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**"THE SHOE THAT PINCHES":
AN EXPLORATION OF
GENDER AND ENVIRONMENTAL CHANGE
IN ARUMERU DISTRICT, TANZANIA**

**By
Kanina Holmes B.J.**

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of
Master of Arts
Norman Paterson School of International Affairs**

**Carleton University
Ottawa, Ontario
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Professor J. O'Manique, Supervisor

ABSTRACT

This thesis examines the role of women and the dynamics of gender in environmental conservation projects in Arumeru District, Tanzania. The fieldwork focuses on rural people's knowledge, needs and concerns about the environment and how to translate that information into policy-making and, ultimately, development that is empowering. This thesis utilizes gender analysis and participatory research methodology. It argues that in order for outsiders to understand the interaction of gender and environmental change and access local views, participatory methodologies can assist in bridging the gap between researchers and research communities.

The research findings suggest villagers' perceptions and knowledge of the environment and conservation and their needs within these environments are related to gender roles and, as such, are variable. Development projects that automatically assume a link between women and the environment risk perpetuating social, economic and political inequities.

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TABLE OF CONTENTS

Abstract	ii
Acknowledgements	iii
Table of Contents	v
List of Figures	vi
List of Maps	vii
List of Appendices	viii
INTRODUCTION	1
CHAPTER ONE - CONCEPTUAL FRAMEWORK	10
Part I Women, Environment, Development: Stepping into the Literature	10
Part II Gender and Environment: A framework	65
CHAPTER TWO - RESEARCH METHODOLOGY: Connecting Steps	92
Participatory Research and Why The Research Experience	94 110
CHAPTER THREE - THE RESEARCH ENVIRONMENT: Grounding the research	160
Macro Environment	173
Intermediate Environment	180
Micro Environment	190
CHAPTER FOUR - FINDINGS: Voices from the field	232
Environment	235
Knowledge	264
Needs	308
CHAPTER FIVE - CONCLUSIONS: Steps Forward	313
Central Observations and Conclusions	318
Building on Community Resources	334
APPENDICES	346
BIBLIOGRAPHY	358
INTERVIEWS	370

LIST OF FIGURES

1.1	A comparison of WID and GAD	61
1.2	Feminism and the environment	62
1.3	Gender: in context	70
1.4	Practical needs and strategic interests	75
2.1	The meaning of logistics	114
2.2	Getting from A to B	118
2.3	Ethical dilemmas	135
2.4	Being on the outside	143
3.2	Geographic composition of Arumeru	195
3.3	Summary of main crops cultivated	198
3.4	Main problems of villages	216
4.1	Daily work schedules	249
4.6	Qualities of top six tree species	268
4.7	Division of labour	290
5.1	Community resources	341

LIST OF MAPS

3.1	Sketch map of Arumeru	193
4.2	Maji ya Chai, women's group	254
4.3	Maji ya Chai, men's group	255
4.4	Kikatiti, women's group	256
4.5	Kikatiti, men's group	257

LIST OF APPENDICES

Appendix I	Workshop guidelines	347
Appendix II	Guidelines for individual interviews	349
Appendix III	Guidelines for personal profile	352
Appendix IV	Workshop participants	353
Appendix V	Tree species	357

INTRODUCTION

Over the last decade and a half, international development efforts have reflected a growing awareness and more sophisticated view of the relationship of women and the environment in developing countries. The growth of Women in Development (WID) programs supports the increased recognition of the contributions of women and the realization that these must be taken into account when formulating and implementing development projects.

Much of this work is descriptive. Many have written about women's reliance -- through unquestioned, narrowly-defined daily roles -- on natural ecosystems as a source of, among other things, food, fodder, fuelwood, fertilizer and medicines (Dankelman and Davidson, 1988, Rodda, 1991, Sontheimer, 1991). However, description, without broader analysis asking *whys* and *hows* of the women and environment connection is not only superficial but also distorted.

Although subsequent analyses acknowledged that the relationship of women to the environment was much more complex there was still something missing and misleading in much of the writing, due in no small part to the glaring disparity of information vis à vis the views of women from the South.

My research was a response to and became a reassessment of this increasingly made link between women and the environment in current development thinking -- the

idea that there is a "major convergence of interest between environmentally sound and sustainable development and the development of women" (Davidson, 1991). I approached this study wanting to know what the basis of this relationship was and, furthermore, the implications of such an association.

This thesis attempts to move the analysis ahead by exploring the relationship of women and environmental change by asking *"How can women's knowledge, needs and concerns about the environment be translated into action?"* In order to respond to this question more had to be known about the lives of rural women in a developing country context and how they interacted with their environments by engaging in fieldwork in rural Tanzania. To translate is to make something understandable and therefore more useful. In the most literal sense, this work translates from Swahili to English. But, much more fundamental is to understand the meaning of translation as interpreting the significance of something. The "action", referred to in the research question, is envisioned initially in terms of developing more informed policy.

In order to prevent the meaning of the original information from being lost in the translation and to further another aim of this inquiry, this research attempted to be as participatory as possible by encouraging discussion among participants and raising people's

awareness of their role in environmental change. Through this kind of discussion, the goal was to empower people by increasing their own understanding of their environments.

Based on the fieldwork, this thesis argues that people's relations to their environments are largely shaped and determined by social forces. Within this context the focus is on gender, the social construction of identities and a major influence in relations between men and women. Seen this way, women's responsibilities for environmental conservation are socially-designated tasks and a reflection of certain expectations of women's roles in society.

Understanding that links between women and environment are gendered also means acknowledging that men and women often have different views, knowledges, needs and concerns. As well, as social constructions, gender relations are political. That is to say, agendas are attached and certain interests are at stake. Therefore, relevant to the inquiry are struggles for control -- over land, income, reproductive behaviour, access to education and political representation etc. -- and the ability to resist changes that have the potential to undermine their rights and decrease their quality of life. The political nature of the relationship is heightened by the fact that decisions about the environment involve resource allocation.

The emphasis in this research was on rural women and

how they related to their environments. The rationale for focusing on women was based on what I had read and what I later saw in the villages where I worked. Despite the fact that they were primarily responsible for environmental protection in their communities, the overwhelming majority of local conservation programs were designed and implemented without considering the views of women. In this sense I was seeking to increase both accuracy and equity in the process of decision and policy-making.

The realm of this work is Tanzania. It is one of the world's least developed countries economically and is becoming increasingly mediocre in its level of human development. Since independence it has been the recipient of much overseas assistance (Hull, 1984; Todd, 1993; Young, 1983). More recently, it has seen a significant decline in the flow of resources from abroad. Tanzania, as is much of the world, is in the middle of crisis and change, attempting to reform itself economically and politically, through, for example, structural adjustment schemes and upcoming multi-party elections. The outcome of either of these efforts remains questionable. Much of the "peasant" population is experiencing the economic crisis in the form of increased prices for consumer goods, an increase in the overall cost of living, combined with declining prices for their food and export crops (Sizya, 1992). The political liberalization of the government has, to a great extent,

gone unnoticed by rural people as they engage in their own struggles to survive (Stackhouse^a, 1994).

Within this context, research was conducted over an eight-month period. Most of the work is based in the rural district of Arumeru, in northern Tanzania. Although considered relatively "prosperous" by national standards, people in this area were also contending with some of the most serious effects of deforestation and drought. Most of the village women whose time, insight and patience enabled this study were participants in a local tree-planting program initiated by a small Tanzanian NGO. Locating the fieldwork in Arumeru was a result of the connection I was able to make with this environmental project. The initial decision to go to Tanzania was largely a reflection of the logistical support I received through an academic exchange program between Carleton University and the University of Dar es Salaam.

Chapter one begins by reviewing some of the literature that has shaped prevailing ideas of women in the South and their relationship to the environment and environmental conservation. The thinking behind the Women in Development (WID) paradigm is discussed and critiqued as a conceptual basis in gender and development mediating thinking about and policies toward women in developing countries, including their role and relationship with the environment.

A critique of the central tendencies found in this literature serves as a point of departure, leading to an alternative analysis to these assumptions. The second part of this chapter articulates a conceptual framework that applies gender analysis to further understanding of issues of women and environment by looking at how people's identities, roles and responsibilities are shaped.

Chapter two elaborates the methodology employed. Feminist participatory research methodology shaped the fieldwork, revealing and generating information from and about the villagers and their environments. Fieldwork methods included workshops, individual interviews, map-making and tree-ranking exercises and participant observation with both women and men. Getting the views of women was an explicit focus of these activities.

Central to participatory research are the tools it provides to begin analysis based on the views of people in a research area. Also pivotal to participatory research is the emphasis on praxis -- the transition from knowledge to action through the notion of empowerment. For these reasons, in selecting a methodology, participatory research seemed especially appropriate to an inquiry that is oriented toward both translating people's positions and setting the stage for change. However, this methodology also contains some unexamined assumptions, for example, the

possibility of empowering people and the concept of participation (Maguire, 1987, Kirby and McKenna, 1989). Also problematic is the lack of explanation concerning how to actually make praxis a practice. For these reasons, attention is paid to the practical steps of engaging in this kind of research as well as some of the limitations of employing this methodology.

While gender relations are central to the analysis they do not take place in a vacuum. The context, or political economy of gender and environment, also plays a vital, inseparable role in shaping people's relationship to their environments. Chapter three situates the fieldwork. Included in the research context are the micro environments or those closest to the villages and which impinge most on people's daily lives. Also crucial to understanding the research environment are the wider or macro environments such as state policies and the directives of international financial institutions.

Building on the conceptual, methodological and contextual environments detailed in the first three chapters, chapter four contains the findings of the fieldwork. Based on information provided by village women and men detailing what they knew of the environment and environmental conservation, their problems and needs as well as differences in their perceptions, it became increasingly apparent that environmental relations are

defined, to a great extent, by gender relations.

Chapter five concludes the thesis by summarizing and analyzing the findings which emerged out of the work as a whole -- the literature, the framework, the methodology and the research context. One of the women I spoke with compared environmental conservation to cultivation -- while there is long-term gain, in the interim it is women who bear the burden of such efforts. Grounded in the findings is the conclusion that casting women in the role of major stakeholders in environmental conservation must be reassessed if women are to reap the benefits of their efforts. In responding directly to the research question and to take the results another step ahead, the thesis concludes with some suggestions for making policy vis à vis rural women and environment more gender sensitive, responsive to people's needs and consequently, more relevant.

On a final note, I think it is important to state that it is not the intent of this research to prove anything or to find definitive answers to the many questions it will ask. Rather, I have tried to engage in an exploration of issues of women, gender and environment in a particular context. These issues do not lend themselves to the confidence found in the hypotheses of natural sciences. As has been pointed out by some scholars, a study of gender and environment is about the interaction of biophysical

phenomena with human behaviour -- an open system -- and as such, is inherently uncertain (Mackenzie, 1993: 75). Thus, the potential of this kind of research is best applied to "tendencies" rather than causes (ibid). The question *why* can still be asked, but responses are not seen as the last word; but rather as part of the many steps toward understanding. With that in mind it is hoped that this research can add a few words to an evolving and fascinating debate.

Chapter One

CONCEPTUAL FRAMEWORK

PART I: WOMEN, ENVIRONMENT, DEVELOPMENT: STEPPING INTO THE LITERATURE

Steps Retraced

The experience of researching and writing this paper can probably best be characterized by the notion that for every two steps forward there is one back. As frustrating as that may be, it is important to remember that understanding of the issues, by all involved, is still being expanded. This zigzag is fitting because it mirrors the complex, nonlinear relationship that people have with the environment and points out the necessary willingness to go off the academically beaten path when traditional is inadequate at best, intellectually and materially harmful at worst.

The conceptual framework linking gender analysis to environmental change and connecting rural African women to the environment also resembled a zigzag, integrates literature from a range of disciplines and points of view including: development, gender and African studies, feminism; political and environmental sciences; political economy; anthropology; and geography.

The theme of two steps forward and one back also suggests that in order to move ahead one must, perhaps

paradoxically, step back. With this in mind, I begin by looking back at the past literature that has been influential in shaping what have become popular views of women and the environment, especially Women In Development (WID). While WID seldom deals specifically with women and environment, it has been fundamental in shaping the ideas and policies in this area. In short, WID has left a legacy. Its impact on the portrayal of women in relation to the environment includes: the tendency towards description that provokes prescription rather than analysis; a tendency to universalize and essentialize; a failure to see women as agents in development; and the related inattention to the impact of development projects, such as conservation schemes, on women's workload. These inadequacies stem in part from a misunderstanding of the composition and dynamics of the 'family' in much of Africa and an uncritical acceptance of the agenda of development.

My own thinking became more sophisticated as I followed successive approaches: WID and WAD (Women and Development), WED (Women, Environment and Development), Gender and Development (GAD) and finally, GED or Gender, Environment and Development. Acronyms and semantics aside, these are conceptualizations and as such they have profound implications for the people targeted, or involved (Rathgeber, 1990: 489). In other words, in the context of poor rural women's struggles for subsistence -- "the

material and ideological are closely interwoven" (Agarwal, 1989: 55). The influence of these various approaches can be seen, more concretely, in a range of strategies that attempt to mediate women's relationship with their environment. Agricultural development schemes may be oriented toward WID, for example, (a) separate programs, specifically for women. Or, they could come closer to utilizing gender analysis through, (b) projects for both men and women and by, (c) employing a strategy of equity, emphasizing a conflictive [or cooperative] stance calling for structural changes at an institutional level (Endely, 1991: 133).

The purpose in tracing the evolution of my own search through the literature is also to help identify the weaknesses inherent in some earlier, predominant paradigms that have evolved under the influence of or as a response to WID thinking. Attention will be paid to some of the ascendant assumptions, evident in other approaches to women and the environment. Some of the central ideas of WID include a view of women as victims or culprits of environmental degradation or, conversely, as guardians of nature. This last assumption has led to some suggestions, without much thought to the implications, that the link between women and the environment is of a strategic nature. Many of these views and suppositions have pervaded other, related writings, for example on the environment,

sustainable development, indigenous knowledge and needs assessments. Because this literature responds directly to the research question of this paper I have also included in this section a brief and selective overview of some of these works.

It was these analytical, descriptive and methodological weaknesses that motivated me to search for an analysis capable of encompassing and explaining some of the real-life experiences and evidence that I encountered in the field, in rural Tanzania. I found that the framework that best articulates some of those realities and that is also instrumental in moving issues forward, is gender analysis, integrated into environmental change. Consequently, in critiquing some of the literature, suggestions for incorporating gender analysis will be made throughout. The ultimate intention is to apply this analysis to a conservation project, administered by a small NGO and operating in a number of villages in the Arumeru District of northern Tanzania. Rejecting the rigidity characteristic of much of the dominant discourse, I believe a framework, contrary to the stiffness the term may suggest, should be seen as a guideline for how we think about things. The thinking itself should be malleable and adaptive to individual situations. With that in mind, my conceptual framework begins with a review of some of the literature upon which it is built and expanded.

Women in Development: the conceptual legacy

The increasing attention over the last ten years, directed toward women's relationship with and to the environment, can be seen as a direct extension of a more generalized concern for women in development, (WID), first popularized a decade earlier (Leach, 1992: 13). Indeed, it is in WID literature that the link is often made between women and farming in Africa, and by extension, the environment (Elson, 1991: 6).

Since the 1960s, WID, or some variant of this approach, has strongly influenced the view and treatment of women in development projects. Moser points out that WID is not a monolithic movement. Indeed, one can see a range in emphasis within WID, for example, equity, anti-poverty and efficiency (Moser, 1993: 63). While WID comprises significant differences, it also contains a number of themes that remain consistent over time and place and which are significant for their conceptualization of women in developing countries. This section will deal with some of the common threads that hold WID together. It should be asked, how does WID, and more important, its conceptual heritage, impact on how we see women in developing countries? In turn how does that colour the portrayal of women's relationship to the environment? More than anything, I believe that WID represents a failure, analytically, to grasp the multiple identities of women in

developing countries, their roles, needs and concerns. Too often WID, because of its focus on women, is mistakenly seen as also being concerned with improving their social position. WID should more accurately be associated with maintaining the status quo.

WID: an agenda defined, confined by development

Among WID's basic premises is the recognition that the contributions, needs and views of women must be considered when formulating and initiating development policies. The WID agenda was motivated by a wider malaise afflicting development studies as a whole. When it first appeared, WID was supposed to be about acknowledging that the failure of many projects was, in part, a consequence of omitting or ignoring the voice and presence of women. The potential, however, to explore and expand the analysis was generally left unrealized. With the women-exclusive focus, women, rather than development, were seen as the problem.

In the eyes of some, WID is problematic because of its focus on adding women on to a process in which they are already integral and that is already flawed. It is also criticized for its acceptance of the prevalent concept of development, an idea and agenda most often imposed by outsiders without regard for or knowledge of context.

An uncritical acceptance of the concept and agenda of development can be linked to a similar approbation of projects designed to protect the environment. Environmental

conservation efforts have become imperative and fashionable, over the last few years. They are constructed under the guises of the larger framework of development. As a result, they frequently fail to understand sufficiently the impacts of environmental degradation on women in a given community, their needs in such a context and the range of strategies employed to combat ecological decay. More fundamentally, the question of causes is rarely asked.

In light of the seemingly unconditional, uncritical embrace of development, it should not be surprising that women's poverty was seen in WID as a problem of underdevelopment rather than subordination or discrimination. (Klumper, 1993: 6). Linked to this is a concentration on income-earning projects as a means to improve women's lives. However, studies have shown that an increase in women's income may in fact lead women to assume even more responsibility for supporting their families, for example by paying school fees for their children (Robertson and Berger, 1986: 17). The design of and often exclusive use of such income-oriented programs reveals a neglect to question a social system in which men *control* the lives of women and children but are not economically *responsible* for them (Rogers, cited in Robertson and Berger, 1986: 17). By such omission, the WID vision is characterized as reformist in nature, emphasizing adaptation to the institutional and

ideological status quo. WID tends to reform rather than transform. When discussing change, it is expressed more often in terms of marketing and control of income.

The absence of attention to distribution of income reveals something of the tension that underpins this thinking. Many of the authors of WID were concerned with equity issues, for example pay equity and equal access to education. However, to win broader, albeit short-term acceptance from major policy-making and funding institutions such as the World Bank, WID also associated itself with economic efficiency, or in other terms, utility issues (Moser, 1993: 56-60). The prevailing development perspectives that emphasize economic growth and efficiency, are also notable for their failure to acknowledge and/or their avoidance of the social aspects of development in general, and the environment in particular. Consequently, also bypassed is the conclusion that problems are due to a conceptually and systematically flawed development paradigm (Levy, 1992: 140).

The limitations of market definitions

Similarly, WID, as a part of mainstream thinking, is also criticized for its limited definition of production as confined to that for the market. The dominant economic model tends to deny the contribution of women in a wide range of activities, productive, reproductive and community. The economic dynamics which many developing

countries now deal with, for example, declining terms of trade, structural adjustment schemes, a rise in the informal economy, may mean that involvement in "official" market activities is not even an option. But these changes in context and in operation are ignored in most assessments of women's activities. As Patricia Stamp has noted,

Because women's choices regarding their economic activities have been so drastically curtailed, their allocation of labour time is considered irrational when measured using Western economic theory (1989: 48).

Another result of having to operate within an unrealistic and narrow market model is that women themselves often fail to include as contributions to the household the value of such products as fuel, fodder, food etc. or the time spent in gathering or preparing these staples (Agarwal, 1989: 48). After listening, living with and observing peasant women, critics have been well able to document the fact that women already produce income. The failure to recognize this has far-reaching implications for women, and their current and future roles.

This stereotype of rural women as excluded from commodity production is both false and dangerous in that sustainable development is poised to exploit women's unpaid reproductive labour further, through the mistaken assumption that they are major stakeholders in conservation development (Jackson, 1994: 120).

The issue should not be about increasing those activities or adding new ones on, to result in a heavier work burden. Instead, the goal should be to give women control over the

proceeds of their labour at the village and household level (Mbilinyi, 1984: 21). Another factor in the issue of the work women do and the income they produce is the lower payments, even for the same or similar tasks they perform. This is in large part due to widespread assumptions that women's earnings are supplementary and women are less productive than other members of society (Agarwal, 1989: 48).

In the same way that women's income earning capacity is neglected in general, this is also reflected in the rare acknowledgment that women use natural resources to generate money income (Leach, 1992: 14). A failure to understand what women do, what they contribute and where their activities fit in a wider context of family and community, can lead to programs, including those concerned with environmental conservation and change, that are essentially designed to fail. For example, in much of rural Africa where women and girls collect sixty to eighty percent of the domestic fuel supply, reforestation programs languished, in part, because planners did not consult village women (Jacobson, 1992: 8). As well, Rocheleau (1991), in her work with agroforestry projects in Kenya, found there were some major problems in projects as a result of failing to identify all the interested parties or their needs. Because women had not been consulted about their husbands growing seedlings at their homesteads they

were unwilling to carry the extra water required for them. In addition, some on-farm trials, being conducted by men, left most villagers unhappy because they did not respond to men's interests in timber and poles for construction. Rather, they were supposed to address problems of fuelwood supply and soil fertility, seen as primarily women's problems. Because the women were not consulted either, many were dissatisfied with the amount and quality of firewood produced (Rocheleau, 1991: 159).

Jackson also found there were assumptions made that women will care for young trees or crops that gave no consideration either to opportunity costs or their property rights (1994: 118). The failure of many appropriate technology programs has been linked to the failure to consider women's criteria or the additional labour demands imposed on them (ibid).

When what women do is given economic worth, it is still dismissed because it is not considered efficient. Women, even when cast as carers and nurturers of the community, which, by association, includes the environment, are seen primarily in terms of economic productivity. An acknowledgment that women are social actors is notable for the kind of language used. Women are producers of "societal continuity" and "human capital" (Harvard Institute For International Development, 1989: 2). What is significant for purposes of this research is the way the

economic vocabulary has filtered into the women and environment literature. "The current wisdom is to see women not just as victims but as major local *assets to be harnessed* in the interests of better environmental management" (Davidson, cited in Winpenny, 1991: 138, emphasis added).

Definitions of the 'Family'

Failing to see and understand women's economic roles and activities is related to another problematic concept in WID literature: the family. Much WID work is connected to a particular view of the composition and function of the African family and household. Notable is the tendency to focus on male household heads in rural research and development activities. This stems partly from a belief (Western) that information and resources aimed at men will be channelled to other members of the household. However, there is much work that contradicts these assumptions of an automatic sharing of resources (Mtoi, 1988, Jackson, 1993, Jacobson, 1992), calling for a re-examination of the idea that women's socioeconomic status is congruent with that of related men (Robertson and Berger, 1986: 10). Rather than pooling resources, the basis of marriage is often in the form of separate resource streams and sources of incomes for husbands and wives (Feldstein and Jiggins, 1993: 1).

In reality, husband and wife have conventionally been allotted different responsibilities for spending which come into conflict in conditions of economic stress (Whitehead, 1992: 66-7).

Focusing on the male as head of household and breadwinner ignores potential conflicts stemming from the different contributions members make, based on their social roles.

The problem of unitary conceptions of households underlies the failure to perceive some contradictions generated by gender relations for environmental conservation. Livelihood strategies for men and women within a household vary and reflect gender relations (Jackson, 1994: 129).

Policy based on erroneous assumptions about the family can have harsh implications for certain members. For example, programs that are designed to raise men's income, assuming that this will result in an overall increase in family welfare, represent a major misallocation of resources, running the risk of increasing women's poverty and in turn risk increasing environmental degradation (Jacobson, 1992: 18).

Additionally, in the popularly conceived "traditional" model of the family, the kind of work women do is ignored, underestimated or misrepresented. For example, women's activities and interests are often narrowly equated with providing sustenance for family members (Leach, 1992: 14). Women's participation in the informal economy has been shown to be much greater than prevailing models, such as that forwarded by Boserup, suggest (Whitehead, 1992: 55). Robertson and Berger, from their work on women and class in Africa, believe that a more accurate analysis would emerge if the household were defined more broadly to

include household relations of production which include productive work both inside and outside the home (1986: 12). What have been presented as dualisms -- private/public and modern/subsistence -- and accompanied by certain connotations, should more accurately be portrayed as inseparable and intertwined. More visibly, the model of male-headed families is being increasingly replaced by women-headed households. The convenience of treating the family as an unproblematic and single unit is simply no longer tenable.

The category 'Women'

Critics have pointed out that there is little differentiation among women in WID literature (Mbilinyi 1984, Meena 1992, Mohanty 1988, Elson 1991). Rural, middle-class, urban, rich, impoverished, married, single, educated and uneducated are reduced into a category known as Third World women. Underlying WID is an ideology that asserts all women share the same oppression simply because they are women, regardless of class or nation (Mbilinyi, 1984: 16). Consequently, the variety of views and divergent impacts of projects rarely enter into assessments of development.

Rural African women do not comprise a single category of actors. There are important economic and social differences among them. Bujra makes the point that women and men are differentiated by class as well (1986: 117).

Looking at class is also another way of exploring gender.

"Gender differences find differential expression at different class levels -- gender is qualified by the places which women occupy in newly emergent classes" (Bujra, cited in Robertson and Berger, 1986: 14). A caution against generalizing also appears in the first comprehensive anthology of women in Tanzania.

Women poor peasants are among those economically compelled to hire out their labour to others. Often their labour power is exploited by middle class and rich peasant women. It is therefore essential to avoid generalizations about "peasant women" who may have entirely different interests as a result of different class positions (Mascarenhas and Mbilinyi, 1983: 25).

Characteristic of WID policies are women-only projects, in the informal sector, encouraging women to make handicrafts and pottery etc. for sale. The aim, ostensibly is to raise women's status by involving them in remunerative labour. Liberation is seen in terms of increasing income rather than autonomy (Elson, 1991: 13). By their very design WID endeavours can be seen as contributing to the homogenization of women. Mirroring the position of women in many societies where they were established, these projects often were marginalized. An inability to attract resources sufficient for economic survival became a justification for views of women as incompetent and undeserving of further support. Translated at an organizational level, WID offices were often isolated within an institution and the results of studies

commissioned by WID departments have frequently been disavowed by an agency as a whole. (Stamp, 1989: 38). In much the same way, some authors argue that the environment, as an issue, was also marginalized and isolated institutionally (Levy, 1992: 142).

When the WID discourse did in fact differentiate among women, it dichotomized -- for example, emphasizing the split between so-called modern and traditional sectors, rural and urban. Such simplification made things easier for planners but did little to improve the lives of women in Third World countries. It ignored many of the more subtle factors that mediate women's lives, such as age, marital status and kinship.

Treating women as victims

It has been pointed out that most funding for WID programs has come from foreign donors (Mbilinyi, 1983: 4-5). Attached to external support are implicit and explicit strings of conditionality. Expressed another way, "foreign capital is often the carrier of cultural assumptions" (Roberston and Berger, 1986: 15), about such things as women's work, their household roles etc. In this same vein, WID is faulted because its original proponents were mainly Western, white, middle-class women. Now, however, as WID is increasingly embraced by academics and policy-makers within the Third World, the critique is turning inward.

Development has most often been portrayed as something that people called "practitioners" did. People in developing countries were merely recipients of this illusive activity. The predominance of outside aid combined with top-down development presented and perpetuated a view of people, especially women (identified as the most vulnerable) as incapable of helping themselves -- "No wonder they end up perpetually disadvantaged and seriously constrained in their productivity" (Harvard Institute For International Development, 1989: 1). There is a risk that vulnerability will be linked not only to helplessness, but also ignorance. Ironically, this in turn acts as a justification for the continued denial of resources, material and intellectual to enable women to solve or alleviate some of the damage.

The image of women as victims has been transposed to women as victims of environmental degradation, engaged in an unceasing struggle to find food and fuel.

This implies that any outside intervention would be a help: women will participate because they have no choice, and it is assumed that benefits to women and the environment will necessarily go hand in hand (Leach, 1992: 14).

