

Chapter 6

Women, Environment and Development

6.1 What women do in their roles as producers and resource managers is central to the sustainability of the natural resource base. Women everywhere have the main responsibility for household resource management, education of the young and caring for the family. In developing countries they spend the greater part of their time tending, gathering, conserving and using natural resources. They are directly dependent upon the natural resource base and sustainable natural systems are fundamental for the survival of their families¹. Women generally use these resources wisely and sustainably where they are allowed to do so; they are experienced and knowledgeable natural resource managers, and they have fought many campaigns to safeguard environments from exploitation².

6.2 Our main concerns in this chapter are the identification of strategies to support women as environmental managers, by providing them with the tools and resources to enhance their work for sustainable development, and finding ways of building upon their indigenous knowledge. Much of what we say here underscores the fundamental need to increase and support women's involvement at all levels of decision-making on environmental and developmental issues, so that they can bring their knowledge of the environment and their understanding of their communities' needs to bear on the policy-making process. We have also considered some of the mechanisms which could be deployed to support women's own initiatives in environmental management for sustainable development, and we explore how women can develop and share their perspectives through interaction with NGOs and governments and exchanges between women at local and international levels.

6.3 In planning sustainable development projects and programmes, and in ensuring that women and their dependents benefit from such developments,

all countries should pay attention to the need to utilise women's knowledge of local ecosystems and of the economic uses of domestic and natural resources. The different economic roles of men and women often mean that they have differing priorities, both of which must be recognised if sustainable development is to be achieved.

6.4 The ways in which women manage and interact with their environment greatly depends on their social relationships, especially with men. The power relations in which they are involved determine their ability and obligation to manage and control the use of local natural resources. Understanding issues of environment and development requires consideration of the work and activities of both women and men.

6.5 We recognise that women are by no means a homogeneous group, with a common set of priorities and problems. Some are more dependent on natural resources and more vulnerable to environmental degradation than others, but we draw attention to women's major environmental roles in all societies and their particular contributions to sustainable development.

6.6 In many developing countries women are the major managers of local environmental resources. In their roles of food producers, water collectors, and fuel gatherers, rural women are in frequent and direct contact with land, water and forest resources. Women have direct knowledge of these resources and have access to traditional knowledge and practices which help to maintain the natural resource base. But their skills in natural resource management need to be supported. They may lack appropriate training and technologies. They need opportunities to provide an income for their families without undermining their environment. A re-orientation of development policies is required to take account of gender differences in natural resource management.

6.7 The economic contribution of women is known to be substantial. Women's role in food security is central and they produce more than half the food in the developing world and as much as three-quarters in Africa. They play a major role in the storage, processing, and marketing of food and cash crops, and they often have charge of small livestock. Women constitute about one-quarter of the industrial labour force in the developing world and an even higher proportion in many of the expanding export industries of some developing countries. They also work in the large and growing informal sectors of both rural and urban areas. But their economic contribution goes much further. Women usually have primary responsibility for the care of children and the elderly and for many household chores. They often spend several hours every day fetching household water and fuelwood (which constitutes 90 per cent of the household fuel used in Africa). Because much of women's work is done at home or outside the formal economy, it is not fully recognised in official statistics or by policy-makers.

6.8 Women's economic options in relation to those of men vary widely in different cultures and economies. In the early stages of economic development, women tend to bear many children and to work in or near the home, whereas men have a greater choice of occupation. Generally, however, as economic development opens up more opportunities for education and employment, women's choices expand: couples tend to have fewer children, and women tend to enter the formal labour force, in which earnings are higher. Economic development can widen the options for women, enabling them to earn more, learn more, and secure better health for themselves and their children.

6.9 In both industrial and developing countries, women's ability to realise their economic potential depends upon their health and educational status, and their access to information, resources and markets. The existence of gender divisions of labour in households, and sometimes legal and social discrimination, constrains women's choices and restricts the contribution they can make to sustainable development. Action is required both to provide women with a wider range of personal options and to increase the effectiveness of their already substantial involvement in economic activities and in work to develop and sustain the human resource base.

