environmental management. Women, indigenous communities and the poor are minorities due to their powerlessness. The result is that their opinions are not sought and minorities are not treated as contributors to modern development interventions. The objective of this paper is to examine how local knowledge and strategies contribute to the management of the resources of local environments. It is seen that women are marginalized in two ways. On the one hand, due to their gender, women are socialized as homemakers and family labour in farming and the management of other resources. On the other hand, women lack resources. Indigenous groups are marginalized due to the fact that their environmental management methods are not technical and cannot be institutionalized.

The information extracted from two field studies conducted in Sri Lanka reveals that for women’s and indigenous minority groups environmental management is an integral part of their resource use and therefore integrating locally evolved strategies is a way to stabilize, restore and sustain the survival systems. © 1997 by John Wiley & Sons, Ltd. and ERP Environment. Sustainable Development, Vol. 5, 11–20 (1997)

BACKGROUND

Land and local resource based development is severely threatened due to environmental degradation. Some aspects of degradation are a result of modern development, the conversion of massive areas for production activities or the destruction caused by such transitions. Abandoning lands that have supported crop production is common with the expansion of modern technologies. The depletion of forests, despite many state regulations, management strategies and institutions is another problem. The degradation of land, irrespective of the efforts made by state institutions and substitutes given to farmers, indicates the failures in modern intervention strategies. This paper is not an attempt to sensitize readers about what has happened over the years, but to show how development could be sustainable by empowering those who could potentially contribute to sustaining the local resource base on which they depend.

In its broader local and global context, environmental management calls for the participation of all those who make use of environment resources. Environmental management has been related to sustainable development primarily due to the fact that development policies and programmes executed in more prescribed forms or in an isolated manner have resulted in a tremendous stress on the lives of people. Both concepts, ‘environmental
management’ and ‘sustainable development’, have not only been widely debated, but also institutionalized. However, attempts made in institutionalizing these two concepts are often linked together more in theory than in practice. For instance, the FAO (1991) has stated that

Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.

It is clear that although development interventions open up their own pathways, environmental degradation continues at an unprecedented rate. For instance, the World Resource Institute has identified that 12 billion square kilometre, or 10.5% of the world’s fertile land base, has been degraded due to inappropriate burning, overgrazing and deforestation during last five decades or so (World Resource Institute, 1992). The seriousness of this situation has been analysed in many different ways. From the perspective of food security, nearly 12.7 million tons (1%) of the world’s grain output is lost annually due to land degradation and the damage caused to crops from pollution. Despite all efforts and investments made in favour of increasing crop production, as has been explained by the International Institute for Environment and Development (1994), the planet is left with a net gain of 13.5 million tons of food production, an amount which is well below the 25.3 million tons or 2% growth needed to match the annual world population growth.

Under these circumstances the correlation between sustainable development and environmental management needs to be worked out more on the ground as well as on paper. The wide range of social and environmental crises emerging out of development are stressful. As concepts these two scenarios have stimulated international and national recognition and have urged environmental assessments in development programmes. The effort made by the UNDP to train project staff and planners from particular countries to see that the environment impacts of projects are identified in advance and mitigation measures are embedded into operationalized cycles is a strategy adopted to ensure environmental management in project execution. Strategic solutions are urgently required to restore the lost wealth of resources in Sri Lanka. For example, the tea estates can no longer absorb plantation labour due to severe degradation. The state has no capacity to subsidize farmers to continue farming or to alleviate poverty through subsidizing for basic needs.

The pressing need for realizing the role of actors who could potentially contribute to the management of the environment is immense. From the perspective of reinventing the locally appropriate strategies there are efforts all over the world to understand and share information about indigenous knowledge. For instance, the Indigenous Knowledge and Development Monitor of CIRAN/Nuffific (The Hague, the Netherlands) promotes and exchanges information on indigenous knowledge related to development. Quiroz (1996) has given examples of local agricultural knowledge in Latin America. The village production systems in many areas are composed of a number of elements such as cultivated lands, fallow fields, home gardens and agroforestry plots (Chambers et al., 1989; FAO, 1993a, 1993b). Research conducted in the dry zone of Sri Lanka, Ritigale, in 1995 shows that village ecosystems are more complex. Natural forests, village forests allocated for the common use of the villagers, the forest lands located between the lands under agricultural production and natural forests known as ‘imelanda’ have been under different community management systems. In addition, the farmlands, fallow fields, irrigation tanks, areas reserved for the protection of water bodies, home gardens and a large number of agroforestry systems are all managed under specific systems.