This is yet another way that the agenda of development has been allowed to prevail, unquestioned and unexamined. As widespread as oppression in environmental and other social relations is, it does not follow that all women are subordinate in these dynamics (Jackson, 1994: 140). An

appreciation of this is crucial in avoiding the tendency to see women as victims.

Invisibility of women and their work

Don't bother talking to the women. What do they know? They just spend their time collecting dung and fuelwood. You are educated people, these women have nothing to tell you.
(Commonwealth Secretariat, 1992: 29)

This is the advice given to a team of researchers conducting a survey in a fishing village in India. The words came from the leader of the village. The failure to talk to, let alone acknowledge women in research and in policy is pervasive (Robertson and Berger, 1986: 8). The lack of awareness or acknowledgment of women and their work has important, far-reaching implications for the development of a discourse around issues of environment, conservation and rural knowledge.

The implication is that half or more of indigenous ecological science has been obscured by the prevailing 'invisibility of women, the work, their interests and especially their knowledge to the international scientific community (Rocheleau, 1991: 157).

Much that has been written about women in developing countries, including WID, is denounced for its failure to consider women beyond expressing a condescending interest in helping them. "The problem," writes Annar Cassam, "is not what 'role' the African woman has been playing, but whatever she does, she remains invisible" (Cassam, 1991: 114). Among the contemporary paradoxes is the fact that "the more she copes as more African economies, societies

and environments decline, the more invisible she becomes..." (ibid, 115).

The notion of invisibility should be seen as a social, political construct in itself.

The question of the 'visibility of women's work is especially important as it does not appear to be enough that women and girls do productive tasks, but also that the work they do is socially recognized as valuable (Agarwal, 1989: 52).

As well, "the 'invisible' nature of women's contributions further reinforces the social perception that they are 'dependents' rather than producers'" (Jacobson, 1992: 17).

By pinpointing the problem as a lack of visibility and the solution to the problem as an increase in visibility, efforts to initiate real change are halted before they can begin. World Bank policy statements frequently mention the need to find out more in order to make the "invisible" visible (Mbilinyi, 1984: 16). The logic of this is, if only we could see what women are doing then policies and ideologies that oppress them would be sufficiently undermined and would somehow be removed. Such a chain of events rarely happens in reality. As another author points out, much of the information on women's roles in, for example, agriculture and forestry, has long been available to governments and development agencies (Jacobson, 1992: 51). Jacobson says one reason for this inaction is the inability or unwillingness of grassroots women's groups in the North to mobilize a broad-based critique of development

policies (ibid).

In her thesis on women in irrigation agriculture in Tanzania, Bali (1990) refers also to the tendency to ignore women. This oversight, whether deliberate or unconscious, stems partly from the concentration on other aspects of a project. In terms of irrigation, because the focus is on the technical, engineering aspects, there is less emphasis on the agricultural side where women play a primary role. The absence of attention to water management and irrigation practices often neglects the human element. The role of women as producers and managers remains unexamined and unacknowledged.

Expanding on this point, many failures of a variety of development projects are now being attributed to the failure to consider women. Swantz, who has worked extensively with women in Tanzania, writes;

A variety of natural and human resources are untapped because outside the communities themselves, there has been little or no knowledge of their existence. This is especially true in relation to women, whose control over local resources has not so far been sufficiently recognized (Swantz, 1985: 7).

The problem is not only a failure to see women but also the inadequacy and inappropriateness of how they are portrayed.

WID methodology: women as numbers

The weakness of WID is methodological as well as conceptual. An inadequate data base is linked to a faulty collection of information. This is caused in part by sex discrimination in extension work, stereotypes held by

African and European men of African women and their economic contribution and also over-reliance on statistics that fail to reflect the reality of many African women (Whitehead, 1992: 63). The predominance of male world-views and "the lack of, or politics of expressing a female vocabulary to articulate dominated environmental models" represents a major hurdle for researchers seeking the views of women (Jackson, 1993: 667). It also, implicitly, indicates a need for a capacity to translate such views.

If WID may be associated with a particular research methodology, it is generally quantitative methods. The emphasis is on finding the "relevant category" of women for statistical purposes. Statistics, if sex disaggregated, are seen as sufficient to describe a situation (Harvard Institute For International Development, 1989: 2). The definition of gender analysis is, correspondingly, extremely limited to,

a systematic effort to record the predominance or participation rates of men and women respectively in a set of activities that constitutes a production system (Harvard Institute For International Development, 1989: 5).

While acknowledging that some tasks may be defined as male or female, the analysis does not go further to ask: why this is the case or what the wider implications are of this division of labour? A better way of understanding these issues is to ask questions about the different ways that men and women relate to a particular system -- economic,

political, agricultural (etc.)

The weakness of analysis presents itself as a problem in many discussions about women and the environment. They "often take women's current roles at face value without asking why, for instance, women perform certain tasks and hold certain responsibilities" (Leach, 1992: 15). The implication, writes Leach, is that "women's roles are natural and unquestionable -- as is their resulting 'special' relationship with the environment" (ibid).

The concept of sexual division of labour is not restricted to the technical division of labour, that is, to the question of who does what and for how long a time. In order to grapple with the underlying social relations involved it is also essential to consider differential access to the means of production and participation in decision-making and control over the outcome of the production (and reproduction) process (Mbilinyi, 1991: 31).

This author also underscores the need to expand an analysis of the sexual division of labour beyond the household and family level to the village, national and global arenas and to examine the way they interact. While a division of labour can be useful for documenting the activities of people in a community, its use should be qualified. As Jackson points out,

The importance of understanding gender divisions of labour is not only related to gauging the amount of work done by men and women but also to recognizing that men and women do different work (1994, 115-6).

The other limitation of relying on the division of labour as a basis of analysis stems from the often-made assumption in WID and other literature, that labour and responsibility

are the same (Jackson, 1994: 115-6).

All this is not to say that WID is entirely negative. It sometimes focused attention on women with an awareness of some of the problems facing them in their roles. By so doing, WID opened up a space for addressing inequality between women and men. The problem is that very often the analysis stops short. While acknowledging that women's activities are affected by development, rarely is the process of development questioned or criticized. For the reasons pointed out above, ranging from inadequate conceptualizations of women, women's work, the family, a failure to think critically about development and its ideology, it became apparent that something was missing in the analysis. In the field, it became even more difficult to understand what motivated women to behave in certain ways and why projects designed primarily to increase efficiency were continuing to fail. While recognizing that there is variety in the composition of households and a range in roles of individual members, rarely are the implications of these differences explored. In sum, the primary problem with WID is that it is gender blind (Meena, 1992) and as a result, gender biased (Jacobson, 1992).

Out of these criticisms, some scholars and practitioners turned WID into WAD, Women and Development. The aim was to acknowledge that women have always been intimately involved in development. Increasing this

contribution was supposed to ensure more efficiency and equity in the development process and its results. Gender, however, still was not factored in as an integral variable. Also, this body of thought still left unexamined many assumptions about development, efficiency, women and work.

Linking women with the environment

As WID has evolved over the past decade it has brought with it a wide range of efforts and projects aimed at women. Coinciding with this development has been a concern, internationally, about the state of the environment. These two trends have been mutually reinforcing resulting in a significant focus on women and their role in the environment. The next section of this chapter follows some of the literature that has supported the movement toward this thinking, much of which, with some exceptions, falls under the category of Women, Environment and Development or WED writing. It is seen as an explicit attempt to link earlier WID approaches with recent preoccupations with environmental policy (Leach et al, 1995). Consequently, as in the WID literature, there are some major problems in the way women and, more recently, the environment, are portrayed. The aim in pointing out the conceptual implications and flaws with this writing is to begin presenting an alternative, i.e. gender analysis.

Integral in initially defining my research interests and the kind of project I wanted to participate in was the

book Women and Environment in the Third World, (1988). In it, Irene Dankelman and Joan Davidson say that studying the role of women in the natural environment is not only legitimate but also imperative. Their work, representative of much of the WED literature is based on a compilation of case studies from developing countries. In an overview of some of the issues raised from these examples, women, it is argued, should be seen as the key agents of change. To start, women in developing countries possess the knowledge and the skills of natural resource management stemming from their daily existence and subsistence in it. Additionally, Dankelman and Davidson emphasize women's remarkable ability to work together, share skills and take action. Given as large-scale examples of this cooperation are the Greenbelt movement, which has spread through parts of Africa, and India's Chipko movement.

This, along with a great deal of the work that has been done on women and the environment, is descriptive. Many have written about women's reliance on natural ecosystems as a source of food, fodder, fuelwood, fertilizer and medicines. Often cited are figures attempting to measure the amount and type of work women do in agriculture given their huge role in this field -- *in the fields*. This work however does not go any further to ponder the implications of these roles and responsibilities on women's ability to provide for their families or to

participate in new projects. While these tasks are documented in detail, seldom if ever is the potential for change ever considered.

Much of the women and environment literature is also noted and criticized for its tendency to see women as gardeners rather than farmers in their own right (Commonwealth Secretariat, 1992: 6). Although more recent studies have been more comprehensive, revealing a greater awareness of the range of activities that women engage in and the complexity of relationships women have with their environments, there are still significant gaps in these assessments. In her thesis on Tanzanian agricultural schemes, Bali (1990), points out that even those scholars who mention small-scale traditional irrigation systems frequently ignore the contradictions inherent in such systems. An example mentioned is the unequal access rights in which responsibilities are not accompanied by control over the resources required to carry out those duties. Even analysts who take studies one step further by documenting the imbalances do not to comprehend the dynamics, the motivations and the systemic imperatives that combine to create situations of extreme inequity (Bali, 1990: 40). Similarly, the work by Davidson and Dankelman is criticized because it does not provide an explicit analysis of the roots of the development failures which underlie the reality that is presented (van den Hombergh,

1993: 29).

Superficial assessments which describe rather than analyze, avoid thinking critically about the contradictions encountered and which neglect the role of context, also have helped to contribute to the view that women are culprits in the environmental crisis. In other words, women are seen as the problem. Examples noted are women destroying forests to gather firewood or farming the land foregoing fallow periods. Women, it is suggested or stated, are ignorant. Often left unexplored and therefore unacknowledged, is the extensive knowledge possessed by women because of the roles that situate them close to the environment.

Furthermore, a conceptualization of women as environmentally destructive sets up the human/environment relationship as antagonistic -- a zero-sum game. If people's survival imperatives and nature's needs are indeed mutually exclusive, what are the factors responsible for these dynamics? Why do people do the things they do? The answers to these kinds of questions may reveal just how short-sighted such interpretations may be.

The environment: Definitions from the literature

In related literature, superficial analysis extends also to a failure to define, adequately and accurately, "the environment". In much of the writing, the term was used to explain and describe such a range of subjects and

contexts that it became ambiguous. Again, to gain any useful understanding of what is meant by the environment it must be looked at in relation to individual contexts and conceptualizations. This "micro" view provides definitions which are actually perceptions. These I attempted to uncover in the fieldwork. To situate these interpretations in a larger context and better appreciate where they fit in terms of work already undertaken, it is useful to briefly look at some of the commentaries on environment found in the literature. This work is important because it reveals differences -- North and South, among men and women and among other locations -- in how the environment is viewed and what values are attached. As Patricia Stamp points out, most mainstream writing, (including WID), takes the environment as a given, a neutral backdrop to development activities (1989: 124). Another, equally inadequate view sees the environment as something that is abused through misuse or overuse due to human ignorance. In much of the work in this area, the environment is defined in static and anthropocentric terms, as natural resources (van den Hombergh, 1993: 16). Such notions divorce the environment from its social and political context (Stamp, 1989: 125). However, natural environments are not separate from social reality. There are social uses and functions of the environment (Jackson, 1993: 649).

Expressed another way, environmental change can be

seen as a social process, "inextricably linked with the expansion and contractions of the world economic systems" (Redclift, cited in Mackenzie, 1993: 73). As I will argue from the findings based on the fieldwork, social roles and experiences shape not only views of the environment but also perceptions of conservation responsibilities and activities.

If the environment and its protection can be seen as essential to rural livelihoods, work and social well-being, then "rural subsistence and health become environmental problems and the solutions involve questions of equity as well as economic and political redistribution (Guha, cited in Rocheleau, 1991: 157). A response to these kinds of questions can be found by looking at issues of control over and access to resources -- just one manifestation of gender relations. These will be further elaborated in the conceptual framework of this paper.

While acknowledging the social dynamics of environmental relations is important, some authors distort subsequent analysis. Some literature confines environmental degradation to *merely* a problem of the relationships between people and their habitat (Horowitz cited in Dei, 1993: 100). Such views are criticized for discounting the systemic dynamics, that is, people competing for access to productive resources (ibid)

Furthering this critique, others argue that some

commonly-held views fall into the trap of ignoring the ideological elements of Western environmentalisms and non-Western ideas of nature. Much of the literature limits the environment and, by association, conservation programs, to its natural constituents, for example, trees, water and soil. This can be misleading. As some recent research underscores, "Equating 'the environment' with 'nature' can obscure the historical and continued shaping of landscapes by people, often within conceptions of society and environment as inseparable" (Leach et al, 1995: 3-4). Some of the policy statements coming from Tanzania support a view of the environment as all-encompassing. In noting the increasingly blurred distinction between the "man-made" and "natural" environment, the government's report to the Earth Summit says that, "Tanzania's approach is to treat the 'environment' as including not only its natural resources and wildlife but also the physical and social living conditions of its people (United Republic of Tanzania, 1991: 10). As will be reported from the fieldwork, at a grassroots level, people's definitions also tended to be much more comprehensive than those in the literature,

Within the limited outlook of much of the writing, the concept of environmental conservation can also be problematic. Often such programs are seen to protect the environment from people rather than for them, thus implying an antagonistic human/nature relationship (Agarwal A, cited

in Stamp, 1989: 126). Although that view is present, it is another way of dismissing the extensive environmental knowledge held by rural communities along with their awareness of the intricacies of sustainability. In turn, these ideas have consequences for women and their location in their environments.

Because the view of environment espoused by many women is dismissed, along with awareness of their role in using and preserving the natural environment, the destruction of community-oriented nature by development projects and environmental decay have largely gone unnoticed (Stamp, 1989: 127).

As an alternative, some researchers work with the term ecology because it encompasses people's knowledge about the relationship between organisms and their environment.

Integrating Indigenous Knowledge

In the same way that the environment has been incompletely assessed, so too has the idea of indigenous knowledge of the environment. While more authors are acknowledging the importance of working with people's own definitions and perceptions, much of this work continues to misunderstand and undervalue indigenous epistemologies. Some observers adopt a patronizing stance to rural people's relationship to their environment. For example, one author mentions the necessity for peasant populations to change their views if they are to face the future successfully. Vitta writes that African societies have traditionally acted illogically in their behaviour towards the natural environment.

Often those attitudes are still based on a *misreading* of nature. Not rarely, therefore, nature's ordinary behaviour elicits apparently whimsical responses, rather than *calculated* attempts to *exploit* it through its own laws (Vitta, 1989: 93, emphasis added).

This is another example of the imposition of the language and concepts of Western economic discourse, again applied to the human and environment relationship. It can be argued that the misinterpretation is that of the outsider. Directly relevant to the research question, some have observed that the problem is one of translation.

Individuals, especially with little formal education, may have difficulty articulating their indigenous knowledge to technicians or those from outside the community. Yet this apparent inability to express themselves in modern technical language does not necessarily imply that they do not act rationally or do not understand the problems that they face (United Republic of Tanzania, 1991: 3.1)

The challenge then is to find a way not only of adequately construing grassroots information but also of appreciating its insight.

There are other reasons for the misapprehension of local-level knowledge. Conspicuous by its absence is the connection to the external context in which these societies operate. Because of the superficiality of analysis, many authors characterize (and generalize) African societies' interaction with their environment as "inefficient, and often destructive...because it is not sufficiently methodical or adequately discriminatory in its deployment of effort (Vitta, 1989: 93). Such statements raise

questions such as; which model is being used to judge such inter-actions? Is it culturally appropriate? Isn't there a possibility that what may appear illogical is perfectly "rational" in the systemic dynamics and constraints faced by those individuals? For example, Structural Adjustment Programs, (SAPs), have, among other impacts, increased commoditization and production of cash crops resulting in pressure on populations to use land intensively. In the words of someone who has worked extensively with women in Tanzania, "they [women] are doing the right thing in their context" (Olekambaine interview*). Expressed another way;

In such a situation, maximization of short-term economic gain through unsustainable mining of the resource base may outweigh the long-term consequences of this action (Mackenzie, 1993: 74).

One suggestion for how to understand and deal with indigenous knowledge of the environment is to study environmental knowledge systems going beyond folk classifications to reveal "an explicit ideological stance of environmental protection" (Jackson, 1994: 131). This may also further our understanding of how social relations inform environmental knowledge. Taking the approach even further is the idea of using this knowledge to empower rural people (Rocheleau, 1991: 156). Seen this way, the challenge is two-fold -- acknowledging and understanding

* a name followed by the word interview in brackets indicates the source of the comment/information is an individual interviewed during the fieldwork. See list of sources for a full reference

indigenous knowledge (ethnoscience) and accepting the importance of gender in shaping social relations (ibid: 157).

It is not only Western researchers who risk being accused of prioritizing and legitimizing their own knowledge systems. Scholars from the developing world are susceptible to the same criticisms. In order to avoid accusations of irrelevant, privileged research agendas, it is important for the "experts" to ask and to listen, allowing local people to help define their problems and concerns.

Local peoples must be encouraged to assert the legitimacy of their own definitions of sustainable development, the meaning and implications of their actions *in their own terms* (Dei, 1993: 99, emphasis added).

This calls for a recognition of indigenous knowledge and techniques as a "series of methodological procedures founded and rooted in specific social, environmental and cultural contexts: and not simply hypothetical abstracts or connotations" (ELCI, 1993: 13).

Women and the environment: Naturalizing the link

Some of the more recent women and environment literature indicates a need to re-evaluate people's knowledge as well as re-define the terms of the discourse. Among the results of these reassessments is the notion of a reciprocal link between women and nature, based on sex (biological) characteristics. There are considerable

grounds for concern about this latest trend. Some authors warn against "reading women as nature into an argument which is essentially tracing the links between women and nature" (Agarwal, 1989: 58).

Typical of some of the literature establishing and justifying the women/environment link are passages such as the following:

Women represent the life-giving, creative forces, and can make a significant contribution in promoting the "Development without Destruction" concept. In ancient mythology, the positive, constructive life-forms like fertility and growth are symbolized as goddesses. It is logical, then, to expect such approaches as conservation and protection of natural resources and wildlife to be supported by women. (UNEP, 1980: 1-2).

These ideas are illustrated in a broad body of ideas known as ecofeminism. Ecofeminist proponents include people such as Vandana Shiva, Riane Eisler, Susan Griffin and Carolyn Merchant (Diamond and Orenstein, 1990), many of whom have also been labeled radical feminists. For purposes of this literature review, attention is being drawn to what is known as radical ecofeminism. This particular stream has been very influential in shaping ideas about women and environment partly because it dominates the ecofeminist writing. It should however be noted that ecofeminism also contains both socialist and liberal schools (Hessing 1993) with different agendas and assumptions.

One of the basic tenets of ecofeminism is that the degradation of women and nature are part of the same

oppression. However, rather than reject the women/environment association, ecofeminism not only shines the spotlight on women, it celebrates what is characterized as their naturally intimate relationship with the environment, as mothers, nurturers and agriculturalists. There have been several vociferous critiques of ecofeminism (Biehl, 1991). Some criticisms concern the potential of ecofeminism, as a framework, to analyze and understand women vis à vis environmental change. Ironically, ecofeminism is seen as conceptually flawed because, like the prevailing paradigm of development, it is based on dichotomies (Jackson, 1993: 658) and runs the risk of perpetuating the very hierarchies it is attempting to halt (Merchant, 1990: 102). Articulated as opposites are nature and culture and women and men. As a result, many ecofeminist discourses are "innocent of gender analysis in which men and women are relational, socially constructed, culturally specific and negotiated categories" (ibid: 660). Because of its emphasis on the biological, ecofeminism undermines the pivotal notion of gender as socially constructed relations (Levy, 1992: 141). As well, the role that culture has to play in shaping people's relations to the environment is left unexamined because the biological is seen as the dominant, driving force. The denial of the social and historical construction of women (gender) and nature is criticized as essentialist (Jackson, 1993: 661).

However, to its credit, ecofeminism points out that relations with the environment revolve around power issues and therefore, politics. This is an issue notably absent in any of the WID and most of the WED literature. But, in its preoccupation with women, conceived of as an unchanging, unitary category and the equally monolithic, reductionist concept of patriarchy (Jackson, 1993: 661), these approaches perpetuate inaccuracies. For example, they neglect to identify the individual and site-specific power structures which broker and characterize environmental relations.

The politics of the environment

In looking at women and the environment politically, the value of gender analysis also becomes more evident. Gender, like politics, is about de-constructing surface events to discover underlying imperatives.

Gender in relation to natural resources and to the economic, political and cultural environment is probably most evident as a dimension of power besides class, age, ethnicity and religion. Changing the existing power dimensions is crucial for attaining sustainable development (van den Hombergh, 1993: 20).

Environmental conservation and change are intimately related to resource allocation -- a manifestation of power -- which is at the core of politics. As one Tanzanian development worker stated, "To say that women are managers of the environment is an overstatement because it doesn't acknowledge the power relations at work" (Binagi interview). That is to say, while women may have the

responsibility for environmental conservation, they do not necessarily have the authority or other resources with which to do so. For this and many other reasons, a number of other people working with women at a grassroots level characterized the gender and environment relationship as "a contradiction" (Macha interview). Decisions about what to plant, where and how to farm, where to install a well are examples of issues of resource allocation. Examples of misallocating resources have been shown to have major impacts on the health of the environment (Mackenzie, 1993: 75). More directly, as socially and ideologically based constructions, both gender and environment

represent a particular set of power relations and find expression in a range of institutions in society. As such they are also resistant to any change which will threaten the interests of the powerful (Levy, 1992: 140).

Expanding on conventional explanations of politics as participation in an 'official' or public system of resource allocation, more recently seen in feminist analyses is the notion of politics as the dynamics of power relations that are present in both the private, i.e. the household, and the public, i.e. official spheres (Randall, 1987: 11). In other words, the personal is political. If the false separation between public and private can be broken down then a more accurate understanding of what constitutes politics will emerge. It can also be used as a strategy for trying to connect the micro with the macro level. This

is vital to fully understanding how any social system works and is a prerequisite for changing that system.

An understanding of the politics in communities of rural women in Tanzania should lead to assessing community activities in terms of their impact on women as well as women's roles include: Who initiates? Who decides? Who participates? Who benefits? Who controls? (Sharp, 1992: 42) Another framework, designed to help determine women's status in a community, could be adapted to reveal information about social roles. It looks at: powers within marriage; control of sexuality and fertility; rights and duties of mothers; control of wealth and income; employment opportunities; and education.

Assessments of the range of political activities open to African women clearly indicates that participation takes many forms in addition to the more obvious membership in a political body, such as a village council. Three major ways, other than official channels, in which women in Africa participate in politics are (O'Barr, 1984: 141):

- ◊ **Withdrawal:** allows women to take a position, forces others to deal with that position and produces control for a brief period of time;
- ◊ **Resort to the supernatural:** often a more frequent and more effective method of exercising political power, for example, in the form of a ritual to bring about desired ends;

- ◊ **Working through men:** including fathers, husbands and sons, manipulating their relationships with them to influence policy. This type of strategy can be seen when women attempt to secure access to resources through manipulating men who control them.

There are of course, many other ways in which women take active, independent and leadership roles in politics. The purpose of mentioning the three strategies above is to point out that participation does not necessarily require visible involvement or engagement with a political system - a predisposition in Western notions of politics. Political participation can also entail a rejection of or resistance against a particular policy, rule or more subtle forms of control. A better understanding of the concept and act of resistance, an equally important part of politics, can help in resolving what may otherwise appear to be a contradiction.

Politics as resistance

Among the more subtle and complex manifestations of women's behaviour and actions -- especially when there are cultural and language barriers -- are resistances. This is one area that has been neglected in the literature partly because identifying, let alone understanding resistances is extremely complex. A lack of organized activity should not be automatically confused with passivity. Sometimes inaction is a very powerful expression of protest. Or, expressed another way, as one researcher found in working

with rural women in East Africa, perhaps, in some situations, it is more strategic to stay silent (Tripp interview). Also important is understanding that participation in certain of society's activities does not necessarily imply acceptance of its norms. Observers should not jump to the conclusion that women are excluded from a certain sector when the case may be that they have chosen not to join in (Mascarenhas and Mbilinyi, 1983: 29). Failure to understand or a misinterpretation of resistance will distort research findings.

The volume on women in Tanzania by Mbilinyi and Mascarenhas cites some examples of resistances, illustrating their many manifestations. In some communities women refuse to contribute their time and labour toward local self-help activities or to adopt new technologies if they are considered to be potentially time-consuming. "At issue is the greater labour demands made on women in combination with the appropriation of the labour produce [products of their labour] by husbands at the household level and by village governments at the village level" (Mascarenhas and Mbilinyi, 1983: 26). Other, more recent examples of resistances include (Vuorela, 1987: 134):

- ◊ the failure of development schemes because women peasants resisted the transformation of matrilineal land tenure systems. Women farmers refused to cultivate the land or left the land altogether;

- ◊ protests staged at village assemblies about the appropriation of women's labour to village government construction projects;
- ◊ women household heads (formerly married) choosing to reject the formal institution of marriage in favour of permanent but informal relationships with men; (These types of liaisons can also be seen as an example of women attempting to gain access to resources while retaining economic autonomy and control, unattainable in marriage, (Robertson and Berger, 1986: 15);
- ◊ divorced women brewing their own beer (considered by some societies as a male activity) as a means of earning income and independence;
- ◊ political struggles to resist government villagization programs through stone throwing, petitions and campaigns to collect bribe money.

This is not to suggest that pinpointing cases of resistance is straightforward. There is a wide divergence of opinion about how women have reacted to their subordinate role (Mascarenhas and Mbilinyi, 1983: 64). What some scholars see as docility, others see as conscientious objection. Whatever the case, the issue of resistance is as important to identifying women's views and position in particular communities as some of the more explicit and obvious indicators. In relation to the main research question of this paper, if environmental schemes were assessed using some of the above ideas and examples, the criteria of "success" would have to be drastically altered as would the thinking behind many conservation

programs, especially those coming from outside a community.

The implications of sustainability

In the literature and in policy, one of the current criteria for success is sustainability. My research question also includes this aim. If it is to be meaningful, the term sustainable should be holistic, i.e. not just economic, to encompass environmental, social and political facets. The concept is most commonly heard in the context of sustainable development. Perhaps the best known definition is from the 1987 report of the World Commission on Environment and Development, also known as the Brundtland Commission. It defines the term as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). Such a conceptualization can be problematic. It has been criticized by scholars in the South for having a Western bias.

The term sustainable from the point of view of non-ecological elites means how to continue to sustain the supply of raw materials when existing sources of raw materials run out (Idris, cited in van den Hombergh, 1993: 45).

The concept of sustainability is also political and some point out the categorical need to ask about the politics behind the concept (Dei, 1993, Jacobson, 1992).

Development by and for whom; sustainable for what uses, and for whom? Or, another way of expressing it, "Whose Common Future?," referring to "the forgotten element" in the

debate -- women and gender discrimination (Rocheleau, cited in Jacobson, 1992: 46).

As Jackson points out, even when sustainable development discourses do pay attention to women, because they often still do not address the politics of gender, there remains no assurance that outcomes will be any more favourable than previous development endeavours (1994: 119).