Women and Sustainable Development

6.10 Where they have sufficient opportunities to do so, women are already playing important and effective roles in environmental management and conservation, especially when working together in groups. Among the best-known examples are the Chipko movement in India and the Greenbelt movement in Kenya (see Boxes 6.1 and 6.2 on pages 108 and 109). Many other women's groups throughout the world are also actively improving the environment, not only in rural areas, but also in urban centres.

6.11 To participate more fully in sustainable development, women need to be released from various constraints. They need to have legal rights to natural resources including land, water, trees, crops and livestock, as well as control over how these are managed. Secure land tenure will facilitate their access to capital, credit, and appropriate education, extension services and technology. In addition, women need to be able to choose their family size. More attention should be focused on relieving them of the conflicting demands on their labour. Supporting women generates other benefits, including better economic performance, improved family welfare, greater alleviation of poverty and slower growth of population.

Women and Land Management

6.12 Women are at the centre of food production for subsistence in many regions of the world. Their access to land is central to food security, not

Box 6.1

Chipko in Gadkharkh Village, India

Most men have migrated from this small Himalayan village to the cities in search of employment. Women bear the multiple burdens of domestic work. They care for children, tend the fields and animals, and collect fodder, water and fuelwood. During the 1970s, commercial felling on Forest Department land removed much of the oak and other broadleaved trees on which the women depended; springs dried up and water was hard to find.

The Chipko movement began here at the end of the decade, and a temporary ban on felling was secured. But two problems remained. First, deforested land was replanted with fast-growing pine, eucalyptus and poplar for commercial harvesting, replacing the hardwoods valued by the women for fodder and fuel. Second, there was no replanting on many tracts of deforested land, nor on the village lots which are for local use. Control of these village lots lay in the hands of men in the village councils, who neglected them—although the rights to use and care for the village forests were vested in women.

In 1982, after a series of village meetings, a women's forum was created which began a savings fund to provide interest-free loans for its members. A year later, having learnt from this initiative, the women felt bold enough to take up the issue of forest rights and try to revive the old village forests. They succeeded in driving off illegal wood collectors and started a small nursery to produce hardwood saplings for planting in the village forests. Twice a year now, students come to help the women in 'planting camps'. By 1987 a village woodlot was opened for the removal of fodder grass and fuelwood for the neediest families. The women's forum has pioneered the use of energy-efficient ovens and pressure cookers among its members. The women of Gadkharkh are now helping other villages to revitalise their forests.

Source: Renu Wadehra¹

simply because of their role in agricultural production, but because they utilise the nutritional products of non-cultivated lands such as forest fruits, and wild plants.

6.13 Women constitute 76 per cent of the number of people active in agriculture in Africa, 68 per cent in Asia, and 23 per cent in the Caribbean².

Box 6.2

The Greenbelt Movement in Kenya

The objectives of the Greenbelt Movement were inspired by the local needs and problems of Kenya but they apply to many other countries and communities in Africa and around the world.

The objectives are many and varied, and each comes from a particular need.

The Movement endeavours to meet the needs of communities by harnessing local capabilities, expertise and resources and engaging the community to be the main driving force.

As part of the Movement, women produce tree seedlings that are subsequently released to small-scale farmers and public institutions such as schools and churches. Thus, women are paid for the tree seedlings and this creates an income-generating activity for them. Ultimately, it improves their economic position.

The Movement promotes self-employment. It works to assist thousands of unemployed and underemployed to employ themselves in the promotion of tree planting and environmental conservation in their areas.

As a Greenbelt member, a woman compiles a report at the end of each month and on the basis of the reports, she receives a small allowance as a token of appreciation.

The Movement has created more than 600 tree nurseries in communities throughout the country. About seven million trees currently growing in Kenya were planted by members. More than 50,000 Kenyans, mostly women, have been or still are members.

The Greenbelt Movement is a successful example of a truly community-based project. Although it was conceived by and is directed by women, both men and children have enthusiastically participated.

Source: Wangari Maathai⁴

While women often produce food to feed their families, either on separate fields or as specific crops on the same field, men usually grow cash crops, and control the resultant income.