From feminist and gender perspectives it has been shown that the lack of women’s participation is a cause of continuing environmental problems (Shiva, 1990; Moser, 1993). The lack of information on how to empower the real actors, and ways in which such actors themselves want to be engaged, has resulted in overgeneralizing the situation. In this paper an attempt is made to show how women and indigenous minority groups have been involved in environmental management in Sri Lanka, what position they occupy at present, what experience they have to share and how strategic reformulations are to be made to enable them to fulfil their potential roles in environmental management.

Environmental management as perceived by women and minority groups is holistic, multifaceted and interconnected. The information extracted from the studies conducted in Kelegama and Muriyakadawala, two villages located in the dry zone of Sri Lanka, contributes to the debate...
about the sustainable management of environmental resources and the question of resource ownership. The focus group discussions and participatory interaction facilitated in these two investigations help to build an information base to discuss how women and minority groups are to be empowered to manage the environment in their own geographical settings in a more profound manner.

Resources are owned by a limited number of affluent people and the state in many societies, particularly in the developing areas of the world. In Sri Lanka nearly 80% of the land is owned by the state. Environmental management under such circumstances has been taken as a task that can be fulfilled primarily by scientists and top level decision-makers who have been labelled as ‘environmentalists’. The reasons for the unequal contribution to this tasks are the unequal distribution of resources, access, the power of control and decision-making. From a perspective of power relations, women, the poor and indigenous people are minority groups. They do not exercise power in decision-making, nor do they exercise control over environmental resources. Women, the poor and indigenous groups are not consulted in planning and executing programmes related to development, or in identifying environmental issues and introducing strategic solutions. A relatively high proportion of the society is often marginalized due to their lack of control over resources and the marginal positions that they occupy in society. In terms of power relations, although women are nearly one-half of society, their opinions are invited in the process of formulating development interventions. This process results in creating a number of environmental repercussions. This is also true for other sectors of society who exercise no power in decision-making. For instance, the decisions affecting indigenous livelihoods are made by those in official positions.

For women and indigenous groups whose opinions are not consulted, environmental management is part of an integrated activity practised in their day to day life. They perceive the environment in a broader manner: it is not only confined to the geographical setting that they occupy and the resources with which they interact throughout their lives, but also includes external systems that they maintain relationships with. The same thoughts suggest that environmental management cannot be practised within specific boundaries, so cross-sectoral and multifaceted linkages need to be considered.

In Sri Lanka nearly 78% of the population live in rural areas. Hence the overwhelming importance of the country’s environmental resources—the lands, its soil, water, the forests, flora and fauna—to their sustenance is justifiable. It is the rural sector that is directly involved in food production while in contact with local resources on a day to day basis. The sustainable management of natural resources means providing a security of livelihood for its people and the economy of the country. Within the context of the country’s agrarian economy, the rural sector of the population plays a dominant role. This implies that the wise management of environmental resources must cover dimensions related to land utilization and conservation as attended to by the people. This is important not only for those who depend on natural resources directly for their livelihood, but also for others who share the benefits of the functions that the rural population maintains with their inputs.

THE FIELD STUDY

The findings presented in this paper are drawn out of field investigations conducted in 1994. The objective of the study was to examine how local resources are managed by people, particularly by women and minority groups, and to identify what constraints prevent the contribution of those who have daily contact with the environment. A series of methodologies was adopted to fulfill these objectives. A questionnaire survey was conducted to construct the current situation profile, whereas participatory methods, observations, group discussions and field mapping were used to generate information through communication.