In the context of current structural adjustment policies (SAPs) that pervade the majority of Third World economies, the question of sustainability takes on another dimension. The declining terms of trade, the erosion of workers' incomes, the decreasing provision of social services are becoming increasingly unsustainable politically, economically and socially (TGNP, 1993: 43-54). But, given the persistence with which these policies are applied by institutions such as the World Bank and the IMF, the concept of sustainability is either considered irrelevant or is defined in terms of interests external to countries in which these policies exist. This points to the need to address the context in which sustainable development discourse takes place, or in other words, its political economy. The term sustainable development also brings the question of needs to the forefront. What exactly are the needs of the present? Whose needs are they talking about? How are they determining what constitutes need?

A question of women's and men's needs

The research question, how can women's needs, knowledge and concerns be translated, requires determining what that knowledge encompasses and what some of those needs and concerns are. Doing this, as some of the literature suggests, can be quite complicated. Tanzanian scholar Bertha Koda begins her thesis (1975) on the emancipation of women in Tanzania by questioning; "What does a woman want?" She is critical because the question assumes a homogeneity that is not borne out in reality and because it presumes that women have needs and desires which are not shared by men but which are common to all women (Koda, 1975: 68). The first step towards achieving goals such as improving the status of women and fundamentally reorienting development, "is to ask women themselves what needs should be accorded top priority" (Jacobson, 1992: 47).

In fact, learning about women's needs was a cooperative effort, between myself and the women in the villages where the fieldwork was conducted. In doing so, a more subtle, reading between the lines, was necessary. When conducting preliminary research for this paper, the anthology, by Mascarenhas and Mbilinyi of women in Tanzania, offered some guidance on this task. For example, while not explicitly using the term *need* in their work with rural communities, women often complained about the lack of representation at official political forums and their

frustration at being excluded from village government. Other concerns included the fear of wife beating and public humiliation by their husbands if they spoke their minds at village meetings (Mascarenhas & Mbilinyi, 1993: 30). At a series of village workshops, women stressed their arduous workload, inadequate agricultural implements and the cultural factors that prevented them from asserting themselves and their rights (Mbilinyi, 1984: 25). Looked at another way, these, in one form or another, are needs. women and environment: trying to make the link strategic

As outlined, what some WID literature hints at and ecofeminist thought makes more explicit is the idea of a connection between women and the environment. Increasingly, and in various ways, the literature on women and the environment attempts to portray the link between the two as strategic. Or, in other words, that the needs of women and environment are harmonious. Often this is interpreted to mean that fulfilling the needs of the environment will also, automatically, meet women's needs.

Dankelman and Davidson write about the "major convergence of interest between environmentally sound and sustainable development and the development of women" (1991: 174). The idea of a direct correlation between women's capacity to care for the environment and their level of independence and status is loaded with implications for development planners, especially at a time

where the elusive goal of sustainable development is so anxiously sought. Other authors have pointed out that conceptually linking women to the environment in development policies is strategic because it places "on the same platform the two vital critiques that challenge the development path most countries of the South have either chosen or been forced to adapt" (George, 1993: 6).

However, associating only women with the environment, is also seen by some as controversial. Cecile Jackson writes,

There are no grounds for assuming an affinity between women's gender interests and those of environments. ... such a view is symptomatic of the gender blind, ethnocentric and populist character of Western environmentalisms (1993: 649).

In objecting to the central tendencies and stereotypes that pervade much of the women and environment literature, Jackson is pointing out that what some might consider strategic amounts to no more than the re-enforcement and perhaps even the creation of certain stereotypes.

Women may sometimes be more environmentally friendly than men, but this is not necessarily so. For example, in many developing countries, women are consuming larger amounts of firewood to get into the business of beer brewing. What this shows is that the need to earn an income may lead women to consider the environment as secondary to the more immediate imperatives of survival.

The point is that either view -- women as

environmental villains or as guardians -- has to be qualified by context and other factors, such as people's roles and responsibilities. Failing to look at these dynamics more critically has implications for kinds of policies that are initiated. For example, seeing the women and environment interaction as solely positive means that any interventions, such as conservation programs which link women to the environment, will automatically be considered beneficial (Jackson, 1994: 113). This indiscriminate acceptance of environmental projects is also partly a result of a wider embrace of development, typical of WID thinking.

In Jackson's view, those who proselytize a women and environment linkage, including development agencies and NGOs, have been co-opted by the larger development agenda (as can be said also of those who reject any notions of gender differences). "For the World Bank, women have become the means by which environmental ends are achieved and part of this process has involved the manipulation of meaning in the vocabularies of gender and development analysis (Jackson: 1993: 650). These "vocabularies" which form ideas and eventually policies, are revealed in and highly influenced by the discourse of WID. Some criticisms center around the tendency to universalize across cultures and over time (Jackson, 1993, Leach, 1992). To overcome this deception, a conscious effort must be made to

understand women's relationship with the environment as constantly changing. In turn, this view should facilitate more sensitive project and policy interventions that will both empower women and enhance environmental sustainability (Leach, 1992: 12).

In challenging the supposed synergism of women and the environment, Jackson and others do not completely deny such dynamics exist. Rather, out of their criticism comes a request that such links be substantiated. In many current conceptualizations, it is argued that women are seen to have a special relationship with the environment by default. By focusing exclusively on women, there is a risk of exaggerating their role in managing natural resources simply because men's environmental activities are left out (Leach, 1992: 16). It also ignores men's and women's shared environmental roles and responsibilities (ibid). The results of applying gender analysis -- considering the roles of both men and women -- to these issues will be unpredictable but, at the same time, much more reliable than current perceptions. The application and implications of this type of inquiry are articulated further on in this chapter.

By not considering the dynamics of gender, some development agencies have begun to realize that vital factors are absent in project design. In the context of agrarian schemes, those factors include: (Endely, 1991: 133)

- ◊ the interplay of gender and sex in the execution of agricultural activities, the allocation and use of both household and project resources and in the distribution of agricultural benefits and profits;
- ◊ the relationship between women's domestic or household and agricultural production responsibilities;
- ◊ the influence of gender bias in the delivery of appropriate technology.

By including gender as a variable in the development and implementation of projects, the ultimate purpose is to instill a degree of fairness, currently absent, for the women targeted in these schemes.

An inquiry into people's gender roles would reveal a wide range of behaviour, some of it environmentally conscientious, while other actions may indeed prove to be environmentally destructive. Rather than simply characterizing women's relationships to the environment as positive or negative, it would be more constructive to consider the confluence of factors that shape those relations. Those elements are a reflection of location -- household, community, national and international, geographic and economic -- among which gender is an especially significant presence. In other words, the links between women and the environment may be seen as socially and culturally constructed and not simply biologically determined (Agarwal, 1989: 58).

Toward a gender perspective

To make research and development planning more responsive to some of these concerns, a more recent approach has evolved known as Gender and Development, or GAD. In GAD, the emphasis is placed on the relationships between men and women and how these relationships affect development (Klumper, 1993: 6). For example, issues of equality in decision-making, access to and control over resources are scrutinized. Some stress that using a GAD approach means more attention is paid to change in a community.

To illustrate the differences between WID and GAD approaches and better understand the implications of using these models, see Figure 1.1. In many respects the divergences mirror the divisions within feminism between reformists (liberal) and more critical (radical and socialist) schools of thought. To illustrate the potential range of views on women and environment in feminist thought I have borrowed another chart, figure 1.2, from Carolyn Merchant. It is worth noting that in very few projects or policies is the approach "pure". Most policies must be seen to embody a range of orientations, feminist and developmental. Although WID and GAD may appear to be in opposition, they are not irreconcilable. Similarly, radical and socialist feminisms share a number of assumptions.

Figure 1.1

**A Comparison of Women in Development (WID)
&
Gender and Development (GAD)**

	WID	GAD
The focus:	Women	Relations between men and women
The problem:	The exclusion of women from the development process	Unequal relations of (rich and poor, men and women) that prevents equitable development and women's full participation
The goal:	More efficient/effective development	Equitable, sustainable development with women and men as decision-makers
The solution:	Integrate women into existing development process	Empower the disadvantaged and women; transform unequal relations
The strategies:	Women's projects, Women's components; integrated projects; increase women's productivity and income; increase women's ability to look after the household	Identify/address practical needs by women and men to improve their condition; at the same time, address strategic interests of women and the poor through people-centred development

Adapted from: CCIC, MATCH, AQOC. Two Halves Make a Whole: Balancing Gender Relations in Development. Ottawa: 1991

FIGURE 1.2

Feminism and the Environment

	NATURE	HUMAN NATURE	FEMINIST CRITIQUE OF ENVIRONMENTALISM	IMAGE OF A FEMINIST ENVIRONMENTALISM
LIBERAL FEMINISM	Atoms Mind/body dualism Domination of nature	Rational agents Individualism Maximization of self-interest	"Man and his environment" leaves out women	Women participate in natural resources and environmental sciences
MARXIST FEMINISM	Transformation of nature by science and technology for human use Domination of nature as a means to human freedom Nature is material basis of life food, clothing, shelter, energy	Creation of human nature through mode of production. Historically specific - not fixed Species nature of humans	Critique of capitalist control of resources and accumulation of goods and profits	Socialist/communist society will use resources for good of all men and women Resources will be controlled by workers Environmental pollution will be minimal since no surpluses will be produced Environmental research by men and women
RADICAL FEMINISM	Nature is spiritual and personal Conventional science and technology problematic because of their emphasis on domination	Biology is basic Humans are sexually reproducing bodies Sexed by biology/condemned by society	Unaware of interconnectedness of male domination of nature and women Male environmentalism retains hierarchies Insufficient attention to environmental threats to women's reproduction (chemicals, nuclear war)	Woman/nature both valued and celebrated Reproductive freedom Against pornographic depictions of both women and nature Radical ecofeminism
SOCIALIST FEMINISM	Nature is material basis of life food, clothing, shelter, energy Nature is socially and historically constructed Transformation of nature by production	Human nature created through biology and praxis (sex, race, class, age) Historically specific and socially constructed	Leaves out nature as active and responsive Leaves out women's role in reproduction and reproduction as a category Systems approach is mechanistic not dialectical	Both nature and human production are active Centrality of biological and social reproduction Dialectic between production and reproduction Multileveled structural analysis Dialectical (not mechanical) systems Socialist ecofeminism

Source: Carolyn Merchant, "Ecofeminism and Feminist Theory." 1993. (pg 104)
In Reweaving the World, Diamond & Orenstein, eds.

Overall, despite its more sophisticated recognition and use of gender as a category of analysis, GAD is more transitional than transformational. The monolithic concept of development is insufficiently explored and criticized. Above all, gender and development lacks an explicit focus on issues immediate to and surrounding environment and environmental change. These issues are integral to, among other purposes, improving understanding and analysis of women in developing countries.

Taking things further, Gender, Environment and Development (GED) emphasizes the role of gender in shaping people's relationship with the natural environment. This is where my research is situated. As an approach it adds further legitimacy and sophistication to a study of women in the environment. It also provides a critique of the definitions of environment and development (van den Hombergh, 1993: 16-17). In making the links between gender, environment and development, the literature relies on three factors: the sexual division of labour, the "feminization of poverty" and gender ideology (ibid). While for the most part, GED advances the analysis, there is room for improvement. For example, the sexual division of labour can be transformed by looking at the influence of gender. As well, an acknowledgment that women have experienced a disproportionate burden of poverty should not preclude an analysis of the other factors that shape their

position in society. Even after compiling an extensive bibliography of writings on gender, environment and development, van den Hombergh still finds "there is no substantial analytical work on the different approaches to GED in policy and planning" (1993: 37-8). That is part of the challenge I face in trying to construct and further refine a conceptual framework of these issues.

Part II: GENDER AND ENVIRONMENT: A FRAMEWORK

Paving the Way

We have to link the experience of women -- their daily struggle to survive -- with the macro-economic policies which impact on every aspect of their lives ... First we must examine the contradictions in our own lives, contradictions of class, race etc. We can then build on our diversity to find the commonalities of our identities as women. ... Someone has said that acting individually, women can make a difference and that acting collectively they can make a revolution.

Peggy Antrobus, World Women's
Congress for a Healthy Planet, November, 1991

While work such as Dankelman and Davidson's has been helpful as a starting point to discussing women and the environment, thinking about these issues more critically, it becomes apparent that there are some major gaps. These two scholars make no mention of how men interact with women and the environment. The breakdown of women's close relationship with their natural habitat, a space shared by men, must also have implications for the husbands, fathers, brothers and sons of these women. Researchers who exclude or ignore this fact risk totalizing, generalizing and authoring further inaccuracies.

The inadequacies of WID analysis and, more recently, ecofeminist work, have led many feminist scholars, development workers and experts from the Third World to point out the need to probe deeper. Bringing these diverse groups together is the aim of developing a theory capable

of explaining the processes of exploitation and oppression of women. As one source says, there is a need for both "in-depth micro-level" research and statistical analysis of specific aspects of the problem of women in production and reproduction (Mascarenhas and Mbilinyi, 1993: 48). In her work with rural Tanzanian women, Swantz makes the case for making theory relevant by working at a grassroots level.

In seeking solutions to women's problems and asking about the scope that women have to develop themselves, the answers are not only found by solving the theoretical problems relating to the society at large. There is a microcosmic level of experience which allowed space for development, and becomes instrumental in further cultural and economic expansion (Swantz, 1985: 7).

To create this "space" what is needed is both the intellectual and methodological tools to conduct research. The conceptual framework provides the guidelines by which to think about certain issues. The ability to translate concepts into the something concrete is the task of methodology. The methodological mechanisms are the focus of the next chapter. But, despite the organizational separation used in this thesis, the framework and the methodology need to be aware of and inform each other.

Interested and committed observers have noticed a shifting emphasis "toward a more realistic and practically useful perception of just what the relationship (women and environment) is all about" (Davidson cited in Winpenny, 1991: 137). Going deeper often coincides with a change in perspective, from seeing women solely as passive,

environmental casualties to active, natural resource managers.

The key, as Davidson points out in subsequent writings, is *how the link between women and the environment is perceived and how it is acted upon* (Davidson, 1989: 2, emphasis added). As an example of future strategies, she writes,

What women must be enabled to do is apply more of their own hard-won solutions locally and capitalize on their environmental roles: be recognized and remunerated for their part in sustaining the resource base for development (Davidson, 1989: 3).

This calls for a site-specific assessment of women's needs and responsibilities. A failure to delve deeper may entrench women in narrowly-defined domestic roles and therefore reinforce rather than rectify gender and other inequalities (Leach, 1992: 15). But, going deeper is also about delving wider, to locations at other levels, national and international. In order to do this, also required is "in-depth empirical research which engages in processual analysis of the iterative nature of the relationship between small-scale event (intra household/local/community) and large-scale process" (Mackenzie, 1993: 84-5). Taking a specific context, this could mean looking at the political struggles of men and women of different classes under structural adjustment. These are struggles, as will be shown, that have environmental repercussions.

Constructing a conceptual framework

A conceptual framework inter-weaving gender and environment can be seen as a first step to translating a range of perspectives into organizational relationships and planning processes leading to sustainable development (Levy, 1992: 134). But it is also much more than that. Translating also involves interpreting. On a more practical as well as human level, a conceptual framework provides tools to people, not just those involved in planning and implementation, that will help them to understand better a range of situations, including their own context. In my opinion, a better understanding means an increased awareness of people's views, interests, needs and knowledge, combined with a greater availability of information about the wider world around them. Again, seen this way, the research question asked in this thesis has built in both methodological and conceptual imperatives. Picking up from the cues in the literature review, I would like to expand on and articulate a conceptual framework that will assist in furthering how we think about women and their relationships to the environments.

Key components of the framework include; gender analysis with a focus on women's perceptions of their environment and how their views diverge and converge from those held by the men in their community. Specifically examined are: the question of why there is a confluence

and/or divergence of perspectives between and among women and men; issues of access to and control over natural resources; and, perhaps most important, the implications of a gendered perspective of women and the environment. In addition, some starting points for developing strategies and actions toward change will be suggested. To support the framework, examples will be used throughout to illustrate the need for and potential of using gender analysis.

Defining gender analysis

Gender analysis has been called "a framework for understanding social change through the lens of gender identities" (Jackson, 1994: 114). But what exactly does that mean? Before discussing how gender analysis can be applied to a study of women's relationship to the environment, it is important to understand what exactly is meant by the terms gender and gender analysis and the potential benefits of such a mode of inquiry. As a starting point, it needs to be emphasized that gender evokes different images and has different implications, depending on who is doing the defining. That there is a range of meanings for this concept became evident when doing fieldwork for this project (Figure 1.3). Some Tanzanian development workers indicated an unease with using gender as a category. Their concerns, discussed at a training workshop, are revealing. They further illustrate

Figure 1.3

Gender. in context

Shortly after arriving in Tanzania I was informed that there was no term for the concept of gender. The actual interpretation of the Swahili word, jinsia, used to refer to gender, meant sex differences. What could that mean? There are no distinctions made in the socially constructed roles of men and women -- the definition of gender that I was working with. Was my work an example of imposing Western ideas on a developing country context? Did the absence of a named concept, gender, in Swahili indicate that the language is not sexist, and by implication, reflects an egalitarian society? There are however, additional means of distinguishing male and female locations. For example, Swahili differentiates in the term for marriage, the man being the actor, (kuoa), while the woman is characterized as the one being acted upon by using the passive form of the verb, (kuolewa) (MacWilliam, n.d.: 98). This emphasizes the point that language is a tool. Without a word for a concept, trying to explain that concept, let alone articulate how to integrate it in a planning perspective is extremely difficult. I wasn't the only one struggling with this. At a conference on gender issues set up by the NGO I worked with, I sat listening to speaker after speaker, noticing that many of them were stumbling over many of the Swahili words. They sounded awkward. When I asked them what the problem was, they explained that for them, the terms articulating gender issues and concepts were new to them. The language was changing. These were words they had not used or been able to use because they did not previously exist.

some of the associations attached to the term gender. For example, these workshop participants wondered about and were worried that (Klumper, 1993: 3):

- ◊ gender issues would be treated as women-only issues;
- ◊ too much emphasis on gender in the villages would lead to misunderstandings between men and women;
- ◊ women participating in programs that deal with gender issues in the villages would be looked upon as "bad women";
- ◊ how would gender issues enable educated women to go to the villages to discuss these and related matters;
- ◊ because women are often regarded as being victims, weak creatures etc., how could they instead build upon their strengths, their strategies to deal with their problems;
- ◊ there is an over-reliance on research and information on "gender issues" from outside Tanzania. Research findings should express the feelings of the people, not the researcher.

These concerns, as it was discovered in the fieldwork, were well founded. The potential for gender research to generate conflict could be seen in the definitions that villagers and local officials provided when asked what they thought gender meant. Their understanding of gender entailed "misunderstandings between age groups, between men and women, adults and children or leaders and the people." One villager believed that gender meant "all the bad things men did to women." Again, pointing out the

political nature of approaches utilizing gender, some observers said that many men feared such research because it would mean giving up power. "They feel they'll get sent to the kitchen while women go relax in the sitting room," remarked an official with the government ministry that deals with women's affairs (Warioba interview). She said men were afraid of being treated the way they themselves had behaved toward women. Another official, a woman, in one of the villages said that the perception was that gender meant women received special treatment/priority in projects. To a local school teacher, gender issues meant "seeing women as depressed, homebodies only, no right to own anything." Men, he said, were reluctant to surrender these rights.

For purposes of this research gender, analysis means being conscious of the factors, environmental, social, economic, and political, that influence the roles of and relations among women and men. These are elements independent of biological differences. Gender analysis also involves:

the systematic effort to document and understand the roles of women and men within a given context. Key issues include; (a) the division of labour for both productive and reproductive activities; (b) the resources individuals can utilize to carry out their activities and the benefits they derive from them, in terms of both access and control; and (c) the relationship of (a) and (b) to the social, economic and environmental factors that constrain development (Overhold cited in Klumper, 1993: 9).

Gender analysis can be applied to initiate an understanding

of "the processes by which gender is created through the actions and choices, performances, struggles and strategies by individual women and men" (Jackson, 1994: 115). The fieldwork conducted in Tanzania looks specifically at some of the choices and actions of a number of village women in joining a tree-planting project, the struggles for their own and their family's survival, to preserve the environment as well as their strategies at the household and community level to fulfill their subsistence needs, among which they themselves include, preserving the environment.

On a larger scale, gender analysis provides the potential to break out of pre-existing and contemporary structures and systems. Implicit in most discussions of gender analysis, and explicit in this paper, is the concern with changing those seemingly monolithic structures and institutions to fully reflect and respond to the needs and concerns of people living in specific systems. A more explicit aim of this structural transformation may be the empowerment of women (the nature and implications of which to be discussed in the following chapter). Unlike approaches that target women, gender analysis attempts to understand the social factors which form gender relations and which influence and constrain women (Elson, 1991: 14).

Practical and Strategic Gender Needs

Gender, applied to the question of needs, offers

further insight. A distinction is being increasingly made, between "practical gender needs" and "strategic gender interests" (Moser, 1993). Practical gender needs have been defined as "the needs women identify in their socially accepted roles in society" (Moser, 1993: 40). They are a "response to immediate, perceived necessity, identified within a specific context" (ibid) and are formulated from actual conditions in women's engendered position (van den Hombergh, 1993: 40), even though this position may not be explicitly acknowledged. Characteristic of this type of need are requests for improvements in daily living conditions including clean water, sufficient food and health care. Most appropriate technology programs are designed to fulfill practical needs. They do not usually challenge the existing social system that often engenders women's subordination. It is important to note that this approach corresponds in many ways to the WID agenda. For example, in meeting needs, such as food and housing, women tend to be treated as passive recipients (See Figure 1.4). However, it can still be argued that effectively meeting these needs can provide the basis for more challenging strategies that will eventually lead to social change.

Strategic gender needs or interests emerge from the perspective that women are subordinate to men, with an analysis of the situation they live in (Moser, 1993: 39, van den Hombergh, 1993: 40). They too vary depending on

Figure 1.4
Practical Needs and Strategic Interests

Practical Needs	Strategic Interests
<ul style="list-style-type: none"> - Tend to be immediate, short-term - Unique to particular women - Relate to daily needs: food; housing; healthy children etc. - Easily identifiable by women - Can be addressed by provision of specific inputs: food; clinic; handpumps etc. - Tends to involve women as beneficiaries and maybe as participant - Can improve the condition of women's lives - Generally does not alter traditional roles and relationships 	<ul style="list-style-type: none"> - Tend to be long-term - Common to almost all women - Relate to disadvantaged position: subordination; lack of resources and education; vulnerability to poverty, violence etc. - Basis for disadvantage and potential for change not always identifiable by women - Can be addressed by conscious-raising, education, increasing self-confidence, political mobilization, strengthening women's organizations etc. - Involve women as agents or enables women to become agents - Can improve the position of women in society - Can empower women and transform relationships

Adapted from: CCIC, MATCH, AQOC. Two Halves Make a Whole: Balancing Gender Relations in Development. Ottawa: 1991

the context. Characteristic of this type of need are issues such as legal rights, domestic violence, equal wages and reproductive control (ibid). As can be gathered from the term, strategic interests deal with power and control and are designed to challenge and change existing roles so that women achieve greater equality. Whereas practical needs fit into WID, strategic needs are better aligned and reconciled with gender analysis.

While identifying different types of need them may provide insight, and fulfilling some of them may improve living conditions, neither activity will necessarily expedite change if a deeper [more strategic] analysis is absent. Both kinds of needs should be addressed. In addition to making the distinction between practical and strategic it is also important to understand that needs can often not be totally separated. As van den Hombergh points out, "what may seem practical gender needs for outsiders may have strategic potential as well for the women involved" (1993: 41).

To illustrate, many women spoken to in the course of the fieldwork said that if they were to receive permission to attend women's group meetings, they had to complete their household tasks before going. Providing these women with fuel-efficient stoves, although it would be considered a practical gender need, can also be seen to have strategic value. By reducing a woman's daily demand for firewood, it

can facilitate a woman's attendance at a meeting at which more strategic issues would be discussed. Applying this to environmental activities, another woman indicated that, some "practical" needs, such as for land and dairy cattle, "can enable me to support my life financially so that I have time to protect the environment." Classifying needs as practical or strategic is also important because it forces attention to particular contexts. While it may appear vital to push for strategic change, without a practical base, gains are unlikely to be made. Again, using an example provided by someone working in the field in Tanzania, "You can't talk about sending girls to school when the fees aren't there" (Runaniria, interview).

Determining needs and changing roles means first acknowledging that men and women have various, socially-assigned functions. Gender is seen by some as one of the primary ways in which societies and cultures demarcate rights and responsibilities, the different roles of men and women (Feldstein and Jiggins, 1993:1). Gender analysis can assist in exploring these issues by examining the different tasks and responsibilities that shape people's roles.

Discussions in some of the literature have been helpful in this de-construction by classifying these roles into:

- ◊ **reproductive tasks** (domestic or household) consisting of child-rearing responsibilities are included in this as well as reproduction of the labour force and social reproduction (Moser, 1989, cited in Levy, 1992: 146).

The concept of reproduction is pinpointed as especially useful for understanding gender issues in environmental change "because it links the household-level divisions of labour into societal processes" such as changing marriage and kinship structures and behaviour as well as the making and shaping of norms and values (Jackson, 1994: 141);

- ◊ **productive tasks** which mainly consist of subsistence production or looking for resources for the household, (potential exchange value) and work done for pay in cash and kind, i.e. market production for exchange value (Moser, 1989, cited in Levy, 1992: 146);
- ◊ **social or community tasks** which are activities performed mostly by women at the community level and an extension of their reproductive roles. This is characterized by voluntary, unpaid work, the aim of which is to ensure the provision and maintenance of scarce resources that are consumed collectively (Moser, 1989, cited in Levy, 1992: 146).

Noted in some of the literature dealing with these classifications is the tendency of development initiatives to intervene in productive tasks, but not in the reproductive and community responsibilities (Klumper, 1993: 5). This amounts to an assessment that reproductive responsibilities and community services are non-economic, carry no financial return and hence are of limited investment and, by association, social value.

Gender analysis, applied to the specific question of translating women's needs, concerns and knowledge about the

environment, involves a number of specific inquiries. From the standpoint of gender, asking who does what, when and where -- the division of labour -- can help uncover the *knowledge* that people possess. The very fact there is a division implies that women and men have different domains of knowledge concerning the use and management of natural resources (van den Hombergh, 1993: 16). Also discernible from a division of responsibilities are the kind qualities and associations that go into the construction of women's and men's gender roles. As well, a division of labour on the basis of gender is another way of finding out more about the collection and acquisition of resources as well as their use, maintenance and disposal. This, in turn, is part of *the process* of meeting gender needs (Levy, 1992: 146).

In applying gender analysis to the environment, one of the interesting implications, in acknowledging the social forces and roots behind people's actions is that environmental degradation can no longer be attributed solely poverty (Jackson, 1994: 119). Looked at from the perspective of environmental conservation and change, Agarwal says that "women's ability to provide and sustain (*which are gender roles*) depends on their direct access to natural resources and control over technology and their own labour" (1989, 46, emphasis added). Inequitable relations and inadequate access to resources both result in and are

exacerbated by poverty. They are also a significant influence on people's behaviour towards the environment. In the conceptual framework on gender and environment forwarded by Levy, access and control of a range of resources in a range of conditions are a "central axis" (Levy, 1992: 145).

Access and control over resources and benefits are also integral to gender analysis and an understanding of environmental change. Access is conditional. It means the resource may be available, but without choice about timing or the amount that can be used (Feldstein and Jiggins, 1993: 3). Control means having full decision-making authority concerning a resource (ibid). It is important to distinguish between the two terms in order to understand women's varying locations as well as the social dynamics in a community. In their analysis of these issues, Robertson and Berger go even further. They make the distinction between ownership, control and use of resources. In their words, "In a sense it does not matter who *owns* something: more important is who can *use* and/or *control* it (1986, 15). The distinction between ownership and control is seen as particularly relevant in dealing with the frequently communal nature of African land tenure. It is also important because it points out that the theoretical right to own property does not necessarily eliminate female dependence on men for access to resources, especially in

cases where women own land only through marriage (Robertson and Berger, 1986: 10).