6.14 Even where women and men farm the same crops, the tasks they perform are often different and complementary. Women are more involved in activities such as weeding, post-harvest storage, seed selection, preservation, and processing of crops. Many of their agricultural activities are tiring and tiresome as they have not benefited from the mechanisation that many of the male-dominated activities have experienced.

6.15 Women's workload, as growers of food and as hired labourers for cash crop production, has increased due to several factors. These include male migration to the cities or mines for work, increased pressures on family budgets, and an overall expansion of agricultural production.

6.16 A study in Tanzania which compared the positions of Haya women who were landowners with those who farmed but did not own their own land, revealed that the former displayed impressive entrepreneurial and agricultural skills, had a higher standard of living, received income from cash crops and hired male labourers⁶.

6.17 Yet according to UN statistics, women own no more than one per cent of the world's land, and even where they have access to land for farming, their tenure is often costly and uncertain. Without ownership or secure tenure, women cannot invest in long-term conservation practices.

6.18 We believe that one of the fundamental constraints faced by women is their inferior status by law and by custom in many countries. Indeed, many women effectively remain legal minors throughout their lives, so they cannot act on their own behalf. Without equal legal status, women are prevented from owning, or controlling the use of, land and other natural resources. However, the gender division varies among ethnic groups as well as among countries. For example in Siaya District, Kenya, trees on household land are considered the property of the headman, regardless of who plants or tends them. By contrast, Moslem women on the Kenyan coast can inherit coconut and cashew trees that are grown on the land of male relatives. The women own the trees as well as the harvested crop, and men's use of the land must not interfere with the profitable management of the trees⁷.

6.19 Land ownership (usufruct) and control are determined by law, by tradition, or by a combination of the two. Privatisation of land and commercialisation of agriculture in many countries tend to decrease women's access to land, as it is often automatically registered with the men, regardless of existing land use rights⁸. Some projects have also had other detrimental impacts on women (see Box 6.3 opposite).

6.20 If married women's access to land is hampered by land ownership constraints, the position of divorced, separated, or abandoned women is even worse. Women whose husbands have migrated may face the same constraints

Box 6.3

Women and the Kano River Project in Nigeria

A 120,000 acre gravity-flow irrigation scheme in Northern Nigeria was set up with the goals of increasing national food supply, providing employment opportunities and improving living standards through the provision of clinics, schools, roads, water and sanitation. All land ownership prior to the scheme was registered and the land was reallocated to the owners after the infrastructure was in place. Although previously many plots were owned communally, only the 'senior owners' (almost always men) were registered. Nearly one-third of the male farmers lost almost all of their land, as did roughly the same proportion of women farmers. But those women who continued to have access to land were now given the worst plots by their husbands.

Increased irrigation led to a greater emphasis on dry-season crops. Wet-season crops received fewer inputs and their output declined. Crop diversity was severely reduced as cropping patterns shifted from local staple foods to the cash income-generating wheat and tomatoes. Sorghum and millet grown by women in the wet season suffered the most.

Some women in the area were able to take advantage of the increase in wheat production by selling wheat to migrant workers in the project area. Others however had to work more on their husband's farms and could not find time for income-earning activities for themselves. Although the project did bring employment to the area, the permanent jobs in construction and administration were filled by men. Women were hired as seasonal or casual labour on the farms.

The project also resulted in wide-scale destruction of forest, with a consequent reduction in the availability of fuelwood and wild plants for the poor. Women had more difficulty gathering fuel and lost income due to lower sales of fuelwood.

Source : Jackson⁹

if land is in their husbands' names only. We believe it is vital to secure women's and men's traditional rights to resources and resource use; to recognise and formalise these rights, and especially to strengthen women's security of tenure. Where restrictive customs limit the rights of women, ways should be found to minimise these restrictions.

6.21 The poorest rural households in developing countries, many of which are headed by women, are being made landless or are forced to farm poorer, less productive lands. To scratch a living from their meagre plots, these households often have no alternative but to abandon traditional practices which conserve the land and use harmful methods of production. Fallow periods are shortened or omitted in the struggle for a continuous supply of food. Soil fertility declines year by year. Steep slopes are intensively cultivated and the land degrades. Scarce fuelwood is replaced by the burning of crop and animal wastes which could otherwise be used to maintain soil quality, thus threatening agricultural yields.