The two communities covered in this study are located in the dry zone of Sri Lanka. Kelegama is characterized by its traditional tank-irrigated farming, whereas Muriyakadawala contains an added feature, its greater dependence on forest resources. The tank irrigation system, which has been established by barricading natural drainage for the purpose of conserving the seasonal rainfall to support life in the dry zone areas, is an example of the traditional environmental management practices of indigenous people. Both villages show strongly interconnected social and ecological systems. They largely depend on commonly shared resources such as water bodies, forests, common reserves, grasslands and village forests. Reciprocity is an outstanding social feature that maintains the village as an social entity. The people of Muriyakadawala are predominantly the descendants of primitive hunting and gathering communities, ‘the veddhas’, and tend to claim their customary rights to the resources that are now claimed as ‘state lands’. As shown in Table 1, in Kelegama the local...
community depends heavily on family lands and the state-owned common lands. The state-owned forest, the Ritigala Strict Natural Reserve, is an added advantage to the people of Muriyakadawala because, despite strict legislation, they make daily use of the forest resources.

In Sri Lanka such indigenous community clusters are rare, and even if they exist the spirit of traditional practices has been violated with the advent of modern interventions and the exposure to externally oriented development. Women in both communities constitute about one-half of the population. In terms of their numbers, women should have equal opportunities. However, their lack of power in making decisions and control over resources renders them powerless. Household lands are primarily owned by the male heads, except in 4% of cases where women are reported to have inherited lands. The indigenous community taken into consideration is a minority in many ways. It represents a relatively small cluster and the many communities in the neighbourhood do not claim inheritance. They are also considered as ‘backward’, mainly because they depend heavily on natural resources. Technologically no advances have been shown and they believe that spirits and gods influence their day to day life. In terms of power relationships, women and the indigenous communities are considered simply as dependants and users, so no attempt has been made to attend to their opinions about environmental resource management. Women are not the legal owners of land as they have access to land only as a result of their family membership, so they automatically act as free labour executing top-down strategies. Opportunities for their free decisions are confined to the areas that are commonly managed and to the fields and home gardens that produce for home consumption needs.

**MANAGEMENT OF RESOURCES AND ECOSYSTEMS**

The resources of the environment valued and used by women and indigenous groups have been managed using their indigenous knowledge. Their indigenous knowledge is directly related to three major aspects. One is their knowledge with regard to the resources such as land, water, flora, fauna, crops, genetic materials and soils. The second is related to the functions, potentials, conditions and management of the village ecosystem and its subsystems. These include farmlands, forests, common lands, tanks and water bodies, settlements and drainage. The other is location-specific management practices that are complex and difficult to understand. Despite their invisibility, the fact that these minority groups—women and indigenous communities—have been engaged in environmental management on a day to day basis is important. Their relationship with the environment has been structured over generations through local knowledge systems and livelihood. The social, economic, cultural and local resource contexts are important. They have been the silent managers of the environmental resources of the village ecosystem. Women and indigenous communities interact with the village ecosystem consistently, regularly and with confidence. Their practical contacts with farmlands, forests, common lands and water bodies are extensive. In both villages women work long hours in the fields, attending to multiple tasks. Women tend to work long hours; in a day they...
work longer by about 50% than men to accommodate all the field activities, which also include conservation tasks, into the routine roles of household maintenance.

Men’s work within the village ecosystems is fairly uniform, less complex and diverse, and characterized by clear peak and slack seasons. In Kelegama, migration for outside work has increased with the decreasing productivity of the land and the deepening resource scarcities. About 50–60% of men migrate to service centres for work during the off-season in agriculture, whereas the women tend to spend their time in gathering and producing crops for family consumption. Although this suggests that women’s activities are more village-based and crucial in terms of environmental management, women are not in a position to make independent decisions due to their lack of resource ownership.