Because issues of access and control are determined to a great extent by gender, it makes sense to use gender analysis to try to anticipate the implications and outcomes of people's participation in development projects. These are the kinds of assessments that people themselves will likely make use of.

What the cumulated record of local agrarian change in Africa suggests is that the effects of an increase in the price of, say, maize on maize production depend not only on the availability of inputs and rural infrastructure, but also on who *controls* the resulting increases in output and income, and how they are used over time. These effects depend, in turn, on changing relations of power and legal practices as well as on available technology and market incentives (Berry, cited in Mackenzie, 1993: 85)

Questions of access and control are vital also to address people's needs. Also instrumental is determining the circumstances in which people exercise access and control (Feldstein and Jiggins, 1993: 4), and people's negotiating skills around rights and access use (Rocheleau, 1991: 160) to understand how gender roles operate in a society. In turn, this knowledge can be used to facilitate the creation or re-creation of those dynamics, thus meeting some needs. Gender analysis can further refine those needs on the basis of what addressing them will accomplish, i.e. strategic or practical advances.

Property relations are another manifestation of access and control over resources. It is essential to see

ownership of and rights to property as social dynamics. "Social relations may marginalize women's power to form environmental knowledges or the right to express them, in the same way they exclude women from owning property" (Jackson, 1993: 668). Property relations are also illustrative of social relations that have become institutionalized or traditionally entrenched into larger structural relations (Jackson, 1994: 140). Like all gender relations, property relations constantly change partly as a result of individual agency or group action which may in turn result in institutional impetus or societal transformation (ibid).

Gender and Environment

Understanding gender analysis as a method of interpreting social change through the lens of gender identities has already been referred to (Jackson, 1994: 114). Carrying this a step further, Caren Levy envisions a gender and environmental perspective as a pair of bifocals.

In this sense, incorporating a gender and environment perspective into the practice of current professionals is not represented as something 'extra' but as means of reviewing current processes and practices in a gender and environment-aware way, and ultimately as a regular part of 'good' practice (Levy, 1992: 139).

The attempt to develop a gender and environment framework is, in itself, important. However, I think that the emphasis on professionals must be extended to provide an analysis that is accessible to the people living in the societies where these questions are being raised. The task

of translating an integrated perspective, a key part of this work, must also include the framework itself. Handing over the tools of analysis can be accomplished, in part, by using a methodology that embraces participation.

The discussion, begun above, on gender inequities in access to resources, is integral to a framework integrating gender and environment. Such inequities take varying forms, such as intra-family differences in the distribution of basic necessities, systematic disadvantages, for example, in the labour market, and lack of access to crucial means of production, land and technology (Agarwal, 1989: 46). One of the most important areas of unequal access, to be discussed in the findings of this paper, is women's traditional and legal inability to own or limited control over land.

It is also important to include access and control in an analysis of gender and environment because these factors can help determine whose preferences will prevail when changes to the environment occur. As some have asked, if a tree can be used for fuel, fodder and timber, whose products get priority? (Feldstein and Jiggins, 1993: 4). As will be discussed shortly, environmental relations can be seen as gendered not only through the differential access to labour and other resources but also through differential knowledges, needs and views (Jackson, 1994: 141).

Determining if benefits are enjoyed by whoever contributes the extra labour and/or resources, for example in planting trees, can help gauge whether a project will be successful. Where women are not ensured control over the proceeds of their labour there will be little or no impetus to contribute extra labour to a project even if it could lead to long-term security and sustainability (Mackenzie, 1993: 79). In what can be seen as a reaction against a loss of control over the allocation of their own labour in agricultural production, some rural women are using land more intensively, maximizing short-term food crop production and, at the same time, sacrificing long-term soil fertility (ibid). Other women are choosing to sell their wage labour off-farm.

There are several other reasons to make a case for gender-sensitive research in studying environmental change. As was pointed out above, gender is integral to understanding human behaviour, in general. This can be applied more specifically to look at people's interaction with the environment. "With respect to natural resources, gender shapes the sexual division of labour, knowledge, responsibility and control (van den Hombergh, 1993: 16). Casting a net wide enough to include gender, makes a focus on women more understandable, "because of gender, women play a special role in managing these resources" (van den Hombergh, 1993: 16). In many countries, women tend to have

a greater interest in preserving and conserving farmland, forest and other natural resources because of their responsibilities for finding food, fuel and water -- which combine to form gender roles (Jacobson, 1992: 13). As households come to be seen as composed of individuals who have a range of roles and responsibilities, gender relations become central in any attempt to explain household level decision making about environmental management (Jackson, 1994: 130). Applying gender analysis to the relationship between the environment and economy, is seen by some as a way of advancing the analysis of women and environment by linking macro level (national and international) activities with small-scale events in the household and community (Mackenzie, 1993: 74).

Gender analysis can be seen as a particular user perspective, providing a fuller picture of larger systems, for example, those governing land use (Feldstein and Jiggins, 1993: 1). Avoiding the tendencies to homogenize women and see them out of context, the application of gender analysis to environmental relations involves seeing women in relation to men, the disaggregation of the category 'women' and an understanding of gender roles as socially and historically constructed, materially grounded and continually reformulated (Jackson, 1993: 649).

On this basis, class must also be a central part of these assessments, as it is fundamental in comprehending

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differences among women. In the context of this fieldwork, women's class positions were closely related to, if not defined by their level of education, the type of work they did, the amount of income they earned, the size of their husbands' landholding, the position in village government or in ethnic clan held by themselves or their husbands, their age and family size. At one workshop I attended, the issue of class conflict was raised in the observation that "in the villages there are some women who exploit other women. They use them as their tools to get wealth" (WODSTA, interview).

Gender sensitivity will also help uncover and describe the often divergent perceptions that women and men can have of the natural environment. The differences stem from differing roles and responsibilities held in society, determined, in part, by gender and also by class and other social as well as physical locations. For example, in some communities, "whereas men consider the forest more in terms of commercial possibilities, women see it as a source of domestic needs" (Rodda, 1991: 47). The varying perceptions and priorities can also be further understood as not simply between men and women but also among them. For example, in her work in Kenya, Rocheleau noted that female heads of households who were older, shared men's interest in timber for home consumption and sale (1991: 160). These women needed cash and building material for their households and

would have control over both (ibid). Working with village women in India, (and also revealed in the field work for this paper) one author found that men and women had divergent criteria for the species of trees to be planted. Women tended to assess the value of the tree based on its ability to provide fodder or fuel, the thorniness of the branches (i.e. ease of handling), the smokiness of the wood (when used for cooking) and the aesthetics of the tree. Men, on the other hand ranked trees on the basis of the strength of the wood for construction purposes, or the spread of the canopy -- the area of land under cultivation which would be cast in shade. (McCracken, 1989: 19).

Another example of potentially conflicting interests of men and women interacting with their environment can be illustrated in a case study of a tree project in Cameroon. The project introduced fodder trees as a rotating crop to stabilize soils on land previously under slash-and-burn cultivation. Men liked the new system as it increased maize yields and reduced the work for land management. Women did not like it because their groundnut production declined and they had to provide more labour for pruning the trees (Commonwealth Secretariat, 1992: 16).

A study of the environmental impacts of development in a sub-division of Dar es Salaam also notes there are "gender perceptions of nature and space" (Mosha, 1992: 57). For example, it was found that men's and women's

interpretation of open spaces differed. The difference was that men thought open spaces provided hiding places for thieves while women saw them as areas for gardening and for use as an open market where they could sell their home produce (ibid). In interviews with people of the community it was discovered that people defined open spaces not as parks and flower gardens, (a tendency in the West), but rather as spaces to encourage air circulation within the built-up area and at communal gatherings. Similarly, a Tanzanian sociologist elaborated on the different perceptions in saying, "For men to have trees around their house, they are thinking of timber. To have wood to sell to somebody to get money to buy something better, for example, cigarettes" (Tesha, interview). Meanwhile, "a woman is thinking of that tree to give her shelter, to give her fresh air for her children, to let her children play under the tree (ibid).

Stamp offers a plausible explanation for the apparent conflict. She says that while men welcome the commercialization of production because of the opportunities it offers, women often resist it because in this context they often have reduced access to resources. It also implies that their scientific knowledge of how to maintain a balanced ecosystem is blatantly devalued (Stamp, 1989: 125). Conflict also reveals differences in obligations and workloads of men and women within subsistence economies as

well as the impact of these differences in defining economic interests (Jacobson, 1992: 13). Gender analysis can also be applied to discover whether men and women have different environmental knowledges and whether these differences are widely recognized. It also makes it possible to ask if, in particular societies, women's behaviour is more or less environmentally protective than men's (Jackson, 1993: 667). These examples, both rural and urban, demonstrate the value of looking at uses and views of the environment from a gendered perspective.

Putting theory into action

This conceptual framework, at its core, integrates gender analysis into a microcosm of environmental change -- a cluster of villages in the Arumeru District of Tanzania. In asking how can women's needs, knowledge and concerns about the environment be translated, women's identities are looked at primarily as social constructions. As interpretations, enforced by social sanction, entrenched by localized and wider dynamics, they are political. That means behind them particular interests and outcomes are at stake. As social and political constructions, gender relations are subject to change.

In an effort to avoid the tendency to categorize women into one group, their identities and related roles are also mediated, among other factors, by geographical location, class, marital status, household dynamics and economic

activities. Of the rural women I worked with, most were farmers in their own right, and the majority were active producers in both official and unofficial spheres of the national economy, creatively meeting their needs and those of their families, thereby blurring the limiting distinction between public and private.

People's knowledge, needs and concerns, vis à vis but not strictly confined to the environment, are differentiated by gender. Consequently, in many cases they are characterized by conflict. Gender is intrinsic to the struggles to survive at a grassroots level. One way of determining and understanding these roles and responsibilities is through by looking at the division of labour in a society. Relevant to this discussion is criticism leveled by Tanzanian experts toward the majority of environmental programs that target women. A number argue that most of these programs fail because they focus only on needs and not on the social roles of participants (Warioba interview). Critical to both meeting women's needs and transforming their roles are issues of gendered access and control over resources.

Relying on the perceptions of the women who participated in the fieldwork, the environment is seen as a dynamic ecological system, visibly integral to people's daily survival. Consequently, the human/environment interaction is also seen as a dynamic, social relationship.

Environmental degradation is seen in context, that is, not chiefly as a result of poverty or ignorance, but due in large part to the social roles in which people are situated as well as larger, systemic and economic imperatives. The case for context is, consequently, built into the conceptual framework.

Chapter Two

RESEARCH METHODOLOGY

CONNECTING STEPS

...A link between information and action should be considered in forming the news. Are there ways in which news could be presented that would facilitate action by readers and viewers if they are so inclined? Are certain species of information more likely to give people a sense of possibility than impossibility? The answer is surely yes (Thorsell, 1993).

Starting thought from women's lives increases the objectivity of the results of research by bringing scientific observation and perception of the need for explanation to bear on the assumptions and practices that appear natural or unremarkable from the perspective of the lives of men in the dominant groups. Thinking from the perspective of women's lives makes strange what had appeared familiar which is the beginning of any scientific inquiry (Harding, 1991, 150).

Doing this research has forced me to think of my multi-layered identity. A significant part of who I am is the career I have chosen and the professional training I have received. I am a journalist. But I am also a student, a woman and a feminist. One of the many research challenges has been reconciling these frequently conflicting personae -- a difficult but do-able task. Take, for example, the above two quotations. The first quotation is from a journalist, the second by a feminist. The authors raise separate but related issues: subjectivity, objectivity and praxis, all of which are

relevant for this research, i.e. in designing and informing a research methodology. Although they are working in different contexts, the authors both point to a dissatisfaction with and a need to re-think the concept and practice of objectivity. Thorsell, in suggesting a type of reporting that allows readers to take action, risks being accused of supporting biased or advocacy journalism. The concepts of advocacy and objectivity have been established as opposites in popular thinking. As a result, traditionally, the goal of maintaining distance from an object of study, from the surrounding world, has limited the scope of our work as journalists, as academics, as feminists.

As a way out of this intellectual dilemma -- seen as a choice between blind reliance on perception or the artifice of a separate scientific reality -- Harding forwards the notion of "strong objectivity." Key to this is disassociating objectivity from the notion of value-free research. Instead, Harding advocates taking the best of objectivity -- its goal of rigorous examination of "facts" and the relationship between them -- to uncover and investigate social beliefs, their origins and interaction (1991: 145). Another way of expressing this is what Maria Mies has termed "conscious partiality" (1983, 123). This means sustaining a balance between the closeness required for empathy and the distance necessary for critical

assessment. With these ideals and a research project in mind, the next step for me was to find a way to put this theory into practice and to address the "forced and false dichotomy between personal politics and scholarly research" (Maguire: 1987, 7). The matrix, in this case, is the methodology.

In their book, Experience, Research, Social Change, Sandra Kirby and Kate McKenna define methodology as "the way we gather information and analyze it." (1989, 33-4). On the surface this sounds straightforward. However, these authors take the conceptualization an essential step further. Data are rarely accumulated for their own sake. Information is collected with a purpose and an agenda. Kirby and McKenna are acknowledging that all methodologies -- including those cloaked in the jargon of scientific objectivity -- have, built into them, assumptions about the world and how it should function. The researcher is intimately involved with and interested in the outcome of her work. In this way, the key then becomes actively using a methodology to explore a research question or issues -- to further an agenda.

PARTICIPATORY RESEARCH AND WHY

In his comments at the beginning of the chapter, Thorsell, in his context, was supporting the link between knowledge and action. In his field, as in most of the social sciences, the need to be "objective" has pre-empted

action. That is why a redefinition of objectivity and a clarification of subjectivity are so important for research to move forward. Attempts to advance these issues are intellectual and methodological.

This juncture of action and knowledge is also called praxis. It is an explicit aim in participatory research and feminist participatory research methodologies (Park, 1993: 1; Kirby and McKenna, 1989: 34; Couto, 1987: 84). These were the methodologies that shaped my fieldwork in Tanzania. The term "feminist" attached to participatory research is used to describe work that is more specifically focused, making women's emancipatory needs and a discussion of gender central.

"As a researcher interested in social change, you cannot observe any interactions that haven't been written about, and many voices are absent in what has been written" (Kirby and McKenna, 1989: 60). Taking this as a cue, and following a journalistic instinct to go and see for myself, I became involved with a grassroots project in Tanzania with rural women. Another motivation came from a noticeable, scholarly neglect in acknowledging and integrating the views of people from the South. With these motivations in mind, the proclivity of participatory research to make work accessible seemed especially appropriate. In writing this paper, a conscious effort was made to make this work more comprehensible by avoiding

jargon and using the first person to discuss research experiences. After all, "participatory evaluation *begins* with perception" (Srinivasam, 1981: 66, emphasis added).

One of the results of the close relationship between the researcher and the people in a study area is "living knowledge that gets *translated* directly into action, because it is created with this concrete appropriation in mind" (Park, 1993: 3, emphasis added). In this way, in terms of the research I was involved in -- exploring the issues of translating women's knowledge, needs and concerns -- participatory methodology seemed best able to satisfy such an inquiry.

As well, Robert Chambers, a pioneer in this field, has suggested that participatory research is especially appropriate in, among other things, furthering:

- ◊ natural resources assessment;
- ◊ exploratory learning about rural conditions generally;
- ◊ rural people's own analysis, priorities and future goals

These three issue areas are all relevant to the research I conducted in Tanzania.

My "agenda" was the research question, the point or praxis of which was to better understand the dynamics of gender and environment in a context of environmental change. My motivations were altruistic and academic. I wanted to use this understanding for the benefit of the people I worked with -- by facilitating a change in policy

toward and/or thinking at a grassroots level. As well, by conducting this work I was aiming to fulfill the requirements for an M.A. program.

In the transition from plan to action, some of the intentions were not achieved, others were qualified. One of the tenets of participatory methodology -- flexibility -- became essential to the work in which I was involved.

To understand better what I attempted to do, this chapter first elaborates what participatory research is and what it tries to accomplish. Against this backdrop, I then discuss my actual research experience. In the interest of making this endeavour accessible to other researchers who must rely on literature that offers many idealistic goals but few pragmatic suggestions concerning how to carry them out, considerable attention is paid to the methods and strategies used to generate and elicit information relevant to the research question. The intention in tracing and detailing my experiences is done also to criticize the pervasive notion that data gathering is somehow systematic, unimpeded and logical. The route between two points is seldom a straight line. In fact, this linear ideal is far removed from the reality of the field. It emphasizes the end results, for example the research paper, book or thesis, rather than the experiences that lead to those results. Participatory research stresses the means as well as the ends. Hence, the attention to process paid in this

chapter. Finally, also integral to the experience of doing the research were the limitations that became apparent as the project evolved. These constraints were environmental, methodological, practical and personal.

What is Participatory Research

Participatory research has been described as a "three-part process of social investigation, education and action to share the creation of social knowledge with the oppressed" (Maguire, 1987: 3). Participatory research distinguishes itself from many other methodologies in its requirement that the research problem originates from the community involved. In fact, the effectiveness and validity of participatory research depends on people empathizing with and understanding the study to the extent that they want to cooperate with the researcher (Park, 1993: 12). Ideally, in order to benefit from the inquiry, participants should have a vested interest in taking part in a project.

But identifying the problem can, in itself, be problematic. How it makes itself known is rarely if ever articulated in participatory research manuals (Maguire, 1987). To address this problem, some practitioners indicate a need for outside intervention in the form of the researcher, also called an "external change agent" (Park, 1993: 9). In this scenario, the researcher is seen as a resource person and a facilitator. Insufficient attention

is paid to the implications of what amounts to outside interference. Others have pointed out that this intervention is paradoxical. While supposedly aiming to "unmask the myth of science", an outsider with professional credentials is required to enter the context and lend credence to local knowledge (Couto, 1987: 85). As this same author points out, "there is an almost inherent contradiction in writing a methodology of participatory research and emphasizing the origin of this research in the community" (ibid: 86). In other words, genuine participation cannot be standardized or replicated.

Acknowledging this, the central task in designing a participatory research strategy should be to focus on "the elements that can be preserved *despite* the participation of professionals" (ibid, emphasis added). Also identified as essential for more productive participation is the ability of the researcher/facilitator to strike a balance between leading and following, to intervene without dominating, to discover but still guide (McCall, 1988: 55). In other terms, it's about "handing over the stick" (Chambers, 1991).

In pointing out further contradictions, another author asks, "What's the difference between a change agent and an expert?" (Rahnema, 1990: 215). While the intentions may be different, Rahnema is also asking to what extent, in practice, participatory methodology diverges from more

conventional, manipulative research models. The point is that participation, at least at the level of rhetoric, is politically attractive. Its actual application is, unfortunately, often a separate issue.

Participation

The difficulty in putting participatory research methodology into practice stems partly from an oversimplification of the process of participation. Frequently ignored are the obstacles inherent in this process. From a gender perspective, Jackson identifies a number of limitations such as, the assumption in participatory approaches that communication is unproblematic and ungendered (1994: 120). Of major consequence to participatory-inclined work are the limits of social location.

What is said cannot be taken at face value. Women may devalue themselves in line with dominant gender ideologies, they may be unable to articulate alternative views, or unwilling to do so where these may generate gender conflict (Jackson, 1994: 120).

Language barriers an important aside, in many societies women are forbidden to speak publicly or interact with strangers. Politically, participation can be seen as a threat and therefore limited (McCall, 1988: 44).

As well, women are often too occupied with daily duties to allow time for collaboration. Other constraints include: poverty; differential access to resources among rural groups and variability in environments (McCall, 1988:

44-5). These obstacles call into question the ability of participatory research to represent all voices equally. The variety of contexts makes it difficult to design a standardized research design. A failure to see these obstacles is symptomatic of insider/outsider relations that pervade even participatory research. They are reflected upon in more depth in the section of this chapter detailing the limitations of my approach.

Even more fundamental is the failure to define participation clearly as an approach to praxis. There is a conceptual range as participation can be thought of as: (a) a tool to facilitate the implementation of external (state) interventions; (b) a means to mediate in the decision-making and policy formulation of external interventions or; (c) an end in itself, i.e. increasing the access to and control over resources and decision-making by certain social groups (McCall, 1988: 41). While (a) is more conducive to top-down interventions, (b) and (c) allow more scope for grassroots involvement. It will become apparent, as this chapter progresses, that my research comes closest to (b); participation as a means to modify, guide and redirect higher-level interventions to reflect local needs and resource constraints (McCall, 1988: 41). If those interventions are to be informed, then understanding must precede any kind of action. To gain that comprehension, the research was oriented towards gathering information

from people at a grassroots level, about their lives, i.e. their knowledge, needs and concerns. The last program (c), outlines the intentions stated, or often, implied, in the literature surrounding participatory methodology.

Empowerment

Participatory research is most often talked about in the context of working with the poor, who are in turn, frequently characterized as oppressed and/or powerless (Maguire, 1987, Park, 1993, Chambers, 1983, 1991). This focus, along with the attention paid to praxis, often combines into a central aim to provide people with the means to end this oppression and change the situation in which they find themselves. In other words, the overreaching goal is to enable people to be empowered. An underlying epistemological assumption of participatory research is that knowledge is socially constructed and, as such, must be collectively deconstructed to be understood (Hall, 1992: 27). This notion of de-construction is also characteristic of gender analysis. All of these aims also support the belief that research is political and that knowledge is linked to power, which is in turn, linked to change (Couto, 1987: 84). The emphasis on empowerment is problematic, in part because it can promote paternalism. To dismantle the dichotomy of researcher and researched, and instill equity into the process -- several authors forward the idea of a partnership (Park, 1993; Kirby and

McKenna, 1989; Maguire, 1987). That means, "we both know some things; neither of us knows everything. Working together we will both know more and we will both learn more about how to know" (Maguire, 1987: 37-8). However, still implicit in the notion of empowerment is the assumption that one party does not have power and needs it, and that another party has the "secret formula" to acquire it (Rahnema, 1990: 215, Maguire, 1987: 37).

The goal of and thinking behind empowerment raises some additional questions and contradictions. For example, the belief that change and action automatically follow from participatory methodology may be unwarranted (Rahnema, 1990:215, Jackson, 1994: 120). In order for empowerment to be realized, it is often necessary to assume: (McCall, 1988: 54):

- ◊ the rural poor will have a direct say in policies and actions;
- ◊ the poor recognize the structural causes of their oppression and are ready and willing to resist them;
- ◊ people have the resources to evaluate and act for themselves.

Fulfilling these prerequisites is often logistically untenable. In addition, there are many other factors that can intervene to qualify and circumvent action, let alone change. Communities exist in contexts that are not only gendered but also heavily influenced by external factors, such as government policy and the dictates of the wider

economic conditions and environment.

As with the concept of participation, neglected again in much of the work on participatory research is consideration of what constitutes empowerment. Even those who attempt to provide a clear articulation are not entirely successful. Michael McCall sees empowerment as a practice.

It is essentially an endogenous long-run process of consciousness-raising and conscientization through which the participants themselves have to work. The processes involved are intangible and highly specific to particular groups and local circumstances, and usually very slow (McCall, 1988: 47).

While recognizing that empowerment is complex, a failure to define it could lead to a lack of accountability on the part of researchers and aid projects.

Unfortunately the empowerment elixir can be dangerous. In some instances, it has become an abdication of responsibility rather than an attempt to eliminate the structures and attitudes that fostered inequity in the first place (Stackhouse, 1995).

After all, how can one judge whether empowerment has taken place when there are no criteria by which to assess it? While acknowledging the subjective nature of any kind of assessment of social change, the absence of standards makes it difficult, not to mention frustrating, to judge the "success" of this kind of research project.

Many, including advocates of participatory research, have criticized the validity of the results of participatory research (Maguire, 1987, Jackson, 1994). Concerns focus on whether the information generated

actually reflects the reality of people who live in the contexts under study. Critiques also concentrate on the still unequal power relations between researcher and researched, in spite of attempts to make the process more equitable. While these criticisms are legitimate and must be replied to, there are other commentaries that are much less valid. Noted here is a tendency to judge participatory research on the basis of more dominant forms of knowledge, i.e. technical and scientific. However, the kind of data created or uncovered in participatory methodology are rarely systematized and often defy categorization (Park, 1993: 15). Assessments of participatory methodology should be based on criteria that correspond directly to the kind of work being conducted. As one author has written, each knowledge form has its own standards of validity. One form of knowledge cannot be judged in terms of the validity of another (Park, 1993: 16). Expressed another way, "one cannot understand the social world using similar methods applied to investigation of the physical or natural world" (Kirby and McKenna, 1989: 34).

Actual Level of Participation and Empowerment

Despite efforts to make this research inclusive, it was not a purely participatory venture. The level of involvement was limited by decisions made by me as a researcher from the beginning. The starting point of the

fieldwork was not a problem, but rather a need. One of the women's groups that I worked with wrote to a Tanzanian NGO requesting assistance, in the form of a tree-planting project. I used that project as a mechanism to consider issues that I felt were pressing; determining women's needs and knowledge and then translating them. By doing this I was also asserting my presence as an external (change) agent. At the same time, by indicating an interest in certain issues I was implicitly prioritizing and legitimizing a certain kind of knowledge. The question was based on research and reading, as well as consultations with my professor, Marjorie Mbilinyi, at the University of Dar es Salaam, prior to travelling to the study area. Time constraints made it necessary to start the research even before going to Tanzania. According to most guidelines for participatory research, it would have been preferable, if the problem had been explicitly expressed by the community. However, as a researcher doing fieldwork for the first time in a foreign country, gaining the necessary level of community access and trust was an incredibly daunting prospect.

As well, in a situation where everything was new and/or strange, I felt I needed to maintain some form of control. That emerged in the form of the research question. That being said, to avoid totally imposing my own itinerary, I conferred with members of the NGO and

leaders of some of the women's groups. They did not voice any objections to the research I was interested in. While that in itself is no guarantee that these people tacitly or entirely embraced the topic, the enthusiasm and level of cooperation of the villagers suggested that my question had some relevance.

The criteria for fulfilling the requirements of participatory research also entail a joint-action phase. That is, researchers and participants decide on what actions to take to address the problems that they have collectively defined and explored (Maguire, 1987: 42). I concluded the fieldwork before getting to this stage. Again, it was partly a matter of time. Moreover, it became an issue of personal resources and a lack of experience. I had no idea how to manage all the information that had been collected, let alone how to use it with others.

There was also the issue of community and contextual resources. Poverty can be paralyzing. It was often difficult to see beyond the shortages to find constructive ways of moving forward. During the workshops and interviews in which I was involved, people were asked to identify resources that were already in their community and to suggest what they could begin doing without outside assistance. From this came some practical, feasible recommendations. This opens up a point of entry for a team -- possibly made up of members of the NGO and village

women's groups, local environmental officials, village governments -- to continue the fieldwork into the action phase. This, along with other information given to me by the villagers, will be passed on to people with a better capacity for follow-up.

Ethics and Accountability

There has been considerable criticism of research done by Western academics in the South. The scenario most often mentioned is of the foreign researcher venturing to a developing country long enough to get the information s/he needs for a graduate degree which is often also long enough to become an inconvenience to the people and officials who assist in this endeavour. All too often the stay allows insufficient time to go into rural areas, learn local languages and practically apply the information collected for the benefit of the people who took from their time to be involved. Consciously trying to avoid this type of extraction, I spent a substantial amount of time in the villages with the women who collaborated with me. I learned to speak Swahili at a level where I could facilitate meetings and forge friendships with people who did not speak any English. Functional does not have to mean fluent! In terms of my connection with a Tanzanian NGO, I am committed to sending members a report summarizing the villagers' priorities -- what they want and need -- as well as details of their knowledge of environmental

conservation and change. In turn, members of the NGO have pledged to use this information to improve the existing tree-planting project through a better understanding of the needs and priorities of women in the area. As will be pointed out later in this chapter, this was work that probably would not have been done otherwise.