6.22 Women's ability to use land for sustainable production and avoid this downward spiral of poverty and land degradation is influenced by patterns of land use. Traditional rights of access to land for the farmers and communities who depend upon it need to be secured to enable them to continue to gain their livelihoods and care for the environment which sustains them. *We recommend that Commonwealth Governments should oppose the exercise of state or private power to deprive communities of their rights to land, and that studies of the options available for securing and formalising these rights be undertaken so that modern and appropriate ways can be found of giving communities secure title to land.*

6.23 Projects to introduce or increase the production of cash crops can have profoundly disruptive effects upon a community's food security. In some instances these projects may be desired by the community but steps must be taken to ensure that food production is not marginalised. Such projects must be planned with the full participation of men and women in the community, so that provision can be made for food production to continue on good quality land.

6.24 Where land has already become acidified and degraded, attention should be paid to supporting communities bearing the high costs of reclamation. Such investment is usually focused on commercially farmed land, to the neglect of subsistence agriculture and the detriment of food security. There are many instances where women have voluntarily donated their time to large-scale land rehabilitation schemes when they, their families and their communities will benefit directly. One example is given in Box 6.4 opposite.

Women as Users of Forest Resources

6.25 Rural communities rely on forested areas for a wealth of goods and services: wild plants and game to supplement their diet, fodder and shade for their livestock, and medicines, fuelwood and construction timber for their own use or for sale. Women make extensive use of the species of natural forests for their household incomes and food security. Many of these products are to be found only in natural forests, and as a result women have a

Box 6.4

Mwethya Groups in Kenya

The Katheka soil and water conservation project is an example of a women's initiative to combat accelerated resource degradation. In this dry area, the terrain is rugged and difficult to work. The people lack access to basic services such as water and electricity. Although problems of resource degradation go back to the 1920s, it was in the 1970s that extensive grazing caused massive soil erosion and human survival in the area was put at risk by declining food production.

Twice a week members of the 15 'Mwethya' groups go to work on one member's farm and once a week they carry out communal projects such as the construction of gabions or the rehabilitation of dams, or the maintenance of terrace to prevent land degradation. Each group repairs 1,500—4,000 metres of bench terrace each year. Another activity is water conservation, which has led to improved crop yields; tree planting is also increasing. Besides resource conservation, the women have embarked on income generating activities such as basket weaving and brick making.

This success has been achieved without much external support and the technologies employed have been simple and maintained by a local artisan. Recently the community has organised to resist an external threat from contractors mining sand from the river bed—which interferes with local water resources.

Source : Commonwealth Secretariat¹⁰

particular interest in the maintenance and planting of indigenous trees. Reforestation programmes based on a single species remove a crucial natural resource from the community.

6.26 People in rural areas have extensive traditional knowledge of the uses of trees, and the rationale for sustainable forestry. A study in Sierra Leone, for instance, found that women knew 31 uses of trees on fallow land and in forests. They also knew which forest products would be produced in a particular fallow year. Men identified eight different uses¹¹. As a study in northern Ghana has shown, these differences in knowledge are based mainly on the gender division of labour within the household (see Box 6.5 overleaf). In general, women and men have distinct areas of knowledge of particular environments, plant species, their ecology and uses. Women's traditional prac-

Box 6.5

Women's and Men's Knowledge of Trees

A study in northern Ghana found that the knowledge of trees among women and men derived from the gender division of labour within households. Consequently, women tended to be more knowledgeable about certain classifications than did men. Men were more conversant with fodder trees, shrubs and grasses, and with trees associated with the conjuring of rain; both men and women were aware of ecologically related trees, particularly those that characterised watersheds. Women were more knowledgeable about species variations and the multiple uses of a tree, as the following example shows:

Doo, *Parkia Clappertoniana*

Doo, the tree, is used for fuelwood and charcoal.

Dori, the edible fruit, is used for butter.

Zuni, the seed, is used for kpallgu, food.

Dozim, the flower, is used for food.

Wula, the roots, are used for sponges.

Leaves are used for medicines.

Shell husks are used for fuel.

Bark is used for medicines.

Trunk is used for fuelwood.