In both communities, plots are small for crop monoculture. The size of farm plots varies between 0.3 and 1 ha. The multiple use of farms is necessary and it is dominated by women. The space used for home gardens is an example. Home gardens are rich in diversity and are characterized by crops, trees, herbs and vines. Their needs for using farm space for various crops that are essential for household use are crucial, but women have to depend heavily on the marginal areas of the farmlands such as the hedges and boundaries. One crucial problem is that most of the wild species which are of food and medicinal values have been wiped out. Species such as tampala (Amaranthus spp.) eramusu (Hemidesmus indicus) and penela (Sapindus enarginata) are rare. There is no oasis of such species in major farmlands.

The farmlands are often systematically used for crop monocultures. To avoid competition from self-regenerated growth, increasing amounts of chemicals are used. Overall, farmlands are used to make way for externally received stocks, so the technologies that women have practised in controlling weeds, pests and in enriching soil humus and water retainability have not been considered important in managing the local environmental resources. The management of locally known species for household subsistence has been confined to marginal areas.

The contribution of women and indigenous minority groups has been marginalized. This is simply because their involvement in agriculture and resource management has not been seen as scientific and central to sustainable resource management and crop production. The agricultural extension services are the deliverance of new technologies and information on new crop varieties and their management needs. Under these circumstances, the common lands found as isolated strips along rivers, canals, tanks and beside paddy tracts have been important to women in particular. These have been maintained to stabilize the village ecosystems while catering for numerous survival needs. The common lands are the source of grass and tree fodder, legumes, medicinal herbs and trees of religious and spiritual respect. In addition to these benefits, such systems are maintained for multiple functions such as to filter water, control the sediment flow, maintain biodiversity and to balance the village landscape gradient. Such areas have served as physical buffers and also as sources of buffer stocks. The capacity of these traditional systems is weakening with the addition of pollutants to the adjoining production systems which are not under the control of women.

Environmental management includes the management of forest resources. As forest management has been considered a task for technically trained foresters, local communities are seen as neither capable nor as knowledgeable. The indigenous minority groups and women whose interests have been to see that forests are maintained to sustain their communities have been excluded on the basis that they are destroyers of the environment. As in many other parts of the country, the Ritigala Forest has been proclaimed as a Strict Natural Reserve, with attempts made to justify the need for protecting it from human contact for the sake of conserving the disappearing floral and faunal wealth of the dry zone. In Muriyawadawala the feeling of inheritance to the forest and the harmonious nature of the involvement of the minority groups have made it possible for them to be silently engaged in their management. More than 60% of household income is derived from the non-timber products of the forest. It has also been the source of medicinal products for both the indigenous herbal physicians and women, to prevent and cure diseases and ailments. The management of land for agricultural crop production fulfils only a part of overall survival needs. All the constituents of the village ecosystem, including the forest, common lands and water bodies, are managed for survival. The risk-prone area is maintained under forests and grass while the lowlands receiving water from sloping lands are being cultivated.

ENVIRONMENTAL MANAGEMENT PRACTICES

Environmental practices are traditional and specific to locations. Agriculture, the primary use of land, has been practised to produce crops. As its resource
The management practices include the following.

(i) Integrated crop and tree management practices in small farm plots, under which natural and mutual interactions of the constituents are encouraged and specific species combinations have been established. Almost all the lands cultivated with rain water are characterized by indigenous trees with multiple uses.

(ii) Seasonal fallowing of the fields for soil improvements. Most of the crop fields are left uncultivated for about five to six months. Then, before the onset of rainfall the shrubs are either burnt or pounded into the fields.

(iii) Soil and water management measures incorporated into farming. The addition of green leaves to the fields and the continuous use of cow dung and organic residues improve the organic matter content of the soil, the retention of water and improve the soil structure. Leaves of various species such as neem (Azadirachta indica), gliricidia and the residues of me (Madhuca longifolia) and neem seeds are used in the fields to control pests. Hearth ash is not seen as waste, but rather as an input to the fields to control pests and contribute potash.