With specific reference to participatory research, accountability means evaluating the impact a researcher has on a community during and after interacting with its members. Simply raising certain issues or problems, for example, the unequal workload of women, and discussing them publicly, may give them a legitimacy that was previously absent or ignored. Further discussion and the realization of some commonalities may prompt people to champion change. That process of change will create powerful, potentially disruptive forces. There will be perceived winners and losers. This is not to say that change is negative. The key issue for a researcher is whether s/he is able to anticipate the results of his or her work and, more important, is s/he willing to reconcile those consequences with the needs and resources of the community.

One way of helping to ensure the results of the research do not negatively affect the people who cooperated with me, for example, recrimination, is to protect their identity. A researcher cannot assume, even if information is given freely, that that implies unqualified approval to

widely publicize people's real names alongside their views. Nor is it any guarantee that information, even if it appears innocuous to the researcher, will not be used to ill ends. The identities of my informants are thus protected by the use of pseudonyms. However, in the case of interviews conducted with professionals, for example, development workers, because they were more accustomed to speaking with researchers and were made fully aware of the context in which their comments would be used, their names are not disguised.

THE RESEARCH EXPERIENCE: Reconciling intentions with reality

Participatory research principles are not purist. You can't sit and wait for the ideal situation. Waiting to do it right is paralyzing.

Patricia Maguire, quoting her instructor, Rajesh Tandon (in Doing Participatory Research, 1987: 127)

The Research Question

Six months before leaving for Tanzania I started mapping out the kind of research I wanted to undertake while in East Africa. Given the radically diverging contexts of "home" and "away", circumstances encountered abroad forced many of those plans to change. To start, the research question itself had to be altered. I went to Tanzania wanting to ask: What is the role of the natural environment -- as a physical and political issue -- in furthering and politicizing women's concerns in a developing country context? Even before leaving, I

knew it was an overly abstract, academic way of grappling with these kinds of issues. The question was also much too broad. A desire to give full treatment to people and problems that had to date been superficially dealt with turned into an unmanageable research project.

Rural Tanzanian reality as well as the methodology forced me to narrow the inquiry. More fundamentally, as I started to work with the villagers, the need for thoughtful, results-oriented, practically applicable findings, became more apparent. As one practitioner has pointed out, participatory group formation depends greatly on whether a project is seen primarily as a means towards economic development or as a psychopolitical end in itself, the former coming closer to participants' actual and more immediate motivations (McCall, 1988: 57). The research question became: How can women's knowledge, needs and concerns about the environment be translated into action that is sustainable -- environmentally, socially and economically? I believe the switch in emphasis was crucial in sustaining the interest and cooperation of the villagers and avoided a total imposition of my research agenda. From the beginning I wanted to look at issues of women and the natural environment, the politics of the environment and the role of gender in environmental change. Changing the question did not pre-empt such an examination. Rather, it was a compromise, based on dynamics present in those

villages.

I planned to gather information through what Participatory Rural Appraisal (PRA) advocate Robert Chambers refers to as "triangulation" (1991: 5). This is the use of different methods, sources and disciplines or a range of informants. Also useful, especially in terms of eliciting information on women's needs and views, was the principle of "reversal", or learning from, with and by rural people and employing (rather than dictating) their categories (Chambers, 1991: 3). My intended data-gathering techniques were formal and informal interviewing of women and men in villages, attending village meetings and working with rural women in their daily activities.

Logistics

As it turned out, my search for a person, NGO or project with whom or which I could link up was time-consuming, often frustrating, but invaluable for the lessons I learned. The experience taught me about my role and assumptions as well as the logistics involved in securing assistance "over there". In attempting to locate a group, I wrote approximately forty letters. I received only eight replies. The low level of response re-enforced the view that I was dealing with a very different way of doing things. I had, mistakenly, assumed that simply writing a letter would produce a response. I believed in the research, in the issues, and believed that others would

too. What I did not factor in was, on a very practical level, much of the mail never gets to its destination in Tanzania. And, more important, even if it is delivered, the person or organization may not have the time or resources to deal with my request to work with them. In retrospect, I did not realize what I was asking. Once again, what appeared to me as a straightforward request for assistance, likely appeared as a major commitment in time and resources to others.

It was these and other "logistics" that can, in part, explain the disparity between my intentions and actions. To illustrate the context of the research experience, Figure 2.1 lists some intervening factors, based on real experiences. The purpose of doing this is to generate some empathy, to better understand the kind of conditions that people, in this case researchers and academics, have to contend with every day.

Connecting with an NGO

I received a letter just after Christmas from an organization known as WODSTA, Women for the Development of Science and Technology Association, inviting me to work with them. WODSTA is a small NGO based in Arusha, with approximately sixty members, all of whom are women, most of whom have an educational or professional background in the sciences. One of the group's priorities has been women and environmental conservation, emphasizing women in the rural

Figure 2.1 The meaning of logistics**Electricity rationing means:**

- Working by candle-light and kerosene lamp
- No computer
- No fan or air conditioner (lots of heat and humidity) and therefore,
- Not much sleep

Water rationing means:

- No shower
- No washing
- No cooking
- Outbreaks of cholera and dysentery

The rainy season means:

- Washed out roads, crater-sized potholes
- Streams of sewage in the streets (wet feet!)
- Mosquitoes and malaria

A rarely-functioning telephone system means:

- No scheduling of appointments
- Difficulty in finding research information
- Often no alternative but to go places in person,
- Lots of letter writing
- \$30 to send a one-page fax

Being a newcomer in Dar es Salaam means:

- Few street signs or addresses
- Lots of wandering around and getting lost
- Being vulnerable to street crime

Being a student at the University of Dar es Salaam means:

- Few books in the library published after 1980 (foreign exchange crisis)
- Professors who can't make it to class because they have taken higher-paying contracts on the side
- Strikes by students
- No computer system (everything is done by hand)
- No information highway

Low government salaries and a malfunctioning bureaucracy means:

- Frequent absenteeism
- Lots of missed appointments (average no. of visits before making contact = 3)
- Expectations of bribes / unwillingness to cooperate
- Little communication within or among departments
- Having no idea where to go to get information

areas around Arusha. I found out about the group in a newsletter published by the Tanzanian Association of NGOs (TANGO). It is worth noting that in Tanzania the climate for NGOs is becoming increasingly favourable (Stackhouse, 1994). They are beginning to be recognized for their work with the grassroots community and their ability to reach people who are neglected, often due to budget constraints, by the various levels of government.

In terms of my research interests, WODSTA fulfilled most of the criteria I felt were needed to form the basis of an inquiry and to explore the research question. The information I received was that they had contact with approximately 10-12 women's groups in eight villages in the Arusha area, all of which were in the Arumeru District, just east of Arusha. WODSTA received some assistance from a Swedish donor and had recently begun distributing funds, (approximately \$400 U.S. initially), mostly in the form of seedlings and other basic equipment, such as buckets for watering, to the women's groups.

In February I moved to the community of Usa River (sounds like Oosa), about 20 km east of the town of Arusha. That became my base for the next five months. The house, which I shared with Danish graduate students and some Tanzanian women, was located in a rural area roughly half way between town and the villages where I ended up working.

Upon meeting the NGO's chairwoman I was informed that

some members of the group were having second thoughts about inviting me to work with them. They were uncomfortable because they believed that I was going to be critical of their work. At first I was surprised by this response. As a student, I had no intention of having any such influence. Rather than call it criticism, I would have preferred to think in terms of constructive suggestions. However, to the members of the NGO, I was seen as someone with many resources and connections, having the very valuable ability to get the word out, through publishing my thesis or my work as a journalist. In context, the group's concerns became more understandable. There is such competition for funding and other institutional support that any such criticism -- real or perceived -- might be paralyzing.

Over the course of the next four and a half months, as my relationship with WODSTA evolved, I had several "meetings" with members. Sometimes they were work-oriented, planning sessions, while others were casual and social in nature where we would have discussions about a wide range of topics. Both kinds of encounters were valuable to the research. The initial meetings were the most crucial in determining my relationship with and to the organization. It was extremely important for me to clarify my intentions and the relationship to the organization.

Some WODSTA members acted as sounding-boards for my experiences in the villages and the questions that arose

from those experiences. Some of the women gave me the names of local people working in the same subject area. In return, I helped them plan a three-day conference, lending them papers and reports, writing a survey to be distributed to various women's groups in the region. I was guided through the multi-layered bureaucracy in obtaining research clearance by a member who worked in government. The relationship was give and take and compromise, recognizing each other's capabilities and limitations. That was vital to establishing trust and ensuring that no one felt exploited. During this time I had to adjust my expectations. While I had envisioned working with the NGO members on a regular basis in the villages, only once was I accompanied by someone from WODSTA when going to a village. For the next four months I was essentially on my own.

All of the WODSTA members worked at full-time jobs and did not have the opportunity to participate in the kind of in-depth study I wanted to undertake. And so, I went alone. It was hoped that some of the information generated by my fieldwork could be passed on to WODSTA to be used to improve their tree-planting projects by increasing their knowledge of the rural women they were had targeted. This was a role that members of the NGO has encouraged me to play. Although I was an amateur and a foreigner, the members said they felt comfortable with my approach and information-gathering techniques. They said they were

grateful for this kind of information, which they did not have the time to collect themselves. The next and most important challenge was for my presence and my questions to be accepted by the women in the villages.

Figure 2.2 Getting from A to B

For transportation I relied on the local buses, otherwise dubbed Dala Dalas or Chai na Maharage (Tea and Beans). This name comes from the seating arrangements. People sit in two rows, across from one another, like at a dinner table. On a more sober note, I was also told the name had something to do with the safety record of these vehicles. Tea and beans are traditionally served at funerals! While the buses were crowded and dangerous they were also inexpensive, and for most Tanzanians the only way of getting around. I had some of my most memorable experiences and conversations with people riding the bus. It also shocked many to see an mzungu (white person) clinging to a roof-rack amidst a sea of arms and legs. Why isn't she in a shiny Land Rover, a Nissan Patrol or some other fully-loaded four-wheel drive, like most of the others? The question was clear on their faces every time I climbed on board. There's nothing quite as exhilarating as defying expectations.

Getting started

To administer the money and equipment, organize meetings and communicate with groups that were spread out

over a large area, WODSTA had selected one village and the leader of its women's group to act as an umbrella, representing the others. That village was Kikatiti. It was located along the main road between Arusha and Moshi and had visible environmental degradation, especially deforestation. It was the sight of barren, brown and dusty fields that had motivated WODSTA members to begin working there.

I was introduced to Mrs. Furaha, the leader of the woman's group. Also present was a man whom I had heard spoken of at WODSTA meetings. Mr. Njaa was working with the women, helping them organize the tree planting. I learned later that he was the local representative of a national environmental NGO involved in re-forestation. The WODSTA member who accompanied me told him and Furaha that I was interested in studying the tree-planting project. I was shown the tree nursery containing about 1,500 - 2,000 healthy seedlings.

Working in the villages

My work in the villages began with some informal negotiations, sitting around a table in the cramped hut that was the environmental office of Kikatiti. Furaha and Mr. Njaa were there along with three women, all of whom were leaders of women's groups in the area that were participating in the WODSTA project. Furaha also invited a local elementary school teacher to help with the

translation.

It was the first of many introductions. It began by explaining who I was, about my studies, and why I was interested in working with them. I told them I wanted to focus on women because their views were important but seldom heard. I told them of some of the stereotypes that have been constructed and unexamined ideas about rural women in Africa in Western literature, for example, that they are often portrayed as destructive to the environment, they are ignorant, they have a special connection to the natural environment. I wanted to spend time with them to find out what they knew, needed and wanted in terms of environmental conservation and projects designed for that purpose. It was stressed however that I did not want to exclude men.

I explained that I did not expect their cooperation and time without giving something in return. I promised to convey their views and needs to donors such as WODSTA so that future aid would be guided on the basis of their agenda, their voices. Did they see that as a fair exchange? Sitting around that table in Kikatiti, the representatives of the women's groups nodded their approval and said, "karibu sana dada Kanina" or "welcome sister Kanina."

This meeting was conducted entirely in Swahili and, even with the teacher there it was a struggle to ensure I

was being understood. My attempts to speak the national language hopefully demonstrated some of my talk was backed by action. It was also important that this initial meeting would be followed up with something tangible. I requested to join the women in their next tree-planting session.

Treeplanting

I assisted in planting tree seedlings on four occasions in three neighbouring villages. Every women's group working with WODSTA had established their own tree nursery -- usually in one member's backyard -- and were free to do what they wanted with the seedlings without the supervision of the NGO. On most occasions, if the women needed advice about growing and planting they went to Mr. Njaa or to a local forestry officer.

My contact with the women of Arumeru District coincided with the beginning of the rainy season. Consequently, the women were busier than usual getting the trees into the soil in anticipation of the weeks of wet weather. For me, it was an opportunity to contribute something directly to the groups by volunteering my two hands. More than that, it was a chance to talk to the women on an informal basis and remove some of the barriers that came as a result of me being an outsider. Through this kind of contact I learned about the daily lives, work schedules and opinions of some of these villagers.

Sleeping with goats!

Soon after my visits to the villages started, I began receiving invitations to the homes of some women. Sometimes I was invited to stay overnight. Those sojourns tested my resolve to integrate myself into the community. Any reluctance was not so much related to issues of personal comfort -- no running water, no electricity, no heat, sharing a room with goats, the language barrier, being swarmed by flies -- rather, I was worried about staying healthy. At that time it was peak malaria season and there were no mosquito nets in the huts. As well, the villages in that area had been reporting serious strains of diarrhoea as well as outbreaks of cholera. However, despite the risks, the nights that I did stay in the villages are also among my most vivid and treasured memories of my time in Tanzania.

There was always a stream of visitors when I stayed over. Again, these were chances to get to know people, to converse. In the absence of televisions and other electronic distractions, conversation remains a highly valued and practiced art. Although for the most part I was treated as a guest, I was able to observe the interactions of some families and their daily routine and therefore better understand the context of the research.

Group discussions "workshops"

A major component of the research was systematic, yet free-flowing discussions with a variety of women's groups. There were also meetings, relying on the same guidelines, with men from the same villages. With the exception of the three workshops with men -- who were assembled explicitly for this objective -- the other groups were already in existence. Most of them were part of the WODSTA project and their *raison d'être* was environmental protection.

The purpose of these workshops was to probe deeper into the issues of knowledge, needs and concerns. In what might be considered an artificial separation, I identified both needs and concerns at these forums and subsequently in the research question itself. While they might be two sides of the same coin, I found in the process of the fieldwork that asking about both needs and concerns often evoked varying responses. While some women may not have wanted to identify something as a need, they felt comfortable, for some reason talking about it as a concern. From what I observed, concerns were often more generalized, more subtle forms of needs. Perhaps concerns are issues that people do not feel there is anything concrete they can do to address them. Needs, on the other hand, because they are more specific, are often accompanied by clear-cut suggestions on how to fulfill them.

At the workshops, the same or similar questions were

posed to a number of different groups. This was an attempt to determine if there were any patterns or trends in the data, specifically in peoples' perceptions of their roles, of each other and of their environments. Maybe this was also an effort to try to impose order, despite the recognition made earlier that the data produced and revealed in participatory research usually resist categorization.

Many of the ideas, practical exercises and suggested questions used at these meetings came from a manual published by the Commonwealth Secretariat in London (1992) entitled Women, Conservation and Agriculture. Its suggestions were later expanded and adapted to fit the particular circumstances of each group. The more time I spent with people in their environment, the more specialized and sensitive the queries became.

In order to ask the research question, how can women's environmental knowledge and needs be translated into policy, the knowledge and needs in question had first to be revealed. The workshops were designed to do this, sometimes through direct questioning, sometimes through more subtle probing. Another aim was to determine how these mainly rural women and men defined the term "environment." Workshop participants were asked to discuss the main environmental problems of their villages, what they thought the causes were, as well as possible

solutions. To gain further insight into some of the villagers' perceptions, people were asked who they believed was responsible for environmental conservation, whether it was fair or accurate to portray women as destructive to the environment and the potential impact of a conservation program targeted at women. (See Appendix for a complete list of workshop questions.)

In order to increase the size of the sample and for purposes of comparison -- between villages and among men and women -- the meetings all followed a similar format. However, in the interest of uncovering more detailed, personal and specific information, some lines of questioning were pursued in more detail than others, depending on the issues informants identified as important. While it was difficult to break out of the interviewer/interviewee format, I attempted to play the role of facilitator, encouraging participants to speak not just to me but to one another. In other words, the goal was to dialogue. It was stressed that there were no "right" or "wrong" answers but that it was crucial for people to speak their minds.

Methodologically, the workshops, as public airings and recognition of knowledge, were also used as a mechanism to empower people. The sessions held the potential for people to realize that they are not alone in their problems and that they share views. Such solidarity could contribute to

cooperation and eventually, change. Similarly, knowledge of the environment and community also supplies a fuller understanding of the reasons that compel people to behave destructively toward the environment. These include external factors such as terms of trade, development schemes, discriminatory or unenlightened government policy and lack of support from local institutions. This kind of awareness and knowledge, especially when it is discussed in a group, was viewed as a way of better informing and fueling any momentum toward change.

In total eleven workshops were held. Eight were with women, three with men. In addition, there was a workshop held with a women's group from Kilimanjaro Region, an area neighbouring Arumeru District. I spent a week in Nronga, a village high on the slopes of Mt. Kilimanjaro. While, among other things, the geography, environmental problems and ethnic background of the people differed from the area where I conducted most of the research, the time spent there provided me with another opportunity to observe and understand the rhythm of village life. The workshop held there was my first. I was overwhelmed by the attendance. Almost fifty women arrived. Whether they came because they wanted to discuss environmental issues or were drawn out of curiosity, to see the *mzungu* (Westerner) staying in their village, I cannot be certain. Nevertheless, they patiently endured my Swahili and let me test questions out on them.

Their feedback was invaluable in re-shaping the workshop and forcing me think about what I was asking and how it was being conveyed.

Each of the ten workshops held in Arumeru District lasted approximately two to three hours. The attendance varied, ranging from a low of four to a high of about forty. Attendance at the men's meetings was higher than the women's, averaging twenty people. At the women's meetings, attendance averaged twelve people. In the course of all these group meetings I spoke with approximately two hundred villagers.

The age range for both the men and women was from approximately seventeen years to eighty. In some of the women's gatherings there were three generations of a family present. With some exception (noted below), the majority of these women and men were farmers, growing mainly maize and bean and sometimes rice. However, several factors, such as drought, insect infestations, land shortages, rising inflation and declining terms of trade, conspired to make it necessary for these farmers to seek other sources of income. Many of the women I spoke with were involved in the informal economy, selling handicrafts, pottery, salt or produce from their farms at the local markets. Some also were brewing beer, made with millet and bananas, called mbege. I have used the term "business women and men" to refer to people engaged in the informal economy.

Translation

The workshops were conducted in KiSwahili and KiMeru, the mother-tongue of most people in that area. I was accompanied by a translator, Jehova Roy Kaaya, whom I worked with, almost on a daily basis, for two months. He was a school teacher, and also a member of the Meru people. He had recently worked with a Norwegian PhD student who was doing research on AIDS in some of the villages around Arusha. This researcher's work was highly sensitive and depended greatly on the tact of her translator. With this in mind, I asked him to work with me. Initially, I was quite concerned that the women would not respond if I was accompanied by a man. While it is doubtless that his presence influenced the answers they gave me, most of the women did not appear inhibited. They did not hesitate to criticize men or discuss male/female relations in the presence of the translator. In fact, they would often tease him and ask him questions. As a Mmeru himself, from a nearby village, he appeared to put the women at ease. When I asked a question that they were uncertain how to answer, perhaps because they did not understand my KiSwahili or because the way in which it was asked or the question itself was not familiar, my translator switched easily into KiMeru. For the discussion component of the meeting, my translator and I took turns asking questions. As people responded, Kaaya translated into English and I

took detailed notes. If I didn't understand something I would try to ask for examples or further elaboration from the participants.

The process of selecting the above groups and villages was initially random but became more systematic the longer I spent in the countryside. From the outset I had to limit the choice of communities to areas that were accessible by local bus and by foot. Fortunately for me, the women's group that had been selected by WODSTA as the umbrella organization was located in a village close to the main road. I began by focusing on this village spending time with Mrs. Furaha, the women's group leader; planting trees with her group; walking a transect with local environmental officers and interviewing members of the village government. My original focus on Kikatiti was extended to other villages, for a number of reasons. Stepping back and re-examining my objectives -- to learn about and assess women's knowledge and needs -- I realized that it was necessary to speak with as many women as possible, limiting it not to a single village, but to other groups that were taking part in the WODSTA tree-planting project and which I could make contact with. Part of my motivation to expand came also from some of my experiences in Kikatiti. The group of women that Mrs. Furaha worked with had only eight members, with an even smaller active core. I learned that there was some internal conflict. Some of the members were

jealous of Furaha and felt she was benefiting from the group more than they were. There were motivation problems and the workshop I held with them revealed some of these divisions. To base my research paper on this single group would likely have been less than representative of the kinds of groups that were working with WODSTA.

Additionally, on the one day I had access to a vehicle and driver, I arranged to meet with another of the groups involved with WODSTA that was situated in a remote village several kilometers up Mt. Meru, overlooking the town of Arusha. It was an opportunity for me to see the geographical variety of the district and individuality of the villages, people, their needs and problems. Similarly, the four workshops -- three with men, one with women -- conducted with those who were not working directly with the tree-planting project provided a different, more distanced perspective of some of the issues discussed. The limitations of such a sample will be elaborated shortly.

In period of ten weeks I was able to talk to all the groups that I knew about and were in my logistical reach. There were two neighbouring villages that were dealt with in more depth than the others. They were Kikatiti and Maji ya Chai. The attention paid to these communities is a reflection of easier access and an exceptional level of cooperation on the part of the women and local government officials. While recognizing that each village is

distinct, it is hoped that some of the information will be applicable and relevant to the study as a whole.

At a larger level, it is also hoped that the combination of these groups and villages within a single district is sufficient to provide some insight into the issues of women's and men's environmental knowledge and needs, the kinds of problems facing people in this part of Tanzania and to provide enough information to at least begin tackling the broader issue of translation.

Map making

Another part of the workshop session involved the participants in drawing a map of their village. This exercise came immediately after the introductions and was aimed at animating the villagers, making them feel, from the start, that they could actively contribute to the meeting. It was intended also to encourage them to think about their village, which was to be a focus of the ensuing discussion. For purposes of comparison and gender analysis, the maps were drawn by both women and men during their separate workshops in Kikatiti as well as at a women's and men's meeting in the village of Maji ya Chai.

The instructions were simple. On the ground around them, using natural materials -- sticks, stones, leaves -- they were asked to draw a map featuring what they felt were the most important parts of the village in terms of their daily activities. The idea was for them to show me how

they saw their village, that is, their perception of their environment. Accuracy was strictly in the eyes of the beholders; the village women and men who were creating the map. They could select someone to do the drawing while they, as a group, decided how the map should look.

Alternatively, as many people that wanted to could pick up a stick and start drawing or gathering materials to represent certain sites in the village. In case of disagreement such as about the lines drawn or positioning or size of any feature, the group had to discuss the point of contention until they came to a consensus. When they were satisfied the picture was complete, the translator and I would walk around the map, and ask questions of clarification, for example, if we weren't certain what something represented. The translator then copied the map onto paper as I started the general discussion. For the sake of consistency, the translator did the same for each map drawn by various groups.

Tree Ranking

Most of the workshops ended with a tree-ranking exercise. The participants were asked to think about five or six species of trees that they preferred to use in their daily activities. In explaining why they chose these particular trees, they were also asked to consider the positive and negative aspects of each species. As with the map-making activity, the group had to choose the types of

trees together and reach an agreement based on their own criteria.

Using gender analysis, both the map making and tree ranking revealed the differences in criteria and needs of women and men. The information also helped, indirectly, to illustrate the conflicts in interest between them and also to understand better how men and women use trees and in what way they diverge in usage. It also helped reveal the value attached to certain characteristics. With reference to the research question, by listing the positive and negative attributes of species, the tree-ranking activity also demonstrated men's and women's detailed and informal yet scientific knowledge of their environment.

Individual interviews

To complement and follow up the group meetings, interviews with individual women were conducted. The translator and I visited twenty-four women at their homes. The women were all members of the tree-planting groups and most had been present at the workshops. Among the twenty-four women, two group leaders were included, one from Kikatiti and the other from Maji ya Chai.

The interviews lasted approximately one hour. The conversations were tape recorded (with permission) in order to save time on note-taking during the interview, and to provide more detailed transcripts that were written up by the translator later. Many of the questions (see Appendix)

were similar to the ones asked during the group meetings. The workshops were designed to generate ideas and to encourage people to think about issues of conservation, responsibility, knowledge etc. It was hoped that the home interviews would prompt women to expand on what was said during the more public forums. As well, there was more emphasis on the personal experiences and views of these individual women, including such details as household composition, sources of income, level of education. It was a time for me to find out more about how the various women's groups functioned, their internal dynamics -- including examples of cooperation and conflict -- the place of such a group at a household and community level, their motivation for working together and some prerequisites for organizational sustainability. Additionally, there were questions concerning attitudes toward donors and policy-makers as well as specific queries on the women's use of resources and their access or lack of to them.

Finally, when permitted, some of the women were asked to compile a list of activities and responsibilities encompassing the house and the farm and indicate who in the household had responsibility for these tasks. The responses were used to get a better understanding of the division of labour in these communities. Indirectly, asking women what activities they were involved in was one way of finding out more about the types of knowledge they possess.

Figure 2.3 Ethical dilemmas**How far should a researcher pursue an agenda?**

On a personal level, these interviews were a chance for me to pursue a matter that I found increasingly disturbing. Soon after I started working with the women in the villages I became suspicious of Mr. Njaa, the Tanzanian man affiliated with an environmental NGO. I disliked the way he ordered the women around and insisted on being present even during the women's workshops. With tact, I had to ask him to let the women answer for themselves.

The more contact I had with him the more concerned I became that he was using the women and their groups for his own benefit. Other than his position with the NGO, which may have been unsalaried, Njaa did not ever appear to go to work, not even on his own farm. He had recently purchased a new bicycle. I wondered, and as I found out later, so did others, where he had obtained the money -- a substantial amount for a farmer -- to buy the bicycle. It was a sensitive issue because Mr. Njaa was a member of the community and had, at least as an advisor, been helping the women. As an outsider, I didn't think it was my place to stir up conflict that I didn't have the time or resources to repair.

As a compromise, during the household interviews, I asked the women to tell me what his role was in the project and whether they thought they could have started their work without him. At this time, some of the women voiced frustrations with Mr. Njaa and also in the way the project was being administered by WODSTA. This information was given to WODSTA, anonymously when requested.

Other Interviews

The final component of my methodology consisted of interviews with a range of experts who were either from Tanzania or who had lived and worked in the region for some time. The list of sources included academics associated with the University of Dar es Salaam and the University of Nairobi, development workers at various levels with a background working with grassroots women, gender analysis specialists, representatives of local and international research institutions, employees of Tanzanian and other national donor agencies, employees of United Nations-affiliated organizations, church workers, government officials from the departments of Forestry; Planning; Community Development, Women and Children's Affairs; the National Environmental Management Council (NEMC); district and regional government officials in Arumeru and Arusha. Through these interviews I spoke to almost forty people.

The amount of time spent with each individual as well as the kinds of questions that were asked varied, depending on the person's time limitations and the type of expertise they had. Most of these interviews were conducted in English, occasionally switching into Swahili if the person felt more comfortable. In most respects, the interviews were formal, fitting the journalistic format in which I have been trained. However, effort was made to go beyond the manipulation and power imbalances that are sometimes

associated with the interview format, to encourage sharing of information and insights. Rather than subscribing to the model of objectivity, detachment, hierarchy and science -- embodied in the traditional interview -- an alternative set of values, including subjectivity and equality, informed the use of this particular research tool (Oakley, 1981: 38). Some of the questions employed in the villages, for example concerning resource use, division of labour, attitudes and knowledge of the environment and conservation issues, were also asked in the interviews with policy makers, academics and development workers. The purpose of this was to determine the differences in perception at various levels. If there were gaps, where were they, how could they be explained and most important, what were the implications for people at the grassroots?