Women are very perceptive about the use of trees for fuelwood, as the following example shows:

tices in gathering forest products, for example, do not disrupt sensitive forest ecosystems, and the biodiversity of natural forests can be maintained.

6.27 When planning and implementing afforestation programmes and projects, the authorities should make good use of women's knowledge of local ecosystems and the economic uses of trees, and they should also ensure that local women benefit from these types of development.

6.28 Deforestation is increasing worldwide due to commercial logging, agricultural development, migration and resettlement, and demand for charcoal (see Chapter 3). It has environmental consequences which impinge directly on the lives of poor women. Their workloads are increased as they must travel further to seek fodder, water and fuel. Hence they have less time

Local name	Taxonomy	Reasons why used
Nylmsa	<i>Azadrachta ludica</i>	Highly combustible
Shia	<i>Anogelssus leiocarpus</i>	Burns steadily
Taanga	<i>Butyrogspernum parkil</i>	Burns whether wet or dry
Sampienga	Not identified	Burns with a steady flame
Sigiri	<i>Pseudocedrela kotschavi</i>	Burns steadily
Mango	<i>Magnifera indica</i>	Highly combustible
Gaa	<i>Diospros mepiliformis</i>	Not quite good
Lanjina	<i>Prosopis africana</i>	Burns steadily
Niee	<i>Pterocarpus erinaceus</i>	Burns steadily
Korli	<i>Terminaiia avicen naoides</i>	Best for fuelwood
Doo	<i>Parkia clappertoniana</i>	Burns whether wet or dry
Yulinga	<i>Combretum lamprocarpum</i>	Burns quite well
Kpalga	<i>Afzella africana</i>	Readily available

Source: Elizabeth Ardayfio-Schandorf¹²

for income-generation and other activities to improve their standards of living or to invest in natural resource management. Fuelwood shortages pose them serious difficulties, although in most cases the women themselves do not damage living trees but collect their fuelwood from dead branches and twigs. Most of women's problems would be avoided if they had control over the resources they use.

6.29 In cases where forests have been cleared for settlement, new settlers need both security of tenure and access to local knowledge of their new environment to enable them to avoid further degrading fragile ecosystems. In this case the local knowledge of forest users, often women, will be crucial to the development of methods of sustainable use, and the restoration of forest resources.

Women as Managers and Users of Water

6.30 Women use water for many purposes, some of which are polluting. They are generally aware of the need to maintain water quality and to teach their children hygienic and non-contaminating sanitation habits. But restricted availability of water or the unavoidability of using it at source mean that they may be forced to endanger a resource upon which they depend. This can constitute a serious risk to their own health, and to that of their dependents and households.

6.31 In the urban areas of developing countries, it is estimated that only one-quarter of the people have access to an in-house or courtyard source of water—in some rural areas safe drinking water is only readily available to one-tenth of the population. So limited is the access to water that some rural women spend hours every day collecting it. The situation can be as bad in urban areas (see Box 6.6 opposite).

6.32 Apart from water's familiar domestic uses, it plays an important role in maintaining food security. For this and other reasons it is vital that women, as end users, are consulted in the planning of water projects, or in development schemes which will impinge upon local water resources. We note the achievements of the UNDP PROWESS programme in giving women a full say in the provision of water and wish to see this approach replicated and continued.

Women and Fisheries

6.33 Women in many countries play an important role, often recognised unofficially, in subsistence fisheries. For many of them, harvests from lakes, rivers and coastal waters also provide an important source of incomes through sales, whether as food or as items of trade for tourists. In the absence of alternative sources of cash income, and with increasing destruction of coastal habitats for development, overfishing often results—both to satisfy subsistence needs and to secure additional cash. The sale of shells and corals for the tourist industry also threatens the health of the coastal marine ecosystem that provides these resources. Small-scale aquaculture (both marine and freshwater) needs to be encouraged in order to relieve the heavy exploitation of inshore fisheries on which women depend. Several developed Commonwealth countries including Australia have begun multinational programmes of mariculture. *The Commonwealth should encourage and support such programmes, especially in small states. These programmes should be preceded by research that includes the investigation of the fishery activities of women and the compilation of traditional knowledge and management practices of fishery resources.*