(iv) The maintenance of a well balanced vegetal cover in the home gardens in particular as a means of promoting water percolation and controlling the loss of moisture from surface soils. To maintain better quality water, varieties of pandanas, kumbuk (Terminalia arjuna) and mee (Madhuca longifolia) are grown for their capacity to filter water. Many of the biological resources are managed in an environmentally appropriate manner to control surface runoff, soil erosion and to enrich the soil. Such measures are seen as locally appropriate means to create microenvironmental conditions for the species sensitive to harsh conditions.

(v) Integrated pest and weed management has been practised for generations. Castor or endaru (Ricinus communis) grows along fences to withdraw pests from the fields, whereas leaves of neem (Azadirachta indica) are retained and ploughed into the soil to obtain the same benefits. Similarly, a thin lay of straw and crop residues is spread over fields to suppress weeds.

(vi) The maintenance of biodiversity in non-forest lands. Women and minority groups are resource-poor in that they lack the land needed to practice agriculture as they prefer. The maintenance of biodiversity within a limited area of land or in common lands has been a challenge. These people have shown how conservation can be combined with utilization. An important feature in this whole scenario is the propagation of wild species in non-forest lands. The species that have been integrated into farmlands are of medicinal and food value and occupy the ground layers. Indigenous trees and shrubs have been managed in common lands along hedges and riparian areas. Rather than depending on the limited areas of forest for achieving food security, the practical integration of species with multiple uses has been pursued.

(vii) The management of common land is seen on one hand as the free utilization of state-owned property. On the other hand, it is seen as no-one’s responsibility because it is believed that the tendency for deterioration is high when resources are shared by the community. Many queries could be answered by asking how, if community regulations are absent, such areas can remain without a system of management. Common land is intentionally kept for multiple functions, which include services and production. The areas maintain a balance in the village ecosystems. For the resource-poor, primarily women and minority groups, such areas have been the source of scarce resources and daily subsistence needs. Women’s involvement and interactions are greater for a number of reasons. One is related to their engagement in freely using the available resources to fulfil their reproductive tasks. In collecting food commodities such as green leaves and fruit,
and other needs such as fuelwood and fodder from common areas, women from poor families are heavily engaged in resource management. Their close contact with such areas helps to minimize destructive exploitation.

(viii) In the management of forests, practices of harmonious use are adopted by women and indigenous minority groups. There are many reasons for this. One reason is that utilization practices have evolved over generations and have proved to be those with minimum destruction and long-term sustainability. The other is that the management of forests is reported to be for secure living within the village ecosystem. For these people the forest is a source of basic needs and services. The forest resources help women and minority groups to find their basic needs without incurring financial costs and, as such, the management of forests has been meant to reduce the impact of their lack of resources. The outstanding feature noted in these instances is the social rules that strengthen the practice of sharing forest products. The gathering of products by groups and the sharing of resources is related to traditional ways of managing resources.

THE QUESTION OF RIGHTS

When international debates related to women’s participation in environmental management are examined, it can be seen that in every aspect the insistence has been on promoting women’s participation. For instance, many programme areas of Agenda 21 have incorporated the role of women. Principle 20 of the Rio Declaration states that ‘Women have a vital role in environmental management and development. Their full participation is therefore essential to achieving sustainable development’. Despite this declaration, however, achieving full participation has become a mere slogan due to our inability to acknowledge and accept local people as local initiatives. A major question under consideration is whether women could play a part because of their greater concern over environmental resources or gender-specific concerns related to human well-being and sustenance. If we invites women to play a part because the efforts made without women’s engagement have failed, the constraints that prevent women from participating must be addressed. The same arguments are applicable with regard to minority groups. All these groups have a vital part to play if opportunities are provided and a preferable setting is created. Women interact with the environment, particularly in village ecosystems, more closely than their male partners because of their resource-based activities. They are more bound to household maintenance, they are responsible for producing subsistence, procuring materials for daily needs and attending to domestic work. In this context women deal more with the environment in which the resource base is unowned. Although women have access to land through their family membership or marriage, their control over the resource base is negligible. In managing resources their voices are often unheard and their strategies are not accepted because they are deemed to be traditional, less technical, undocumented and not scientifically tested. Reasons for not consulting women’s opinions are also related to the patriarchal social system where their roles and opinions are considered less relevant. Under these circumstances women’s rights to manage the environment are not legally recognized and practically affirmed, so their involvement has become only a slogan. Women maintain their access to the environment through secondary channels, so they work without the power of control.