From a practical perspective, when I spoke with researchers and development workers experienced in working with village women and in gender analysis, I sought advice on how to proceed with my own research. The research inquiry was motivated in part by methodological considerations. The results were intended to offer practical suggestions to the people who I worked with and also to other researchers. These ideas are presented in the final chapter.

Limitations of Approach: An outsider looking in

This is my first time in Africa and I am here to learn. As a journalist I am committed to trying to understand these issues from the perspective of those most affected. I am an outsider and I can't change who I am. I can however expose myself to experiences that will influence how I see things and how I report them.

Excerpt from a revised version of my research proposal

The purpose of discussing limitations is not to disqualify the process or the results obtained. Rather it is about recognizing that, even in ideal circumstances, there are factors which affect the research: what we study; what we see; and how we see it. Those factors, which can also be called biases, do not make the work any less valid, so long as they are explicitly acknowledged. They qualify the work, rather than disqualify it. The idea of limitation is relevant mainly in terms of the ability to generalize from the research experience and also the validity of the information generated, with reference to the requisites of participatory research. The larger issue of "generalizability" will be raised at the end of this section. I believe the only true limitation would be the failure to learn something in and from the process. The following discussion is meant to make explicit the factors that affected my work and also to constructively reveal and analyze some of the lessons learned along the way.

Of all the limitations, the most restricting and the one most difficult to overcome was that of my outsider

status. Everything I did was coloured by who I am; most obviously my race, my Western upbringing and privilege, my academic background, my age, my sex. In the context of participatory research, acknowledging my identity as a limitation is part of what it means to be subjective. The most researchers attempting to work at a grassroots level can do is to report, directly and candidly, what we witness and experience. However honest, such accounts have to be qualified because what we see is what we interpret and that is dependent on who we are. While a discussion of subjectivity and objectivity is relevant for theory, in the field, these concerns are subordinate to the much more immediate reality of being an outsider.

The Politics of Doing Research

There is a view, expressed with varying degrees of rigidity, that research about women in developing countries should be done almost exclusively by women from the developing world.

The non-native who wants to study people outside his/her own culture and historical experiences has an almost impossible task -- that of trying to be what she is not in order to be an "Africanist" theoretician (Nkululeko, 1987: 93)

While I believe that researchers must be extremely sensitive to cultural differences as well as the pitfalls of paternalism, I do not believe that our origins necessarily render useless the knowledge we contribute, facilitate and produce. They do however often set up a division where women of the North are observers and those

of the South are observed (Longwe, 1992). In the current political economy of doing research in developing countries, suggestions aimed at changing this relationship must, in turn, be accompanied by genuine and fundamental change of the institutional structures and logistical constraints that impede a more democratic flow of information.

The dynamics of an outsider doing research in a developing country weigh heavily on the way research is conducted, the results obtained and the interpretation of those results. My identity as an outsider not only affected my views of rural Tanzania, it also played an important role in how people reacted to me and my own interpretation of events. Of the exact nature of that impact I can only surmise. Some situations however do come to mind that at least address this point. In some of my journal entries I wrote of the hostility I felt from some of the Tanzanian academics and other experts. Some seemed reluctant to answer my questions and were dubious as to my intentions and my credentials. With a few that I met more than once I was better able to understand the initially frosty response. Some had similar research interests and viewed me as competition. I imagine that my lack of experience, the privilege of being able to do fieldwork in Tanzania, combined with the incredible access I have at home to research materials, fueled some resentment. It was

up to me to convince these other researchers that I was willing to collaborate in any way possible and above all, I was no threat. Sometimes I succeeded. When this happened, the quality of the conversation increased considerably.

Donor Status

As a researcher, village people will be constantly assessing what side you're on. The information you get will depend very much on what that assessment is. (Tripp interview)

For me, another central aspect associated with being an outsider was the tendency for people to see me as a donor. This is understandable as almost all their contacts with Westerners had been aid-oriented. What research had been conducted was usually under the auspices of a donor agency. As an independent, lone researcher I was an anomaly to them. It was only after several visits with village groups that people realized that I wasn't directly attached to any funding or other resources. However, I believe many remained convinced that I would somehow bring them something. Rightly so. Given the prerequisite of participatory research that a community should have a vested interest in a project, such a quid pro quo is essential. The fact that the women in the villages continued to expect something from me indicated that I probably was not meeting their needs, as they saw them. I tried to make an agreement with them to use the information they entrusted me with in such a way that it would improve the programs donors did establish, currently and in the

future. While the idea of information as a resource may be relatively clear to people in the West, i.e. academics, I am not sure that I was making myself and my role understood. I am also uncertain about the adequacy of making such an agreement because of its inability to appeal to immediate concerns. Some degree of miscommunication was evident when, after explaining myself, women from some of the groups would request such things as: a new car, a tractor, money to build a church. Complicating matters further, most of the women believed that I was connected to WODSTA, the NGO that had donated some tree seedlings, money and equipment. Through this, some probably concluded that I too would be contributing.

I was actually ambivalent about my ties to WODSTA. On the one hand I needed the assistance of the organization to justify my presence in the villages. On the other, I had to distance myself from them as benefactors. It was also important that people understand that my work was independent from WODSTA's in case any of them wanted to comment or criticize the tree-planting project.

This raises the question of how the villagers' responses to my questions were influenced by these considerations. When I asked about the main problems of a village, was the response exaggerated in anticipation of assistance? Or, when I asked the leader of a village government about the role of women at local meetings, did

he speak highly of the work they did because he knew I am a feminist? Did he tell me what I wanted to hear rather than what actually was going on? These are questions I will never be able to answer definitively. That there was some deception going on I have no doubt. As for its extent, I cannot be certain.

Figure 2.4 Being on the outside

On one occasion I interviewed two men -- one, a member of village government, the other a school teacher -- and one woman who was a ward health officer, about conditions in the village of Kikatiti. We were talking about the need to dig more pit latrines. The woman said that many men defecated outside rather than use the latrines because of some Meru traditions. This was creating sanitation problems. The men denied that this practice of not using the latrines was still going on. At that point my translator started to laugh quietly. He said the men were lying. They were embarrassed. They didn't realize that my translator was a Mmeru from a neighbouring village and was familiar with the issue. In the larger scheme of things, this incident of duplicity is insignificant. But, on account of my outsider status and ignorance of local traditions, how much more detail did I miss? And, how much was I misled?

Robert Chambers defines "outsiders" as "people concerned with rural development who are themselves neither rural nor poor" (1983: 2). That is who I am. The same author also identifies six biases in the behaviour and actions of outsiders that limit or affects their contact

with members of a community. In his view, if rural fieldwork is to have an impact, it should target the poorest in a society. This was not consciously my aim. When I set out to work with Tanzanian women, I saw them in terms of location -- rural, Tanzania -- rather than level of poverty. A better awareness of my outsider status and its implications has forced me to consider the issue of representation. Whose voice is heard in this text? More important, who remains silent? Interacting as an outsider with the "poor" may create particular problems or obstacles. For example, there may be a fear, on the part of the poor, of offending the powerful or those who are perceived to be powerful (Chambers, 1991: 11). Another hurdle to free-flowing communication may be feelings of guilt or shame, that is, the poor holding themselves responsible for their problems (ibid). Related to this is what Chambers characterizes as denial. This is an unwillingness to acknowledge suffering - a kind of fatalism (ibid). These potential difficulties must be kept in mind when conducting any type of fieldwork.

Chambers' discussion of the problems related to outsider bias is also used here as a foil. It forms a framework to point out that, to some extent, these flaws are almost all present and relevant to the project I was engaged in. These biases are:

1. **Spatial bias** involves the choice of villages to study and who is seen and worked with. Noted is the preference toward villages close to urban areas and a main road. Mediating factors include access to vehicles, shortages of time and fuel. As mentioned above in discussing the choice of which villages to work in, I was limited logistically to where I could travel by local bus and by foot. There were some WODSTA projects that I could not reach because of distance from the main road. It was interesting to discover that many of the local government (District) development officials I spoke with had also not been to visit projects located in outlying villages. Part of the problem was a shortage of vehicles. When they did have access to a car or truck, they usually did not have the money for gasoline, the price of which was rising at a dramatic rate.
- ii. **Project bias** is the tendency to go places where there are already projects established, money being allocated and staff stationed. This leads to contact with "tiny, atypical islands of activity"(Chambers, 1983: 16). For me, linking up with an organization with a project was felt to be a necessity, given my lack of experience, time and resources. Also, I didn't feel I had the necessary knowledge or skills to simply go to a remote village uninvited, to start a project.

iii. **Person bias;** means the singling out of informants in the form of the most fluent and progressive farmers, village leaders, teachers and paraprofessionals as opposed to the poor who are often afraid to speak up. When one sees poverty (defined here as a deprivation of such basics as food, clean water, fuel, clothing) as pervasive and entrenched as I witnessed in those villages in Tanzania, it is difficult to distinguish degrees of poverty. In failing to discern and better understand the stratification among the poor, I likely ended up speaking to members of the community who were on the upper end of the poverty spectrum. The people I worked with were those able to take the time from their income-generating activities to meet with me. They all had their own homes. Most of the women were married and lived with their husbands. (Whether or not the men contributed to the support of the household is quite a different matter). Most of the people I met with had some schooling, usually the equivalent to Grade six in Canada. While it may be true, as a general rule, that the more educated would feel more confident about speaking with a researcher (Chambers 1983:17), I experienced some notable exceptions. One of the people most open to me and with whom I spent a great deal of time had not gone to school and was illiterate. She was also a leader of one of the women's groups.

Poverty isn't the only dynamic at work dictating who

speaks out. For example, when conducting a group meeting, a factor that frequently determined whether people spoke out or remained silent was their age. In the communities with which I had contact, age and status were linked in such a way that a community holds its elders in great respect. The older generations were often less educated, in a formal sense, than the ones that followed. This however did not inhibit the older people from expressing themselves. In fact, they often were the most vocal, at the workshops.

My focus on the tree-planting project led me toward certain classes of people in the village. In some respects, class was shaped by income levels. For example, many of the women's groups required members to pay a membership fee to join. Although the amount, ranging from \$1 to \$12 U.S. may not have appeared significant, to the poorest, this would have been prohibitive. In addition, when trying to gather background materials on the villages, I spoke to the leader of the village government, the doctor at the local clinic and a community development officer employed by the District government. The development worker and doctor received a salary, which, although meagre, still raised their income above that of people who depended solely on farming and petty trading. With these individuals class was also reflected in their positions in the community and the status attached to these locations.

Another factor that distinguished people from one another was their level of education. With few exceptions, the senior members of village government and the women's groups had more schooling than other members of their communities.

As a result of these and other factors, it needs to be acknowledged that my data emerged out of specific perspectives.

Person bias, in Chambers' criteria, also encompasses male bias. That is the recognition that men are more often the focus of research, while poor, rural women are a neglected class within a class. In terms of my research focus, this bias can be seen in the number of environmental programs designed around the needs and views of men. In seeking out women, I was trying to redress past neglect.

Person bias also extends to what Chambers refers to as a "user and adapter bias" (1983: 19). That means attention is oriented toward people and projects that are active and visible. To see what is not there and what isn't being done, especially if it is an outsider looking in, would entail research along the lines of an intensive, anthropological study and long-term stay in an area. For me, as this was my first experience in Africa, let alone a Tanzanian village, work in this depth was not possible. However, I still believe that studying, as I did, a group or project that had not previously been the subject of an inquiry, was important.

iv. dry season bias refers to the the phenomenon of researchers flooding into an area when the weather is hospitable rather than during the annual or bi-annual rains that many tropical, sub-saharan developing countries experience. The danger is that, by so doing, researchers see people only at their best. They fail to understand the kinds of severe problems, the workload, inadequate inputs etc., that rural people experience during the wet season and that have a profound impact for the rest of the year. My timing was such that a large portion of the fieldwork took place during the long rains. I had never heard of anything called a dry season bias when planning my research. I was following my own erratic schedule. This happened to coincide with the rains, which had been unpredictable that season. I limited myself to finishing the fieldwork by the end of May which gave me four months for this part of the research. These time limits meant I didn't have the option of staying indoors rather than venturing out into the closest thing I've ever experienced to a monsoon. If the villagers were willing to spend time with me regardless of the weather, then so was I. Getting soaked to the skin created some solidarity. I think it showed some of them that I was committed to getting their views.

Working with villagers at this particular time helped me also to fathom what weather meant to these farmers. I

took part initially in their prayers for rain. When it at last arrived, we celebrated. When the streams from the sky continued, unabated, I saw the silent entreaties for them to stop as the villagers looked at their sodden beans and shook their heads.

v. **diplomatic biases** stem from the timidity and politeness of a researcher uprooted from his/her home environment. This bias is manifested in the reluctance of a researcher to ask direct questions about subjects that, in their experience or socialization, are embarrassing or taboo. Chambers says that poverty is one of those subjects that causes discomfort. Looking back at my research experience, I can see opportunities where I could have probed further but did not. I was already vividly aware of the differences between my own situation and the women in the villages. Perhaps I did not want to increase that gap by finding out the exact extent of those differences. However, the workshops often went in unanticipated directions. For example, a discussion about the participants' environment, sometimes led to women raising the issue of wife-beating. While they seemed open to talking about it, I felt uncomfortable. There were many issues I wanted to ask about but held myself back. For example, just before I left to come home, I found out that the people I was working with still commonly practiced female circumcision. Even after spending a substantial

amount of time with these women, I never thought to ask. I actually found it shocking to put faces to a practice which I had only read about. At times I would try to convince myself that certain issues were simply not relevant to environmental conservation and attempt to limit the conversation or neglect the comments when reviewing the field notes. In retrospect however, despite the apparent inappropriateness of their comments, what these women were telling me was directly related to the functioning of gender relations. As such, upon closer examination, they helped explain the context of some of their beliefs and actions. This kind of knowledge was invaluable in comprehending some of the connections between environmental change and women's social roles.

vi. professional bias refers to the attraction of researchers to people in rural areas that are more similar to themselves. For example, many researchers are drawn towards the better educated and "more progressive" farmers that are adopting new practices (Chambers, 1983: 23). My focus on an existing tree-planting project and working with people who had already taken initiative eliminated from the outset the majority of the villagers who were not involved. However, I think that was for the sake of convenience and an attempt to link rural people to environmental conservation activities rather than any sort of professional bias. As a social sciences researcher trained

in journalism, I did not have the necessary expertise in the fields of agriculture or environment to be selective. My professional bias came more into play in my interviews with experts in Tanzania. When there was the luxury of being selective I probably did gravitate toward institutionally-educated people. My journalistic predilection for quotations turned me toward people who were comfortable and articulate in speaking English.

Language Barriers

Despite efforts to learn Swahili and moderate success in doing so, there remained difficulties in communicating. Many times I misunderstood what was being said and consequently missed important facts and details as well as more subtle innuendoes. The translator helped open the lines of communication and was essential to getting much of the work done. But there are some drawbacks associated with having a translator. Ironically, in addition to facilitating the process of connecting with people, a translator can also be a barrier to understanding. Information from the villagers had to be filtered through him to me. If my translator was a machine, that process might have been straightforward. He, however is a person. People don't simply translate, they interpret. There were times when I would find myself frustrated because I sensed that rather than getting the exact words used by the women, my translator was providing me with a summary. Where I was

interested in detail, he was interested in speed. Too many of the answers started sounding alike. This became especially apparent when I started reading the transcripts he had prepared from the taped interviews with women in their homes. Unfortunately these were completed just before I left Tanzania and there was no opportunity to go through the tapes again, combing for detail. The exact quotations from the women I was interested in using in the paper did not materialize. When asked about this, my translator said he believed he was doing things the way I wanted. He felt familiar enough with the topic at this stage to make assumptions about what was important and what could be ignored. Perhaps I could have done a better job of explaining my aims. At any rate, this is not to dismiss the information that I did obtain. It is however to point out that the data were shaped and qualified by the presence of a third party, the translator.

Time constraints

The exigencies of feminist participatory research, let alone the logistics of working in a developing country are not conducive to tidy timelines. I anticipated a minimum of four months and a maximum of eight months in the country. In the end I stayed for more than nine months. My departure was postponed until the end of June in order to complete as many workshops as possible. I could have stayed even longer but I felt it was time to come home and

start thinking about writing. With the benefit of hindsight, I wish I had stayed longer. With more time I could have done additional research at the sites where I was working, stayed over in the villages more often, pursued some of the contradictions that arose during the fieldwork in the responses I received. The constraint of time was not only mine but also the villagers. As I was working with them just before the rains came and during the wet season, they were extremely busy with their farm duties; preparing the land, weeding etc. By the time I was ready to conduct interviews in the homes of the individual women, many of them were simply too occupied. For this reason, and because I was working alone, the sample -- two dozen women, from four villages -- is not large enough to be statistically useful. This kind of micro-level data is recognized as often sorely lacking in this kind of context (Mascarenhas & Mbilinyi, 1983: 48). It was not however the intention in this research to engage in number crunching. The quality of information revealed in those personal conversations was substantial.

Generalizability

The limitations of the methodology must also be dealt with in terms how they affect the potential significance of the research as a whole. It is important to consider how widely applicable the research findings are. As discussed in the conceptual framework, there is great deal of

sensitivity about generalizing. For instance, the phrases "third world women," and "women and the environment in the Third World", if resorted to at all, should be highly qualified. A generalization that may be considered a convenience by authors, may be an inexcusable oversight or objectification to others. Even more damaging, such generalizations may have the effect of circumventing debate about the specific origins of people's social locations (Mohanty, 1980: 68). The concerns raised here illustrate a tension between micro and macro-level research, a tension that I, as a researcher, experienced. In my opinion, there is a vital need to find some connection between them. As offensive as generalities may be, especially to members of a group subject of them, they are also essential. Participatory research tries not just to describe but to change. For change to happen at a larger level, some generalizations must be made available. Micro-level research can make those generalities more comprehensive and, hopefully more acceptable and effective.

This study was confined to a section of a single district in north-central Tanzania. Ethnically, most of the people were of the same origins. And, in terms of WODSTA's tree-planting project, most of the villages involved were reached. In that project context, the findings can be generalized. The data would be less applicable to another region with other peoples and forms

of organization. Yet, within this small research location, as the workshops and interviews revealed, even among neighbouring villages there are significant variations in, for example, environmental problems, tree-planting preferences and local administrative practices.

That being said, there are also important similarities which, when carefully analyzed, form some general themes covering the areas where I worked. Some of the most compelling come into play when looking at the role of gender in environmental degradation. When asked why they sometimes depleted a firewood source without replenishing it, the women frequently cited their workload, the unequal division of labour, their lack of access to alternative sites or sources, their traditional inability to own land - all factors related (but not solely confined) to gender. This is not to suggest that all women are oppressed in exactly the same way or that they respond identically. It does however point to larger, systemic forces at work. Micro-level inquiry is essential to determine how these dynamics affect individual communities. Those findings, if adequately translated, will take some steps towards acknowledging local knowledge, meeting local needs and addressing immediate concerns.

Personal reflections on participatory research

The philosophy and practice of participatory research require the researcher to reflect on and assess the

information gathering process. In hindsight I, as did a number of the authors quoted in this chapter, had some reservations about the ability of this methodology to actually accomplish its agenda. Ultimately, participatory research is supposed to empower people. The workshops, interviews and the tree-ranking and map-making exercises of my research were designed to be participatory endeavours. But, how much did they, or the process of doing them, lead to empowerment? Some of the women told me that, through speaking with me they were beginning to realize some of the specific ways they were being oppressed. For example, while they knew they had a great deal of knowledge, even they considered themselves ignorant because the men in their lives had constantly re-enforced that idea. But, that still doesn't respond to the question of what standards, against what benchmarks can empowerment be measured? In my work, would empowerment mean enabling women to approach environmental projects with the self-assurance necessary to ask that such activities be equitable, in terms of workload and benefits? Would gains at that specific level somehow be manifested in more strategic ways elsewhere, for example, a more equitable workload overall, more representation in village government, more respect at home?

While they may not have labeled it as such, these women were well aware that gender discrimination existed

before I came to do the workshops. Despite much of old and some of this new awareness, did these women envision any change materializing? No. Many of them would roll their eyes and chuckle in amused disbelief, when I asked them if they imagined their lives improving. While they were told and shown in the exercises that they and their knowledge were important, did that mean they would go home with a new-found sense of confidence? Probably not. Many said they didn't want to risk getting in trouble with their husbands by appearing brash.

If, participation, as McCall (1988) defined it, is a highly specific, endogenous, long-run process of consciousness-raising and conscientization, then fieldwork of this kind, because of its temporal nature and outside origins, is unlikely to fulfill this criterion. But participatory research has also been defined as a three-part process of social investigation, education and action. Of these three components, my fieldwork corresponds to the first two. Ideally, the educational aspect should involve all parties. In the case of this fieldwork, it was me, the researcher, who learned disproportionately from the participants. The third requirement, for action, is again, difficult to assess based on the relatively limited level of involvement and inability to follow up. However, even if the social constraints can be overcome, there are other factors, often out of the researcher's and community's

direct reach, that circumvent empowerment. A certain level of resources and access to institutions is essential for empowerment to be realized. And yet, despite these reservations or qualifications, I still think there are few methodologies that are as ethical, compelling and as viable in our attempts to understand and improve conditions in the developing world. What's pivotal in applying participatory methodologies is to be honest about their aims and actual ability to accomplish them.

Chapter Three

THE RESEARCH ENVIRONMENT

GROUNDING THE RESEARCH: IN CONTEXT

In addition to situating this study conceptually, it needs also to be given a more concrete context. Unlike a scientific experiment, research with real people in real communities means that there are countless variables that can and do intervene to impact on the researcher's work. Context, as Diane Rocheleau asserts, "makes sense of individual facts" (1991: 158). In Caren Levy's framework integrating gender and environment, she points out that every context is supported by a natural resource base. "Ecological systems have a profound effect on the form of socio-economic and political relations" (Levy, 1992: 147). They also represent a significant (but not determinant) influence on gender relations and the location of women within these dynamics. For this reason it is also necessary to have some understanding of what makes up the physical context of this research and the policy-making environment in which these issues are managed.

These environments should not be portrayed as monolithic or static. In her work on women's health in developing countries, Annabel Rodda looked at the impact of women's social roles and their inter-connections with

various levels of the environment. To better understand the issues, Rodda classified the surroundings into three jurisdictions: immediate; local; and wider. The division into three categories is a convenience, intended to increase clarity. It is not meant to imply an actual separation. Rather, these levels simultaneously shape and are influenced by one another. With this in mind, this paper borrows and adapts the notion of a multi-level environment.

From the outset, it should be noted that the following discussion is selective and by no means exhaustive. I have tried to focus on those elements of the environment that are most relevant and necessary for a more incisive comprehension of the research as a whole. I have broken the environment into micro, intermediate and macro arenas. What happens at the micro level has the most direct impact on the lives of people living there. Most of my research and, consequently, the context, is located at this level. Considered within this sphere are the villages where I worked, their geographic environs, the agricultural and land tenure systems in operation, the ethnicity of people, the division of labour, the main environmental pressures and problems facing the area as well as a glimpse into the workings of and constraints facing village governments.

These issues are also looked at in terms of how they are dealt with in a broader or intermediate, but still

largely local policy-making environment. Treatment of these issues is dictated by regional, district and national policies. In this sector there will be a brief look at some of Tanzania's environmental problems, i.e. natural environment, as well as the initiatives taken to address them. Also part of the less immediate, but local, surroundings are the kinds of projects that donors, both Tanzanian and foreign have instigated in these rural areas. While they may not have their origins in the villages, they have a significant impact on them.

Further removed, but of essential relevance, is the wider, macro environment made up of the world economic system and the policies that support these imperatives. This chapter will also look briefly at Structural Adjustment Policies in the Tanzanian experience, initiated in the early and mid-1980s. They have had and continue to exert significant influence on national directives, right through to the small-scale Tanzanian farmer.

To provide perspective, this discussion of context pays special attention to women's experiences -- where they are situated and how they are affected. From the outset, it should be noted that changes in the environment will, first and foremost, impact on women as they are the main agricultural producers having primary responsibility for the wellbeing of their families.

Historical overview of rural policy

To start, to better appreciate current rural realities, it is essential to present a brief overview of the evolution of policies in Tanzania toward its rural population. The origins of some of these policies can be seen as a response to the dynamics created and left by colonial rule. Other initiatives are a reflection of the specific agenda of the Tanzanian state. Since Independence in 1961, the state has found numerous and various ways to exert its presence in rural life. The strategy of state intervention has shifted from encouraging farmers to adopt voluntarily a system of communal production, to enforced villagization to, more recently, efforts to transfer powers to grassroots levels. Throughout, there has been pervasive conflict and contradiction as a result of state attempts to consolidate its control over peasant production being disguised and portrayed as measures to decentralize (Ellis, 1982: 66).

During the colonial period agriculture became synonymous with cash crop production (Msambichaka, 1987: 118). Large scale plantations were established on which people, mainly men, worked as wage labourers. The establishment of a poll tax, to be paid in cash, helped guarantee a constant supply of workers. This initiated a pattern of rural differentiation among male farmers and between men and women farmers. First, starting around the

mid 1950s, British agricultural policy supported the most "progressive" farmers by encouraging replacement of customary land tenure with individual freehold ownership. Some scholars say the aim in doing this was to create a capitalistic African class, thus widening the gap between rich and poor peasants (Mlambiti, 1987: 3). Second, the outflow of men to work on large estates or seek paid employment elsewhere left women alone in the villages. As a result, their role in food crop production gained prominence (Msambichaka, 1987: 118). When export (cash) crops such as coffee, sisal and cotton were introduced to villages, women, because men were absent, assumed the added work burden (ibid: 121).

At the time of Independence, the Tanzanian economy was left with a number of what have been termed "structural weaknesses" (Wagao, 1990). These included (ibid);

- ◊ Relatively poor soils, difficult climate, inadequate transportation, credit and extension services
- ◊ An open economy with a heavy dependence on a few primary commodities
- ◊ A strong dualistic (urban/rural) pattern in capital accumulation and distribution of physical infrastructure
- ◊ An acute shortage of indigenous technical and managerial and administrative skills
- ◊ The absence of an indigenous entrepreneurial class contributing to a "consumptionist" approach to public services that led to the expectation of free or subsidized public services for the rural population.

For the first few years of Tanzanian rule, the main preoccupation was with increasing economic growth through:

private enterprise; import-substitution industrialization; the expansion of cooperatives and marketing boards; education and training programs and the development of a national infrastructure (Wagao, 1992: 2). During this period, just as agriculture was associated almost entirely with crop production, development in general was identified with economic growth. It was to these economic ends that almost all policy -- land allocation, education, investment initiatives, credit schemes, research, extension services, technological advances -- was directed.

It is argued by some that even after Independence, the new administration's agricultural policy was very similar to what the colonial powers had put in place. The new regime continued to emphasize export crops. Food crops such as millet and sorghum were disregarded despite their ecological suitability simply because they had a low export value and were less palatable (Msambichaka, 1987: 119).

Attempts to break away from past edicts were qualified by the urgently perceived need to develop village-based agriculture through settlement schemes (Mlambiti, 1987: 6). The 'peasant mode' of production was seen by the government and development agencies as incompatible with modern development (Sundet, 1994: 41, Jiggins, 1986: 92). The stated aim of these schemes included raising the standard of living (net income) of farmers and introducing modern methods of agricultural production (ibid). Through re-

settling rural populations, the intent was to take advantage of the economies of scale and advances in modern farming expected to materialize (Msambichaka, 1987: 135). Overall development was supposed to originate in urban centres through industrialization. Seen this way, in Tanzania it became essential and therefore justifiable, in the minds of policy-makers, that the state "capture" the agricultural market to obtain a surplus of revenue for re-investment in industry (Sundet, 1994: 41).