Box 6.6

Urban Women Queue for Drinking Water

After the rains failed for three consecutive seasons, in 1981—1983 in Tamil Nadu, the lakes and wells supplying water to the city of Madras dried up and the water board was forced to limit tap water supplies to alternate days only. The poorer women of Madras had to extend their working day to 24 hours, in order to collect water for their families. Since the water was supplied during the night, the women would sleep only on alternate nights, while they spent the other night waiting in line at the taps. Usha, a 13 year-old girl, for instance, suffered this ordeal: Starting at 6 a.m she worked four hours as a domestic servant before returning home to do the same tasks for her family. Then, after two more hours' work at her employer's house and helping her mother cook the evening meal, Usha had to stay up until 5 a.m to collect enough water for two days. Returning home she started a day's work again, sleeping at 11 pm that night.

Source: Kishwar & Vanita¹³

Opening up Options for Women

Supporting women's own initiatives

6.34 Women and women's groups are in the forefront of many experiments in sustainable agriculture. They have been instrumental in introducing more flexible cropping patterns, widening species, diversifying crops, recycling organic nutrients and other techniques for long-term resource conservation. Traditional methods of interplanting and crop rotation have been blended by women with new styles of agroforestry¹⁴. It is clear from case studies that women are active and creative in finding sustainable methods of using their environments. However, their work would be enhanced if certain obstacles were removed, and agencies, governments and NGOs paid more attention to supporting women's efforts.

6.35 Mechanisms need to be developed to direct financial support to women's own initiatives in environmental care. One example of such a mechanism is the Local Initiative Support Fund set up by 'Environment Liaison Centre International' (see Box 7.4 on p.133).

6.36 *We urge Commonwealth governments to make a commitment to support women's efforts in resource management in developing countries.*

One possibility might be for developing country governments to commit some proportion of their national budgets (say one per cent) to community initiatives for the rehabilitation and enhancement of the resource base; and for developed country governments to commit, say, 5 per cent of their incremental aid to local initiatives for environmental rehabilitation and enhancement of the resource base. Such support should be channelled through community-based and locally operating groups and organisations. It would need to be evaluated, and perhaps three years after implementation would be an appropriate time to do this.

Empowering Women

6.37 There are significant inequalities in access to productive resources which prevent many women in developing countries from fulfilling their potential in environmental management, and sometimes even from meeting their basic needs¹⁵. These inequalities range from disparities in educational opportunities, to gender biases in agricultural extension practices. They affect women's positions adversely vis-a-vis those of men, making it increasingly difficult for them to take autonomous decisions. Since the obstacles which women face in relation to access to credit, extension services, and healthcare, as well as the impact of structural adjustment programmes have been well explored elsewhere¹⁶, we focus here upon four key themes for the empowerment of women—education, information, decision-making and leadership.

Education and information

6.38 We believe that increasing access to formal education is an important step towards securing women's socio-economic progress in both rural and urban areas. Raising women's literacy is in many ways a prerequisite to improving their socio-economic status and increasing their influence on decision-and policy-making on all matters affecting their welfare. Women account for two-thirds of the world's illiterates. Primary and secondary school enrolment ratios show that girls have much less access to formal education than do boys who, in some countries, attend school ten times more frequently than girls of a similar age.

6.39 But evidence from a variety of socio-economic settings suggests that the economic returns from female education (measured as proportional increases in wages) are substantial and comparable to those from male education. Moreover, because the mother's influence on family health and size is greater than the father's, maternal education may also have a greater effect on children's learning and thus on the productivity of future generations.

6.40 *We believe it imperative to improve relevant education and training opportunities for women. This could be done by providing literacy classes and skills training to them at times, frequencies and locations convenient for*

them; and to recruit, train and adequately reward more female teachers to serve their own communities.

6.41 The roles which have brought women into close working contact with the environment have allowed them to develop intimate knowledge of local living conditions and natural resources. This is particularly true of developing countries, where women are important custodians of traditional knowledge about natural resource conservation; but in industrial countries, too, women and their organisations possess considerable environmental knowledge which often remains outside formal systems of education.