The case related to indigenous communities reveals that their rights to environmental management are determined by social regulations on customary grounds. The involvement of community groups in the management and sharing of forest products by gatherer groups is related to customary practices and is based on their feeling of inheritance. Although management is formally accepted as a task of the state, indigenous people feel that the local resources belong to them and that these resources have been transferred from one generation to another. Gatherer groups are formed by the most experienced and knowledgeable leaders, who perform rituals and follow the rules of the spirits of the forest. The social rules that sustain this system include the practice of equally sharing the harvest. The exclusion of indigenous rights to environmental resources tends to marginalize their potential contribution to sustainable resource management. In both areas decisions regarding the management of water bodies, tanks and canals, as well as the distribution of water to the fields, are made by the community members. The principles of mutual sharing and respect help them to manage the systems with confidence.

Without due recognition of these practices, and lacking an understanding of the constraints that prevent women and minority groups from playing their potential parts, the engagement of women and indigenous groups in environmental management remains unauthorized and taken for granted. Until indigenous knowledge and practices are
accepted as conditions for the sustainable management of the environment, directions will be determined by the governing class, who are a minority in terms of their numbers, but who dominate through power relations. Similarly, the monitoring system tends to exclude many of the cultural and spiritual concerns related to the environment, despite the fact that the ethics of the environment of women and indigenous groups are locally sound and practically more realistic than the ethics that interventionists try to enforce.

The gap between the status of ownership and customary rights reflects current power relations. Women’s position in both communities studied is second to their male partners. The patriarchal social structure is connected with the ownership of lands. Men are consulted as the legal owners of the lands by outside intervenors and they are endorsed as ‘farmers’, whereas the actual engagement of women is not recognized. This implies that state policies focusing on commodity production will be male-focused, because the role of those who are actively engaged in resource use has not been of concern. The conventional ideology regarding women’s domesticity and home maintenance roles excludes women as the main producers: instead of considering women as environmental managers, they are seen as a source of free labour. Women’s production work is related to land-based activities. In making decisions regarding resource management, the space available for women is marginal. Women do not personally claim the benefits or products of the farmlands as managers, but benefit as members of the respective families. The status of minority groups is similar to that of women. They do not have the legal rights to claim the benefits of the forests to which they have rights on customary grounds.

Women are more comfortable in the management of common areas located within the village ecosystems. Their membership in the communities in the absence of legal owners enables them to make decisions as groups. The collective strength and sharing of responsibilities and products inhibit the destructive use of common property resources. Group consultation and mutual interactions give women a feeling of community. The management of common areas for multiple functions, for both production and services, is considered a community responsibility.

**POTENTIAL CONTRIBUTIONS**

The roles of women and minority groups are undervalued and their opportunities for environmental management are controlled by the current top-down development process; however, their potential contribution cannot be overlooked. The primary lesson learned through their participation is that in the development of land-based, and in a broad sense resource-based, survival systems, all the aspects related to environmental management should be accommodated into the day to day resource management.

The day to day resource management practices are indigenous and most of the negative repercussions have emerged as a result of the bias in utilizing resources to achieve the short-term production goals dictated by the market economy. As in many parts of the country, crop production has been connected with the market economy, so externally driven technologies have penetrated resource utilization. The high yielding crop varieties, including cow pea (*Vigna cylindrica*), soya bean (*Glycine max*), corn (*Zea mays*) and mung bean (*Phaseolus aureus*), have been propagated with chemicals so that the ability of local varieties to emerge and regenerate has been controlled. The need for recalling more locally appropriate and locally evolved management measures is being recognized with the loss of farmlands and the expansion of wastelands. The management of land resources to sustain favourable conditions has not been successful with inputs that do not solve long-term problems. The potential contribution to the deepening resource degradation is primarily in two development areas: the management of land under crop production, which deals with soil, water and biological resources, because these elements interactively sustain the environment and development; and the management of forests by bridging two dimensions, namely multiple use and forest regeneration (Wickramasinghe, 1994, 1995). What women and indigenous groups refer to as environmental management is integrated land resource management and maintaining the diversity of ecosystems. It is important to realize that the generalization of the ideas of women and indigenous groups could lose touch with the reality because they act locally. In a broad sense, their priorities are to manage the water, soil and biological resources in a sustainable manner.