Of the series of village settlement projects launched by the Tanzanian government, the most widely known and analyzed is the Ujamaa Village Program that started in 1967. Ujamaa, which evokes the notion of "family ties" and modeled in part on the Chinese communal system, envisaged the voluntary re-location of peasants to planned communities. The emphasis was on collective production and self-help at a village level. Communal cultivation was supposed to lead to improved yields and increased productivity through specialization and division of labour (Mlambiti, 1987: 12). Each village was envisioned as a multi-purpose pseudo-cooperative society (ibid: 9) linked to the government through a CCM Party chairman and secretary in each community. The Ujamaa system required that village lands be distributed on a relatively equal basis. It also placed restrictions on permanent wage employment on family farms to motivate peasants to engage

in collective activities.

While overall assessments of the ideas and intent behind Ujamaa vary dramatically, most observers concede the policy was unsuccessful. The reasons forwarded for this failure also vary greatly, some authors suggesting there were fundamental flaws (Msambichaka, 1987), others asserting the problem was bad timing economically (Ellis, 1982), while others attribute poor results to an insufficient degree of implementation (Mlambiti, 1987). Some of the problems associated with Ujamaa are: weak leadership, lack of development objectives, inadequate planning, financial mismanagement and corruption (Mustefa, 1975, cited in Mlambiti, 1987: 13). Among the more positive impacts, some suggest Ujamaa was able to provide some people with access to basic services such as water and also health and education facilities (Mlambiti, 1987: iii).

Ujamaa was also an experiment in socialism, a graphic attempt by the government to put President Nyerere's Arusha Declaration (1967) into practice. Tanzania's socialism was aimed at retaining pre-colonial African principles of socio-economic organization. These principles emphasized that everyone was a worker, with all contributing an equitable share towards the production of wealth (Mukurasi, 1991: 14). Other main principles specified that there was no private ownership of land, and rights to land were defined by use (ibid). The declaration was seen as another

facet of the attempt to address development imbalances through growth maximization and income redistribution, for example through health care and an expansion of the public sector (Wagao, 1990: ii). The declaration embodied four main principles which were seen as a pre-requisite for rural development (Mlambiti, 1987: 10):

- ◊ social and economic equality
- ◊ self-reliance
- ◊ cooperative production
- ◊ socio-economic transformation of the people and their production methods.

In theory these objectives were to be accomplished in part by decentralizing the state, transferring decision-making to other levels of government, starting with the village and moving up to the ward, division, district and region. But in reality, the policies failed to evolve as planned. Ujamaa was consequently transformed in 1973 to the Villagization Policy, a program of mandatory re-settlement. What some have characterized as merely an intensification of the Ujamaa philosophy (Wagao, 1990: iii), others see as a progressively more autocratic approach by the state toward the peasantry designed to compensate for the lack of inducements, i.e. low agricultural prices (Ellis, 1982:7). At the same time, acting as a mutually re-enforcing process was the proliferation of state agencies that required, for their own expansion, more intensive surplus appropriation from

rural areas (ibid). The villagization policy was intended to move the entire rural population into nuclear villages over two years. In so doing, the emphasis of the policy shifted away from communal production and instead towards administrative expediency and access to services (Ellis, 1982: 67).

Other key components of government policy at this time (1971-76) were the nationalization of Tanzanian industries and the dismantling of cooperatives, to be replaced with parastatal crop authorities as the sole purchasing agents.

This period also saw a change in agricultural price policy from the cooperative level to central, uniform, pan-territorial producer prices. The state also assumed control of the sale and distribution of consumer goods through parastatals. In 1977 the government attempted to abolish private retailing in villages altogether. As well, in 1974, the legislative framework of villages was changed so that farmers were forced to grow certain crops. The new edicts were remarkably similar to colonial by-laws. They included minimum acreage laws, fines for uprooting or destroying certain trees and restrictions on personal movement (Ellis, 1982: 69). These initiatives were again attempts by the state to exert its presence in and control over rural activities. Additional evidence of this intent can be found in the plethora of administrative controls also introduced at this time.

For a range of reasons, these settlements failed to produce the economic and social objectives that were aspired to. Some of the causes pinpointed were: the inability of new villages to attract enough settlers; the high cost of the new schemes; the lack of a profitable cash crop; social strife between tribes and sexes; and poor planning (Mlambiti, 1987: 1).

The deterioration of village settlement schemes was also an indication of the inability of the government to mobilize domestic savings. This was to have profound consequences for the country's future economic and political course. After 1973, for a variety of reasons, including deteriorating terms of trade, Tanzania became excessively dependent on external financing as a source of its national development (Wagao, 1990: 8). In the eyes of some, this meant that Tanzania's original policy of "self-reliance" had become defined in terms of "political control over investment rather than as economic self-reliance as suggested by the [Arusha] Declaration" (Sundet, 1994: 46).

The failure of these initiatives to achieve the intended results is again a reflection of a contradictory approach, the dilemma of trying to adhere to democratic principles while advancing a program that required a significant degree of central control. There is some indication of how that conundrum was resolved. Despite the rhetoric surrounding decentralization, rural activities

were continually required to be consistent with overall five-year planning and government control systems.

There were changes in the structure of government designed to rectify over-centralization but these turned out to be superficial. Much of the responsibility for local directives was handed down to district and regional authorities. However, this decentralization was not, as promoted, a decentralization of decision-making power. Rather, it was a decentralization of administrative powers and procedures (CIDA, 1993: 122). The inconsistency between responsibility and actual power meant the status quo was maintained.

To give the village government the mandate to plan their own activities is one thing while to make the villagers be able to identify viable and consistent economic activities, formulate their plans and implement them as desired is another thing altogether. The process of giving the powers is easy and can be made by the stroke of a pen. But the process of effecting the planning system is costly, complex and is a long-term one (Mlambiti, 1987: 26-7).

The inconsistency between authority and access to resources can be illustrated by the fact that while the marketing system, availability of technology, delivery of inputs and credit are essential to agricultural productivity in villages, none of these was controlled by village government. Instead, such powers have been situated with central government institutions. In the re-organization of government structures, substantive power was placed with the district and regional development

directors who were themselves government appointees, responsible to the central government (CIDA, 1993: 122).

In the early 1980s, after further evidence of failure to substantially decentralize, the government began relinquishing additional authority to lower levels of administration. Programs adopted at this time can also be understood in the context of the country's need for more vigorous efforts to develop agriculture to increase foreign exchange earnings and make Tanzania self-sufficient in food (Wagao, 1990: 8). In 1982, the government re-established cooperatives, in part to improve farmer payment schemes and marketing facilities. In 1983, as part of the new National Agricultural Policy, the government placed all extension officers under the Ministry of Agriculture. This marked a departure and improvement from the past decentralization efforts when agricultural officers were powerless, underpaid administrators in competition with other ministries for resources (Mlambiti, 1987: 33, Msambichaka, 1987: 132). Previously no agricultural professionals had been employed specifically to serve the food sector. Efforts to improve and extend lines of credit to rural farmers were channelled into the establishment in 1982 of the National Rural Development Bank.

Efforts toward economic liberalization have steadily increased over the past five years. Since 1993, Tanzania has sold seventy-three parastatals and is planning to sell

more than a hundred more (Stackhouse^b, 1994). The government has severed its own ranks, cutting thirty thousand jobs with twenty thousand more to be eliminated (ibid).

Many current problems in Tanzania's policies toward the rural sector are attributed to a lack of: local planning experts; coordinated structural, institutional support; local leadership; and a failure to incorporate local systems into development programs (Mlambiti, 1987: iii).

However, the world being the global community it is, does not permit Tanzania to function in a vacuum. Further removed but of essential relevance, is the wider environment made up of the world economic system, international financial institutions and the policies that support them.

MACRO ENVIRONMENT

The Economy

As with many other developing countries, as a result of a confluence of factors, among them government mismanagement and deteriorating terms of trade, Tanzania has been in economic decline since the late 1970s. Real economic growth between 1980-85 averaged 0.8 % per year -- less than the rate of population growth (United Republic of Tanzania, 1991: 3). The level of economic output achieved from 1976-79 has not yet been restored. Peasant farmers, in real terms, are earning about twenty-five percent less

than they did in the 1970s (Stackhouse^b, 1994).

Tanzania is in fact considered one of the world's least economically developed countries (World Bank, 1994: 162). Per capita income is \$110 U.S (ibid). If quality of life indicators are considered, i.e. Human Development Report, the country's ranking improves significantly (UNDP, 1993). This is due in part to the policies that Tanzania initiated after Independence to provide universal primary education, increase literacy rates, improve access to healthcare facilities and clean water. These benefits are being eroded however as the population increases and the government spends less on education and other social programs, a reflection of the economic crisis and the dictates of restructuring programs.

Between seventy to eighty percent of the country's development budget depends on foreign donors (ECOSOC, UDSM, 1992: 14). Agriculture makes up half the country's GDP, representing seventy-five percent of its badly-needed foreign exchange earnings (ibid). Eighty percent of its economically-active population is engaged in agriculture. In this sector, women form seventy-five percent of the labour force, paid and unpaid, in the production of food and export crops (United Republic of Tanzania, 1991: 5.2).

Industry's share of GDP actually declined, from fourteen to seven percent during the period 1965-1989

(ECOSOC, UDSM, 1992: 17). Principal industries consist of food processing, textiles, beer brewing, cigarettes and tourism. Women who belong to this labour force receive significantly less pay than male workers (Koda et al, 1987: 4). Of the women categorized as economically active, only three percent are employed in formal wage employment (TGNP, 1993: 57). The minimal income from the agricultural sector and the small size of the industrial sector have led to a significant growth in the informal economy. Women play a major role in this sector.

For a number of reasons, including a weak economy, poor infrastructure, declining terms of trade, an increase in smuggling and evasion of import duties, Tanzania has a high level of indebtedness (Stackhouse^b). Its trade deficit for 1992/93 was \$109 billion (Mbilinyi, 1994: 19). In order to eliminate the country's total outstanding debt, every Tanzanian citizen would have to pay twice her or his annual income (ibid).

Structural Adjustment Policies

To deal with the economic crisis, magnified by the increase in cost of oil, the break up of the East African Community (1977) and the extremely expensive war with Uganda (1978-79) Tanzania began, in the early 1980s, implementing economic reforms in the form of structural adjustment. The overall emphasis of these plans has been on: currency devaluation; reducing import dependency;

increasing agricultural producer prices; the abolition of price controls; and balancing budget deficits.

The first economic reform plan began in 1981 with the National Economic Survival Program (NESP). This represented an attempt to: earn foreign exchange; eliminate food shortages, cultivate drought resistant crops, increase productivity and; control public spending (Wagao, 1990: 12). The overall theme was economic consolidation and rehabilitation to exploit the Tanzania's export potential (ibid). Overall, this policy has been assessed as a failure (Havnevik, 1993: 287-90). Even though the plan was in part a result of pressure from the IMF and foreign donors, the Tanzanian government initiated the policy primarily on its own political and economic terms without sufficient resources to implement its plans.

The second SAP was implemented in 1982-86. It was designed to restore overall financial and economic stability, stimulate agricultural development and improve efficiency (ibid: 13). It also accommodated some of the IMF's demands. Some of the main strategies involved rationing essential commodities, devaluing the Tanzanian shilling by twenty percent and providing production incentives in trade and pricing policies. During this period the cooperative societies were revived. In its design, this SAP was supposed to shield the most vulnerable from declines in income and ensure the continued provision

of basic social services (Wagao, 1990: 13). Again, the actual outcome has fallen far short of these goals.

From 1986-89, the Economic Recovery Program was launched, continuing and intensifying earlier adjustment initiatives. Macroeconomic, longer-term policy was targeted in terms of balance of payments, exchange and interest rates, government budgets and output growth. Other measures were designed to raise efficiency in agricultural transport, industry, energy and social services.

Structural adjustment policies (SAPs) are among the most significant development policies, impacting ostensibly on the economic life of a country, but in reality, touching on all facets of life from a grassroots level to national. Tanzania, as with many other developing countries, is caught in a rather vicious circle of indebtedness and increasing reliance on foreign agencies, such as the World Bank and IMF, for domestic directives. However, Tanzania has been the exception, in its ability to resist IMF pressure and certain of its conditions (Biermann and Wagao, 1987: 121). As these authors point out, for the government to have embraced these stipulations, especially those reducing the role of the state, would have been political suicide (ibid: 124). Nevertheless, the economic reforms have dismantled much of the country's socialist (Ujamaa) agenda (Havnevik, 1993: 289, Rajab, 1989: 90).

Such policies, among other things, call into question the supposedly sacred concept of national sovereignty as well as vital questions regarding the allocation and distribution of resources. Ironically, at a time when such economic reforms are dominant, some policy makers are realizing that such prescriptions are fundamentally deficient, if not contradictory (Vitta, 1989: 87-8). For example, while the flow of imports has increased, some figures indicate Tanzania's economy has been de-industrializing, de-producing (Mbilinyi, 1994: 20). An ever larger share of the economy is involved in trade, but in imported goods and services. While production costs continually rise, workers' wages steadily decline. There are more consumer goods in stores, but few Tanzanians can afford to buy them. Economically and statistically, there have been results. Exports have grown and economic growth, in recent years has been around four percent (Rajab, 1989: 91, Stackhouse^b, 1994), booming by African standards. These figures do not reveal the trade imbalances which continue to be negative. As well, investor confidence, an important determinant of future economic prospects, remains lacking (ibid). Assessments of the impact, the success or failure of the economic reforms, are varied and the literature on these issues is extensive (for further discussion, of the African and Tanzanian context, see, for example, Biermann, 1987; Biermann and Wagao, 1987; Boesen

et al, 1986; Elson, 1989; Havnevik, 1993; Helleiner, 1992; Lockwood, 1992; Lofchie, 1988; Tibaijuka, 1988; TGNP, 1993; Wagao, 1990).

In terms of the project and research question being dealt with, SAPS and donor policies impact on women, gender relations and the environment in a number of ways, among them: (Mbilinyi, 1992; TGNP, 1993: 47-54; Tibaijuka, 1988)

- ◊ increasing the cost of living, which translates into less time and energy for subsistence, reducing the choices available in farming systems, crops grown, and consequently increasing pressure on the land;
- ◊ increasing production costs in smallholder farming, thus multiplying the workload of those who rely on the land (i.e. primarily women) and the intensity of cultivation. Farmers who used to employ workers are depending more on family labour instead. The high cost of implements, such as fertilizers and seeds, exacerbates the situation, making sustainable environmental management a luxury rather than an option;
- ◊ the drive to generate foreign exchange has put pressure on farmers to grow cash crops for export, neglecting food producers in the provision of necessary resources such as expertise and modern farm equipment. Also neglected is the cultivation of trees, contributing to shortages of firewood;
- ◊ commercialization of food production and the resulting higher rates of return for smallholders has attracted some male farmers. Some food crops, previously under the control of women have been taken over by men, exerting patriarchal control. The exclusion of women from both cash and food crops tends to lower their social position in relation to men (Mtoi, 1988: 349);
- ◊ the emphasis on cash crops has resulted in increasing monoculture, a practice not well suited to most crops in tropical climates;
- ◊ During the first two SAPs implemented in Tanzania, environment and related programs were suspended. The most recent economic reform plan is supposed to focus more on social and environmental concerns;

- ◇ There has been a steady erosion and increased inaccessibility of social services, including education and health. This has resulted in declines in women's health and nutrition, and an increase in the amount of time spent waiting to obtain services, e.g. visits to physicians, and a rise in the cost of basic medication;
- ◇ Wages of public sector workers have declined as a result of inflation and devaluation. This affects women in at least two ways, as government employees or as a family member of a worker. Many women have been forced to take on additional work, much of it in the informal sector.

INTERMEDIATE ENVIRONMENT

Environmental Problems: National Level

To further set the context for what is going on at the local and village level, it is important to look briefly at how the environment, as an issue, is being dealt with on the national stage.

Before doing that it is necessary to review the major environmental issues facing Tanzania. Overall, as much as a quarter of the country is considered to be "seriously threatened" by land degradation in one form or another (ECOSOC and UDSM, 1992: 41). Land degradation is the result of many factors, past and present. For example, many pinpoint Ujamaa policies because of the failure to link the size of government-created villages to their surrounding natural resource base, the destruction of traditional controls over resources through dislocation and, as well, its legacy of top-down policy-making. More recently, land degradation has been seen as a corollary of

population increase and intensive cultivation. Estimates of Tanzania's annual population growth rate range from 2.8 % to 3.7 %, which could mean a doubling time of twenty years (ECOSOC, UDSM, 1992: 2). Already, between 1948 to 1988, the country's population tripled in size (ibid). The term population pressure can be more fully comprehended by the fact that four-fifths of Tanzania's inhabitants are living on just one-fifth of its land (ibid: 94). Half the country is uninhabited because of a lack of a permanent water supply and Tsetse fly infestation.

One of the most pressing environmental problems is deforestation. The annual rate of deforestation is estimated at 0.3 % of the total forest area. This is twenty times the rate of reforestation (ECOSOC and UDSM, 1992: 12). If estimates are accurate, Tanzania's entire forest resource base would be eliminated in just over a century (United Republic of Tanzania 1991: 8). The main causes of deforestation have been pinpointed as: rapid population growth; slash and burn agriculture; villagization policies; the increasing use of charcoal; and a dramatic rise in price of other forestry products, for example, timber. Firewood remains the most common source of fuel, accounting for ninety percent of total energy used (ECOSOC, UDSM, 1992: 41).

The other chief environmental problem is desertification. According to statistics, it affects more than one

third of the country (ECOSOC, UDSM, 1992: 9). Most typical are the initial stages of desertification, such as soil erosion, a loss of soil fertility and a significant loss of vegetation, including trees.

Evidence of environmental degradation is being documented increasingly in the popular media and published reports (Chitikitira, 1993: 11; Daily News, 1993: 1). Currently of note is the food crisis in many parts of Tanzania. Food insecurity is partly a result of recent drought. But the problems are also caused by an economic crisis and the pressures of Structural Adjustment Programs (SAPs).

National Environmental Policy

Since the early 1980s, the Tanzanian government has issued statements officially acknowledging its environmental problems. However, the country does not have a national policy governing environmental conservation (ECOSOC and UDSM, 1992: 10). Sectoral protection plans do exist, but most policy-making around these issues is ad hoc, scattered among various government departments such as the Ministry of Agriculture, the Ministry of Livestock Development, the National Land Use Planning Commission and, the recently-formed Ministry of Tourism, Natural Resources and Environment. In the latter department, the environment division remains unstaffed due to a lack of money and qualified staff. As a result of shortages in both

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PRECISIONSM RESOLUTION TARGETS

information and funding, the majority of programs are remedial rather than preventative (ECOSOC and UDSM, 1992: 54-5). Another important explanation for what could be called institutional paralysis is the lack of coordination among the agencies that are involved in environmental policy. More fundamentally, there is minimal linkage between environment and overall development strategies. As a result, few of the agencies involved in environmental issues are given a mandate or legal authority to force the departments, such as finance, to follow recommendations (United Republic of Tanzania, 1991: 11).

However, to address these shortcomings, the Tanzanian government established the National Environmental Management Council (NEMC) in 1987. It has the task of coordinating all bodies that deal with the environment, formulating proposals for legislation, setting up a system of environmental reporting and information dissemination, environmental education and scientific research. Since it began operating, the council has begun work on a National Conservation Strategy (NCS) as a specific instrument to carry out these tasks. One of its priorities is to encourage public participation, especially that of women, in the process (Kerario, interview).

Women in Tanzania: National level policy

There are considerable parallels between the way the environment as an issue has been treated and the experience

with what is widely referred to in Tanzania as the "woman question." To provide some additional background information and further locate the research, what follows is a brief overview of how women have been situated and considered at a national level. This too has been of consequence for local jurisdictions, especially in shaping views of women, their roles and their rights. In terms of women vis à vis the environment, the connection between the two is often made by Tanzanian policy-makers and the national media between women and environmental conservation, i.e. that it is women's duty to participate in such activities (Bujra, 1990: 58-60).

More generally, an explicit focus on women in policy-making is a relatively recent phenomenon in Tanzania. The country's first Women in Development policy was released in 1993 (Ministry of Community Development, Women Affairs and Children, 1992). Its roots lie in the International Women's Decade and the Nairobi Forward Looking Strategies (1985). In name and in orientation, government policy toward women follows in the footsteps of the Women in Development (WID) model (TGNP, 1993: 76). The emphasis of WID was to increase the participation of women in all spheres of "public" life. However, according to some accounts by people working in the government, many of those charged with the task of implementing WID initiatives have been more concerned with meeting targets and less on how

they were achieved and who they were involving (Ramodhani, Mhina, Kessy, interview). Some argue that these initiatives have been externally, i.e. donor, driven and therefore at best unresponsive to the needs of people at a grassroots, at worst a form of neo-colonialism. Others say that had it not been for these foreign initiatives, policies acknowledging women would never have been drafted (Lema, interview). Just as there has been criticism of such policies at an international level, there has been considerable debate in Tanzania about the implications of taking a WID approach (Bujra, 1990: 59).

Because of this basis in WID, to a considerable extent, policy statements, (United Republic of Tanzania, 1991), as in WID literature, tend to re-enforce stereotypes and confine women to their roles as mothers and agriculturalists etc. and portray them as vulnerable victims. The focus has been on women-only, income generating initiatives. Some observers have noted that these policies have a limited impact in changing or strengthening women's position politically, economically or socially (TGNP, 1993: 76). For example, women still hold only three of twenty government cabinet posts and the proportion of women MPs is just eleven percent (TGNP, 1993: 73, Government of Tanzania, UNICEF, 1990: 109). Of these women parliamentarians, only five were elected directly. The rest were either appointed by the president or given some

of the fifteen seats reserved for the women's wing of the ruling party, the UWT (Government of Tanzania, UNICEF, 1990: 109). Although the UWT has been promoted by the government as evidence of its special concern for women, most activists and feminists long ago dismissed it as an organization that was politically paralyzed, preoccupied with propaganda and uninterested in any form of emancipation (Rogers, 1983: 29, Mukurasi, 1991: 24).

Women's participation in decision-making is similarly limited at the district and regional levels, also mirroring the situation in most villages (Ibrahim, 1990). Notably, even with the emergence of a multi-party political system, none of the new parties is openly running a campaign that emphasizes women's rights or gender issues (TGNP, 1993: 74).

Briefly, in other areas, some gains have been made with respect to education. Under Tanzania's Universal Primary Education (UPE) policy, female enrolment is almost fifty percent. At the level of higher education, women now make up forty two percent of the student body (Mbilinyi and Mbughuni, 1991, TGNP, 1993: 82). However, further progress is threatened by an increase in school fees, a scarcity of resources and high dropout rates due partly to pregnancy among school girls (Stackhouse^C, 1994).

Part of the problem in failing to advance women's position lies in a failure to critically address issues of

discrimination, land ownership and other fundamental rights, in part because the analysis has been almost solely oriented towards women rather than delving deeper into gender-based assessments. Some observers have noted that WID tried to make women a separate category and that it is now difficult to convince people that the approach has to change (Binagi, interview). The government has failed to recognize that women often have separate interests from men (Mukurasi, 1991: 24). There is also some speculation that demands to abolish the subordination of women have been rejected because they would have proved too radical for the mostly-male administered socialist agenda (ibid). A policy on gender exists, in draft form, at the government's planning commission. Those familiar with the document say it is likely to remain embryonic because of resistance at high levels of government. Even the government's own analysis of its policies is critical (Ministry of Community Development, Culture, Youth and Sports: 1988). Tanzania's report to the United Nations Conference on Environment and Development notes that most policies aimed at involving women have not succeeded because they (United Republic of Tanzania, 1991: 5.8):

- ◊ did not change the status of women in Tanzania;
- ◊ did not intervene in ownership rights;
- ◊ did not alter the division of labour at household level;
- ◊ neglected women's role in decision-making.

In relation to women's role in environmental conservation, although there is no explicit policy, the government also acknowledges the importance of land ownership as well as decision-making powers.

For women who are usually guaranteed usufruct but not ownership rights, investment in long-term benefits may no longer be a realistic alternative to fulfillment of their immediate needs (National Report, 1991: 5.8).

The report adds that, without a say in matters related to resource use and allocation, women's participation in environmental programs may not be adequate, effective or even appropriate (ibid, 5.9).

Another part of the problem, i.e. a failure to address women's gender needs, stems from a lack of resources and the institutional location of WID policies (Ibrahim, 1990). Overall responsibility for WID initiatives lies with the Ministry of Community Development, Women's Affairs and Children (MCDWAC). While this marks an improvement from the previous system in which WID offices were separated and isolated in individual ministries, the current institutional arrangement has other shortcomings. As with environmental policy, the ministry responsible for women's affairs has among the lowest allocations of funding. As a sectoral ministry, it does not have the authority to intervene in other jurisdictions that have the power to instigate change -- most notably the Ministry of Finance, the Prime Minister's Office or the Planning Commission (TGNP, 1993: 77). A result of this shortage of resources

and lack of institutional power has been the inability to move government policy forward. The Women in Development Policy is stalled. As the head of the women's section at the ministry expressed it, "there is no stage two", i.e. no implementation mechanisms, no targets, no time limits with which to measure success (Olekambaine, interview). The same holds true for a number of the international conventions which Tanzania has signed concerning the treatment of both women and children. Combined with this, almost all of the officials interviewed for this research believed that there is little or no awareness of these policies and conventions at a grassroots level. The lack of communication is similarly minimal in terms of getting information from the village to higher levels of authority. Many of those with whom I spoke attributed the lack of contact to a system of top-down policy making that lingers in most areas of administration despite attempts to alter it.

In terms of this research -- a study assessing some villagers' views of environmental conservation -- it is important to note that, as a result of a combination of inadequate representation, ineffectual policy-making -- on the environment and concerning women -- as well as questionable political will at a national level, insufficient efforts have been made to get input from local people about their issues, their knowledge, needs and

concerns. The next chapter, the findings of the fieldwork, represents an attempt to access and analyze these local-level views. But first, to preface fieldwork, the remainder of this chapter provides contextual information on these rural areas. It focuses on some of the most pressing issues, i.e. environmental, economic and political. Again, whenever possible, this background will highlight the role of gender.

MICRO ENVIRONMENT

Geographic and Physical Characteristics: Arumeru District

The fieldwork for this study was conducted primarily in the district of Arumeru. It is situated in Arusha region, North-eastern Tanzania. Combined with Kilimanjaro Region, it makes up the country's northern zone. The district includes Arusha National Park and Mt. Meru, an inactive volcano (4,566 m). The mountain is one of the most outstanding geographic features of the area. Mt. Meru is largely responsible for the highly variable rainfall within the district. Temperature in the district is also variable, having an average annual range of 20° to 28° C (Swai, 1993: 22, Mollel, 1994). The centre of the mountain is a huge crater, the eastern wall of which was blown out during the volcano's last eruption. Much of the eastern part of the district is strewn with boulders which were scattered during the eruption (Falk Moore and Puritt, 1977: 103). The mountain is surrounded by dense forest, parts of

which were established as a conservation area during colonial times. There are steep gorges throughout the forested foothills. Most villages are now situated further down the mountain. The natural vegetation cover varies from tropical rain forest in the reserve areas to grassland and deciduous thicket on the slopes to dry thorn bush on the plains. A wide range of wild animals used to be found on the mountain including: elephant; warthog; monkey; giraffe, zebra; rhinoceros; hippopotamus; gazelle; buffalo; lion; leopard and hyena (ibid).

Most descriptions of the district refer to three progressive geographic zones, essentially forming belts around the mountain (See Figure 3.1). Conditions within these tracts play a major role in the kind of agricultural system established as well as influencing crop-specific land tenure patterns. For example, bananas were seen as women's responsibility while coffee was men's crop.