6.42 One way of capturing and supplementing this knowledge, to the benefit of the environment and of women themselves, is by training women as environmental monitors. This would facilitate the movement of some women into decision-making positions on environmental issues and provide a vital link between planners, technicians and local communities' own knowledge base. It could also strengthen the assessment procedures carried out in environmental impact assessment. *We recommend that governments train more women as local extension agents, activists and monitors of environmental protection.*

6.43 Communities have much to learn from each other's environmental experiences. Those in developing countries, for example, have much to contribute to the evolution of new attitudes in industrial countries, to the utilisation of natural resources. It is vital to disseminate this knowledge (which, of course, is not confined to women), and to use it in the formulation of environmental policies.

6.44 *We recommend that governments and the international agencies concerned should sponsor and host international exchanges between female project workers and female environmentalists. This would enable them to share their skills and experience in environmental management in different ecological zones, especially in developing countries. Such exchanges, on a South-South, North-South and North-North basis, might be promoted partly through a bursary scheme*

6.45 Women and communities also need access to information, especially about environmental hazards. Such information is often denied to them, although it may be important for their daily lives. Plantation workers, for example, are frequently exposed to agrochemicals, especially pesticides which endanger their health and their children's well-being. These agrochemicals may also damage local ecosystems, particularly if wrongly applied.

6.46 *Governments should facilitate the dissemination of information on environmental pollutants and environmental health issues to user groups.*

Women should play a part in defining their own needs for such information. Public education campaigns should be targeted at women, to inform them of the health hazards of agrochemicals and pesticides.

Decision-making and leadership

6.47 New approaches to ‘women, the environment and development’ have now been made possible by women themselves. The disadvantages faced by women have been widely recognised. What is important now is that governments, NGOs and the international community provide the mechanisms by which women can continue and strengthen their work for sustainable development at a grass-roots level. Women have taken the lead in many environmental conservation projects and campaigns, and have great knowledge of methods of sustainable natural resource management. They now require the policy support, inputs and recognition to maximise the effectiveness of their efforts.

6.48 We cannot stress too strongly that the involvement of women, as well as of men, in all decision-making stages of a development project is central to its success and to ensuring that its benefits are directed to the community. Cultural barriers to women attending meetings with men, restrictions on women’s time and mobility, and lower levels of literacy must be overcome to allow women to participate on an equitable basis in the decisions taken and to share in the benefits thereby generated. Case studies have shown that when women’s participation was high (i.e. substantial numbers of women received training, credit and extension), projects were much more likely to achieve their objectives than when participation was low. But ‘token’ participation by women hampered the achievement of project objectives¹⁷.

6.49 We also emphasise that participation must not be interpreted to mean that women are merely used as a source of free or cheap labour to implement environmental rehabilitation or conservation work. This tendency is strong in many labour-intensive natural resource management projects. As one researcher puts it, “participation often becomes confused with mobilisation of muscle”¹⁸. Genuine participation implies equity between men and women in decisions pertaining to labour, funding and management. Where women constitute most of the workforce or carry most of the responsibility, this could mean them exercising a leadership role. *We recommend that governments, agencies and communities seek to develop mechanisms to facilitate the full participation of local women in all levels of policy-making and decision-taking.*

Further Action

6.50 Putting into practice appropriate development strategies to benefit women, men and the environment will require organisational and other

changes in the ways in which development assistance is provided. We recognise that bold actions are needed, by governments, multilateral and bilateral aid agencies, and by non-governmental organisations.

6.51 Both 'environment' and 'women' are receiving more attention in development policy and international assistance. But the need now is for donor agencies to recognise and use the close links between them—at policy and project levels—to reinforce action for overall sustainable development, and to improve the position of women.

6.52 The issues we have raised in this chapter underscore the need for the further development of gender-based analyses of contributions to environmental management, of the use of environmental resources, and of environmental impact and risks. We stress that such analyses are not the same as traditional gender analyses oriented towards affirmative action for women. We therefore endorse the UNCED Secretariat's request that all countries complete the audit on 'the role of women in sustainable development'. Such audits would serve to clarify the policies and actions needed at the national and international levels to strengthen women's roles in fostering sustainable development.

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