What is important to note here is that women and minority groups have practically managed the environment over generations with self-confidence on the basis of knowledge gained through their own experience and interaction with the environment. If we expect them to play their potential parts their rights must be affirmed. The conditions under which these potential contributors have been marginalized need careful analysis. On the one hand the privatization and demarcation of lands under agriculture, forests and common reserves...
has been accompanied by a large number of policies over decades. On the other hand, locally appropriate curative and preventive measures are in the hands of those who lack the power of control. One of the most essential ways to secure the contribution of formally marginalized categories of society is to empower them. Empowerment requires a process of building on the spirit, experience, knowledge, practices and confidence of local people. Socially and economically disadvantaged groups have proved experience in making decisions and taking actions as appropriate when they have the freedom to choose, decide and act. Self-sustaining improvements in environmental resources are practised by women and minority groups. The maintenance of water, soil, flora and the micro ecosystems of village ecosystems is aimed at securing and stabilizing their land-based survival. Any improvements in the environment and quality of life require entitlements to the means of production and survival. Indigenous irrigation management systems in Sri Lanka are a good example. The traditional tank irrigation systems are managed by the people themselves, with the leadership of a welwidane, an experienced person appointed by the people to see to the matters related to paddy cultivation. When compared with this, the modern irrigation systems introduced under river valley development programmes suffer from lack of participation by local people, local initiatives and leadership.

CONCLUSIONS

Opportunities for women and minority groups to decide on how the environment in which they exist is to be managed have been limited. In development ideology it has been assumed that environmental management is technical and scientific and as such non-affluent people or non-scientists have no capacity to make decisions.

Practically, the management measures of women and indigenous minorities are acceptable and can be adopted. The measures have evolved through trial and error, taking the local resource context into consideration. If due recognition is given they have the skills, experience and knowledge to make a change. For the purpose of environmental management the rights to resources and roles of women and indigenous minority groups need to be recognized. Recognition here extends beyond seeing them as groups that could execute the strategies defined and designed by external administrations. It urges the recognition of local activists who have a store of knowledge about the local environment, how to manage it, what problems are to be mitigated, and the critical geographical areas that need attention. The local environment is the workplace for women and indigenous minority groups; legislation and strategies pertaining to its management must be formulated by consulting them.

Externally adopted management measures remain artificial and tend to disappear when external support dries up. Examples of such measures are the Community Forestry Programmes introduced for the purpose of seeking community participation, and also the Sloping Agricultural Land Technology (SALT) programme, which suffers from a lack of community concern and orientation. Information about women’s capacities and indigenous measures are sketchy, so that the policies affecting women and minority groups have been the choices of top level policy-makers. Against these choices, the capacities of both women and indigenous groups are broader than they have been generally conceptualized as simply users and producers. Environmental management for these minority groups is strongly connected with measures securing long-term conditions.

The willingness to accept the potential contribution of women and minority groups is a condition that will open up opportunities. Many nations are aware of the fact that Agenda 21 has endorsed activities promoting the incorporation of women into its programmes. However, to remove the practical constraints to their contribution strategic adjustments are essential at both the local and national levels.

The situation related to women’s participation is also applicable to other minority groups, particularly indigenous groups. In both cases participation has been limited to their participation in externally designed programmes. The recommendations made by nations stagnate as slogans, because such simple recognition has not solved the problems relating to their rights to environmental resources. What is needed is uncontrolled participation and self-directed engagement based on the experience gained over generations. The remnant of locally practised management measures must be institutionalized locally, regionally and nationally, with suitable policy supports to manage the environment and to sustain development.

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