- A/ The "highland" zone is situated 2,000 to 3,000 metres above sea level. It is the site of coffee and banana cultivation (intercropping) with intensive (zero-grazing) livestock keeping. On average, annual rainfall is over 1,000 mm (Mollel, 1994). The system of agriculture has been classified as High Rainfall Intensive (Angen, 1991:8)
- B/ The "intermediate" zone, located between 1,500 - 2,000 metres, is also the site of coffee and banana cultivation, although to a lesser degree than on the higher slopes of the mountain. Maize and beans are also grown, and livestock are mostly kept extensively (free-grazing). The average rainfall here is 500 mm (Mollel, 1994). Another term used to classify the type of agriculture carried out in this zone is Low Rainfall Extensive (Angen, 1991: 8).

C/ The "lowland" zone, 800 - 1,500 metres above sea level, is an area where maize and beans are grown, alone and in combination. Animal husbandry predominates and is mainly carried out by free-grazing. It is the driest area of the district, with rainfall averaging only 300 mm (Mollel, 1994). Some researchers define this area as Low Rainfall Pastoralist (Angen, 1991: 8).

Most of the villages where my fieldwork was carried out were located in the second zone (B). However, Kikatiti village (1100 m), the site of much of the research, straddled the lower zone as well. The main form of agriculture there was subsistence maize and bean inter-cropping. There was some coffee and banana production, in the upper reaches of the community. In this village almost all the households surveyed owned livestock, mostly goats, sheep and cattle. Ninety percent of these livestock were freegrazing (Angen, 1991: 15).

Most of the soils in this area are of volcanic origin, dark brown and grey sandy loams (ICRA, 1993: 10). The soils and subsoils are neutral to alkaline, becoming more alkaline the lower they are on the mountain (Falk Moore and Puritt, 1977: 103). The humus content is high and rich in minerals, especially in the zones receiving high rainfall (ibid). In some areas, the soils held a sufficient amount of water to cultivate rice. In most of the villages where I worked, the soil was shallow and stony, amenable mainly to extensive grazing and making mechanisation difficult (ICRA, 1993: 10). As a result of the rolling topography and fine-textured soils, much of Arumeru is considered to

FIGURE 3.1
Sketch map of Arumeru District

Source: ICRA (International Centre for Development-Oriented Research in Agriculture). "In Search of Water." Netherlands: 1993.

have severe soil erosion problems (Nkonya et al, 1991, quoted in ICRA, 1993: 11). Among the most prominent characteristics of the district, especially west of Arusha town, are large gullies which are a result of erosion.

As can be seen from the above classifications, rainfall is quite variable in the district. This variation extends also to the amount of rain received from year to year. Normally there are two periods of precipitation (a bimodal pattern), the "short" rains in November and December and the "long" rains beginning in March and lasting until May. In the part of the district where I was working -- east of the town of Arusha, within ten kilometres north of the Arusha - Moshi road -- the rains had been irregular over the last two to three years. In 1994, at the time my fieldwork was conducted, the short rains did not occur at all or had fallen well under seasonal averages. Consequently, especially in outlying areas of the district, many villages were experiencing moderate to severe droughts. These kind of fluctuations were however not uncommon, making dependence on rainfed agriculture "highly risky" for the majority of farmers in the district and forcing crop selection and timing to be very flexible, year to year (ICRA, 1993: 8).

Agriculture makes up almost all (85%) activities in the district (Mughabuso, 1992: 1), supplying local populations as well as the town of Arusha -- a total of

about half a million people -- with produce. Considering that just under twenty percent of the district is made up of arable land (Mollel, 1994), this kind of cultivation creates substantial pressure on the land. Other activities include cattle raising and small business (Swai, 1993: 19).

Figure 3.2
Geographic Composition of Arumeru

LAND CLASSIFICATION	% OF DISTRICT
Arable Land	19
Forest & National Parks	14
Range & Grazing Land	63
Water & Rivers	4

Source: District Forestry Officer, M. Mollel, 1994

It is important to note, as other researchers have, that despite attempts to classify soils and agricultural systems, "there are sufficient differences (among altitudinal belts) to reduce the effectiveness of communication between researchers and others involved in technology development and transfer within the region" (ICRA, 1993: 6). As well, and perhaps more important for the work in which I was involved, the inadequacy of standard classifications "will make it difficult to extrapolate research results from one area or region to another within Tanzania" (ibid). Differences, not only of geography, but also among people in villages, make it harder even still to generalize. That being said, while much of the data referred to in this chapter were gathered

for other studies, they were selected because they accurately describe and reflect the situation in most of the villages where I worked.

Farming systems

Migration originally brought most of the people to Arumeru district in the 17th century. The movement of people continues. Most recently, people have been moving from the upper areas on the mountain, to the lower zones. Paradoxically, both the impetus for and manifestation of this migration is a shortage of land. In the past, many farmers in this area owned land in both upper and lower zones, growing crops that met most of their basic needs. But, over generations, due to a system of inheritance that gave one or more sons a piece of land, farms were separated into much smaller plots. Indeed, the size of landholdings is estimated now to range from 0.1 ha near village roads, to 1.2 ha in the higher elevations (Kiondo, 1993:5). The shortfall in land often results in intensive cultivation and, in turn, is a source of soil degradation.

The farming systems in the study area seemed, in most cases, to correspond to what has been labeled traditional agroforestry. A researcher working in the district described the "homegardens" which formed a central part of local agriculture as:

A system of intensive integration of several multi-purpose trees and shrubs with food, cash crops, animals - simultaneously on the same small land unit as a means of providing continuous productivity and

providing insurance against economic risks, drought, pests and financial constraints (Kiondo, 1993:3).

The main crops in the region are maize and beans, grown mainly for home consumption. Most small-scale farmers sell any surplus they acquire almost immediately after harvesting for cash income. The intermediaries who often purchase these crops sell them during the lean season when prices are sometimes twice as much (ICRA, 1993). Some of the research involving rural women from this district found that they often sell surplus milk, eggs and bananas to other men in the village who then take the goods to market where prices are significantly higher (Angen, 1991: 18).

The marketing of farm produce has been heavily influenced by government policy. As discussed earlier, in the past decade, Tanzania, under considerable external pressure to restructure its economy, initiated liberalization and privatization schemes (e.g. SAPs). Today, the government is supporting a resurgence of cooperative unions -- abolished in the mid 1970s in favour of parastatals -- and is promoting private, open-market trading (ICRA, 1993: 18). Some farmers sell directly to home consumers or at weekly and daily local markets (ICRA, 1993: 18, Kiondo, 1993:4).

Among the crops cultivated in the region are: wheat; sorghum; barley; Irish and sweet potatoes; millet; sugar cane; citrus fruits; rice; pigeon pea; sunflower;

Figure 3.3
Summary of Main Crops Cultivated in Arumeru District

CROPS CULTIVATED	% OF TOTAL
Maize/beans	62
Coffee/banana	25
Maize	14
Others	9

(Source: Ellman et al. 1989, quoted in ICRA, 1993: 15)

groundnut; tobacco; and sisal (Swai, 1993: 21). Arumeru is the region's leading coffee producer, growing sixty-five percent of the total, most of it by smallholders. Due to low world prices however, coffee production appears to be stagnating (ICRA, 1993: 15). Despite unfavourable market conditions, removing coffee trees is illegal in this district (ICRA, 1993). Nevertheless, some farmers were reported to be substantially pruning their coffee trees, using the extra space to grow food crops, for example, beans (ICRA, 1993).

Food security in this and in most other parts of the country is tenuous. To reduce the insecurity, a result of inconsistent and unfavourable agricultural and economic conditions, farmers in this area rely on a number of strategies. Some of these include, staggered planting, using drought-resistant crops, selling and herding livestock to be used for milk, meat, hides and manure. As well, there has been an increase in off-farm activities such as beer brewing, honey collecting and tailoring. In

times of crop failure, crop residues are used as fodder.

Among the other major constraints that farmers face are a lack of inputs and severely limited credit schemes. The seeds, fertilizers, pesticides, drugs and equipment that farmers increasingly require are often financially unattainable. While there are shops and cooperative societies where many of these inputs can be purchased, people are required to pay cash. Formerly credit was made available through the cooperatives or at the village level. However, because of repayment problems, this credit was cut off.

The two major banks, the National Bank of Commerce (NBC) and the Co-operative Rural Development Bank (CRDB) will not deal directly with small farmers because they cannot provide collateral (ICRA, 1993: 19). One of the impacts of increasingly intense land use is the more extensive use of fertilizers. However, since Tanzania's only fertilizer plant closed down in the late 1980s, all fertilizers are imported. As well, the government no longer subsidizes this input, making most farmers highly dependent on foreign donors (ICRA, 1993: 19), who are becoming increasingly unreliable in their overseas assistance. For reasons also related to cost, few farmers can afford to take care of diseased animals, use livestock dip or deal with insect infestation through the use of pesticides.

Land Tenure

The systems of land ownership in this area are extremely complex involving a combination of customary, communal, leasehold, freehold and occupancy rights. When implementing villagization schemes, planners recognized three main forms of agricultural production: traditional smallholding; village block farm (allocated family smallholding); and communal farm (Ellis, 1982: 68). The difference between the first two was primarily in rules governing access to land and the organization of the production process (ibid). Another difference between these two systems lies in the stronger influence of customary law in the traditional smallholding. Despite government support for communal farming, in reality, in most villages, individual production was and remains the norm (Mlambiti, 1987: 32). Failure to understand or ignorance of the intricacies of traditional and communal land tenure can have wide-reaching, frequently negative impacts on inhabitants and the local environment. What follows is by no means a definitive discussion of the often very subtle rules and regulations, cultural and administrative, that govern not only control over, but also use of the land. What is important for this study is some understanding of the environmental impact of these systems and the position of women in them.

Besides inheriting land, people can also buy plots

from those who own large holdings. Another option, being exercised more frequently, is to rent land on a temporary basis, usually one to three years (Swai, 1993: 28). Rents ranged from 3,000 - 6,000 T. shillings (\$U.S. 6 to 12) per acre (Swai, 1993: 28). This system of renting was reported in Maji ya Chai, one of the other villages where my fieldwork was conducted. Some believe these rental arrangements can be directly linked to environmental degradation. The tendency is for farmers to get as much as possible from the land, in as short a time as possible. The short-term nature of this of landholding could decrease any incentive to invest in conservation measures.

Certain parts of most villages also fall under communal tenure systems. They are the site of schools, community health clinics and areas where some farmers graze their livestock. Rather than the "free-for-all" that many people associate with this style of land management, communal ownership is usually translated into controlled access arrangements (ICRA, 1993: 13). However, reports of increasing conflicts surrounding land rights could be an indication of a breakdown in communal and other traditional land tenure systems as well as a manifestation of land scarcity.

Operating at another level are the "official" edicts, in which all land in Tanzania is publically owned and vested in the state (Agricultural Policy of Tanzania, 1993,

quoted in ICRA, 1993: 13). In the late 1960s and early 1970s, when Tanzania implemented resettlement policies, voluntary and compulsory, village governments were given the right of occupancy over local lands. These lands were in turn supposed be allocated to individuals by the village chairman (ICRA, 1993: 14). While the village act requires each village member, male or female, to be allocated separate and equal plots of land to cultivate -- one of the tenets of Ujamaa -- this was often not how the law was translated in many parts of the country. Research has shown that the practice of village government is to allocate land to male household heads, who then allocate land to wives and unmarried sons and daughters, as well as to young, newly married sons (Mascarenhas and Mbilinyi, 1983: 28). Furthermore, even where land is allocated on an individual basis, land usage continues to be organized in a patriarchal way (ibid). This, argue Mascarenhas and Mbilinyi, amounts to a re-assertion of patriarchal relations at the level of nuclear families or within a much contracted, extended family network (ibid).

The divergence between what was intended by Ujamaa policies and how they were actually implemented has had other, far-reaching impacts on women. In articulating the philosophy of socialist transformation and social equality envisioned by Ujamaa, then President Julius Nyerere raised the issue of and denounced women's oppression. Nyerere

openly acknowledged that women performed "more than their fair share of the work in the fields and in the homes. By virtue of their sex they suffered from inequalities which had nothing to do with their contribution to the family welfare" (Nyerere, 1968 cited in Bujra, 1990: 54).

However, rather than alleviating or removing this oppression, it is argued by some that Ujamaa and the other village schemes have actually exacerbated women's oppression, in part by increasing their workload (Mascarenhas and Mbilinyi, 1983 cited in Bujra, 1990: 54). This is because the socialist program failed fundamentally to address and change the sexual division of labour (Mukurasi, 1991: 19). The burden on women grew because, despite the introduction of state-driven communal production, other modes of production, i.e. traditional, continued alongside. Just as women provided a greater share of labour on the family farm, they also worked disproportionately on communal plots (Bujra, 1990: 55). In essence, the new obligations to the community did nothing to undermine women's continuing obligations to husbands and families. More fundamentally, in the same way that these government initiatives failed to establish new social relations of production, they also avoided confronting oppressive sexual relations. Thus, while Ujamaa set up a more democratic system of village government, in practice, women are still excluded from meaningful participation

(Bujra, 1990: 57). Further evidence of this will be addressed shortly in the context of the villages the fieldwork was undertaken.

At this point, it should be noted that this, and other work, also documents numerous examples of how women have struggled around issues of land allocation and use. For example, many women left their husband's farms to seek wage labour elsewhere. Others refused to cultivate land that had been expropriated (Cutrufelli, 1983: 25, Mascarenhas and Mbilinyi, 1983: 26). Some even engaged in stone throwing, circulating petitions and other forms of protest (Vuroela, 1987: 134).

As mentioned earlier, traditionally, land is divided, as inheritance, among sons or to one son. This has resulted in a continuous subdividing of family farms into extremely small plots, some only 0.25 acres in a number of villages in Arumeru. (Angen, 1991: 8). In the village of Kikatiti, where much of the fieldwork was conducted, the average farm size was recorded as 4.8 acres (ibid: 9).

More recently, exacerbating these dynamics, in situations of land scarcity, women are allocated less land than men. For my field research, an interview with the chairman of Kikatiti revealed that he was only able to give newcomers (male household heads) one-quarter of an acre because of severe land shortages. Most of the country still has not been surveyed or mapped, making allocation,

land use and, for that matter, environmental conservation plans, even more difficult to design, let alone implement. But, that is not to imply that users and inhabitants are unaware of their boundaries or their rights.

Women now have the right, in Tanzanian law, to own land. Traditionally neither they nor men had such a right (Ghamunga and Msangula, 1993:3), at least not in the Western sense. For women, this lack of ownership often extends also to the products of the land, for example, trees and crops. Land allocated by village governments tends to be done on a household basis, going traditionally to the senior adult male (Government of Tanzania, UNICEF, 1990: 107). This, in turn, would appear to give him effective decision-making authority over land use and allocation. But more important than outright ownership, women were and are still usually given usufruct rights recognized in customary law.

In most villages, customary land tenure imperatives prevail. Recently these traditional edicts were officially recognized by the government (United Republic of Tanzania, 1991: 5). This development is of major, and, unfortunately, negative, consequence for the situation of female farmers. In various parts of East Africa, some researchers have noted, in its resurgence, customary law is being manipulated or selectively applied (Mackenzie, 1990: 610). Others have also observed that the manipulation of

customary law, i.e. communalism, for purposes of land acquisition and political expediency, began during colonialism (Chanock, 1991: 62). During colonial rule, customary law was defined in such a way that even the idea of women as landowners was not accepted (ibid: 73). In fact, under colonial systems, male use rights could become "hardened into permanence" usurping women's already established rights through marriage and kinship (ibid). The impact of these selective interpretations of customary law, past and present, has been increasing gender differentiation in particular and social differentiation in general (Mackenzie, 1990: 610).

In the context of customary law, it is important to note that usufruct or use rights, rather than outright ownership rights -- a Western concept -- are key to understanding the implications for women within this system. Understanding the dynamics of use rights involves making the conceptual distinction between access (use) and control (ownership), pointed out in the framework for this thesis. A lack of outright ownership did not preclude other, equally important rights.

In any society, a number of people held a right or 'a bundle of rights' which related to specific functions, whether of cultivation, grazing, firewood collection or other purpose. Each function carried with it varying degrees of control exercised at different levels of social organization (Okoth-Ogendo, 1978, cited in Mackenzie, 1995).

In my fieldwork, examples of use rights could be found

in the presence of gendered crops and tasks. Women "owned" milk because they were responsible for milking livestock. Many women had access to firewood because they collected branches. As mentioned earlier, bananas were considered a woman's crop and were exclusively tended and marketed by women. This is not to say that responsibility was always accompanied by unrestricted access. Often women contributed their labour to crops from which they never realized any form of remittance or reward. This serves to illustrate another important point. Use rights, corresponding to many conceptions of property in Africa, are not absolute. Such rights have been characterized as complex, elastic and overlapping interests (Okoth-Ogendo, 1978 cited in Mackenzie 1995), dependent on particular cultures and community histories. In her attempt to re-read history, Lebeuf also makes the point that a description of the division of labour is secondary to the interpretation of those living within it. By some accounts, the division of labour reflected differences in duties, but not in the value attached to these responsibilities.

In general, the profound philosophical ideas which underlie the assignment of separate tasks to men and women stress the complementary rather than the separate nature of these tasks. Neither the division of labour nor the nature of the tasks accomplished implies any superiority of the one over the other, and there is almost always compensation in some other direction for the actual inequalities which result from such a division (Lebeuf, 1963: 114).

Other, thoughtful accounts of the past which display a more sophisticated understanding of familial relations can be found in a number of other writings (Rwezaura, 1985; Vuorela, 1987; Henn and O'Barr, 1984). Most relevant to this current discussion is the observation that in customary law, use rights were separated from and often took precedence over ownership rights (Okoth-Ogendo, 1978, cited in Mackenzie, 1995). In agrarian systems where women performed much of the labour, women's "propriety position", it is argued, was substantive (ibid). Seen in this light, it is especially disturbing and revealing that what has traditionally been a source of women's power, i.e. customary law, is now being eroded through willful misinterpretation at various levels of governance.

These arrangements undoubtedly influence women's motivations around agricultural production and environmental conservation. Anticipating the outcome of struggles over ownership and access is difficult because such issues are complicated and unpredictable, both exacerbated and qualified by other forces, among them the division of labour. A recent survey of Arumeru district found that between production activities and enabling functions women do more than seventy percent of total farm labour (Angen, 1991: 20). More specifically, this same survey found that in food crop production, women predominated in all activities aside from cultivation, i.e.

fertilizing, weeding, harvesting, processing, storing, transporting and marketing of staple crops are performed by women (ibid: 16). I would argue, based on my own fieldwork, that women are also heavily involved in cultivation. Even for the 'male' cash crop coffee where men sprayed, pruned and sold the bean, female labour remains significant (ibid). As well, in livestock husbandry, fodder collection and milking are assigned to women. Men and boys are responsible for grazing and taking animals to water. Maintaining animals' health is often husband's and wife's joint responsibility. As mentioned, ownership, control and access often do not correspond to the responsibilities people are traditionally given and that, in itself, is a source of tension. These dynamics, as well as a more explicit delineation of the division of labour will be discussed in more detail in the following chapter documenting the findings of the fieldwork.

It should also be noted that village governments may also allocate land specifically to adult women, in their own names, usually in the context of a women's group rather than for individual purposes (ibid). Some of the tree-planting and income-generating groups that I worked with had been allocated land by the village. However, in some cases, the tenure was very tenuous. In one village the women were evicted when their pottery project became profitable.

The People

Covering an area of about 3,000 km², Arumeru is one of the smallest of eight districts that make up Arusha region. However, with just three percent of the region's total land, the last census (1988), reported a population of 322,000, or twenty-four percent of the region's total (ICRA, 1993: 4). The result is a relatively high population density -- an additional source of stress on the land -- of an average of 108 people per km², reaching a high of 200 in some parts of the district (Angen, 1991: 8). Compared to national figures (Tanzania mainland) these figures are substantially higher. The national average population density is estimated at just twenty-six people per km² (Government of Tanzania, UNICEF, 1990: 101).

Reflective of the high proportion of agricultural activities, ninety percent of the district's population is rural. The age distribution of the population reveals a high dependency ratio. Close to two-thirds of those living in Arumeru are dependent on others, i.e. family members, for their daily needs. Fifty percent of the population are children under the age of fifteen. Eight percent are over sixty (Kiondo, 1993: 4). These figures are indicative, among other factors, of a significant level of out-migration by men. Sixty percent of the population are women, while forty percent are males (ibid). Fertility rates are high in this district. The average family size

is between six and ten people (Ndossy, interview).

Ethnically, the two largest groups of people in this part of Tanzania are the Waarusha and the WaMeru, hence the name of the district, Arumeru. There is however a wide variety of cultures in the district. This is a result of what has been characterized as a "turbulent history" and constant migration (Haram, 1992). With few exceptions, the people I worked with were of the Meru tribe. They themselves were part of an influx of people into the district more than three hundred years ago. In their language, KiMeru, Mmerus call themselves "Varva", (lit. "the people who came from downhill and went to settle uphill"). (ibid). They emigrated from the Usambara mountains, east of Kilimanjaro, fleeing from famine and malaria (Falk Moore and Puritt, 1977: 93). Today, they live mainly on the eastern and southern slopes of Mt. Meru and, are considered relatively prosperous, mainly because of coffee cultivation.

Administratively, Arumeru district has six divisions, thirty wards and 132 registered villages. Traditionally, Mmerus are organized into patrilineal clans and homesteads. Clans are still an important political unit, exercising influence in land allocation and disputes, bridewealth negotiations and inheritance (Haram, 1992, Pallangyo, personal interview, 1994). Some researchers have noted a renewed importance of clans and a turning inward to

concentrate on more local and cultural issues. This coincides with a rejection of government and national issues observed by some (Nypan, 1991, quoted in Haram, 1992). At the same time, however, in one of the interviews I conducted, a village chairman noted a higher than usual attendance at some village meetings, attributing it to the evolution of multi-party politics nationally.

This pulling inward is, however, contrasted with certain, primarily economic, forces drawing people away from their villages. Many Meru men seek employment in urban areas, both inside and outside the region. They sometimes send small remittances to their wives who are left on the farms to perform most of the agricultural work. Maintaining a presence on the land is also as a means of protecting their inheritance rights (Haram, 1992). While most households have at least two incomes, from husband and wife, men seldom earn and/or save enough income to allow their families join them in town.

Due in part to the influences of colonization and missionaries, today about half of the people in this area are nominally Christian, referring to the rest as "pagans". The fastest growing denomination is the evangelical Pentacostal church. Lutheranism and Catholicism are the other major Christian faiths. Traditionally, the Meru people practised polygamy. This however is noted to be declining, in part because of a deteriorating economic

situation. Many men cannot afford to pay the brideprice for or "support" more than one wife.

Three Arumeru villages: at a glance

To get a better idea of some of the more specific features and issues for the area where my own fieldwork was conducted, I interviewed the village chairmen and officials from three neighbouring communities. The information revealed in these sessions was useful also in understanding the policy-making conditions present in these communities, conditions that would dictate how women and environment, as issues, were treated.

Before going into further detail, at this point I want to clarify what is meant in this fieldwork, by the term "community." The term is problematic for historical, cultural and geographical reasons. As indicated in the overview of rural policy, government policies such as Ujamaa and villagization arbitrarily created communities. People were sometimes clumped together in arrangements -- mainly for the sake of administrative convenience -- known as "cells" of about ten families. These imposed patterns of settlement often ignored and destroyed peasants' traditional forms of community. In the fieldwork, the delineation of communities was difficult to determine. They were in part a reflection of previous, enforced patterns. But also, it appeared as though communities had evolved on their own since Ujamaa and villagization into

entities that were more responsive to people's needs. When I use the term community I am referring to both the village structure which is an imposed pattern and also, especially in the context of working with women who belonged to tree-planting groups, to a more organic formation -- a group of people situated within a specific area of a village, who lived near each other, who had regular contact and who were part of what I would call a social network, relying on one other for on-farm assistance etc.

The three villages where most of the fieldwork was conducted were Kikatiti, Mayi ya Chai and Imbaseny. Kikatiti, the village furthest to the east, had land both north and south of the main, Moshi-Arusha road and therefore, as mentioned earlier, was located in two different agricultural zones, the lowlands and the midlands. Imbaseny was located mainly in the midlands, north of the main road. Maji ya Chai was situated further into that zone, bordering the highlands. For the sake of consistency, the chairmen, and other local officials who were on hand, were asked similar questions about their villages.

The main economic activity of all three villages was agriculture. The most common crops grown were maize and beans. Many people supplemented their income by engaging in petty trading and activities such as beer brewing, selling salt, honey and handicrafts. Twice a week Kikatiti

was the site of an area-wide marketplace. Due to its proximity to the main road, Imbaseny was also a site of some commerce such as furniture shops and machine repair outlets. All the villages were experiencing rapid population growth, both from natural increase and external migration. In Kikatiti, one village official estimated that every year approximately eighty to one hundred people moved into the village. Because of the shortage of land, these newcomers usually became involved in small business, for example running stores or food stalls, instead of farming. The estimated population of each of these villages was 4,000 people (divided into sub-villages).

Much was discovered about the villages in general when asking village officials about the main problems that were being experienced in their villages. In chapter four, detailing the findings of the fieldwork there is a much more extensive discussion of environmental problems, causes and their impacts, as perceived and recounted by the villagers themselves. The information in Figure 3.4 serves as a preview of the information in the next chapter.

Local environmental change

Briefly, to provide some additional background information about the villages, local government officials were asked to think about how the environment in their communities had changed during the past ten to twenty years. They spoke of the rapid and significant increases

TABLE 3.4
Main problems of villages

Problem	Kikatiti	Maji ya Chai	Imbaseny
Population^a	X		X
Soil erosion	X	X	X
Water^b	X	X	
Insects	X		
Low yields		X	X
Lack of terraces			X
Lack of experts		X	
Lack of jobs		X	
Lack of trees	X		
Land shortage	X		
Overgrazing	X		
Diseases^c	X		X
Drought	X	X	
Floods	X	X	
Brick burning^d		X	

^arefers to population growth and density

^brefers to quantity and quality of water supply

^crefers to worms, Foot and Mouth disease, ticks etc.

^drefers to amount of wood used in this activity

Source: Author's fieldwork

in population and the results of that growth, especially the strain on locally available resources, such as water. Closely related to this change was the problem of land shortages and increasingly intense cultivation of land. An increasing proportion of land was being devoted to food and cash crops creating competition with other activities, such as livestock grazing. Attributed also to a rising population were social changes. As one chairman expressed it, "urbanization" was increasing. He associated that with a rise in the level of crime, alcoholism and youth rebellion. Changes in the economy, specifically, an escalation in the commercialization of certain products, such as wood, had contributed to rapid deforestation. Looking around at areas of the village where there were few trees, it was pointed out this land used to be completely forested. Other changes noted were in the weather, most notably less rainfall.

Village government and politics

While also subject to district, regional and national-level government directives, village governments have the authority to, among other things, make and implement development plans, allocate land and enter contracts with outsiders on the use of local resources. They also pass and enforce various by-laws. However, those powers are severely limited in practice by the fact that, as mentioned earlier, since Ujamaa was implemented, most village boundaries have yet to be drawn and officially recognized

and land holdings have yet to be consolidated (ECOSOC and UDSM, 1992: 118).

As discussed in the overview of rural policy, the villagization programs were, from the outset, contradictory. While the underlying intent was to connect rural populations with the central government system, it also attempted to de-centralize the system so that each village could be administered independently, by ruling party officials living in each locality. The effects have, not surprisingly, also been contradictory. Some observers have noted a continued devolution of various responsibilities from the higher echelons of government to the village level, "a change which may not yet be fully appreciated by the villages and villagers themselves," (ICRA, 1993: 22). While this transfer of power theoretically would allow more freedom at a local level, it appears designed mainly to shift responsibility for financing many programs, such as livestock extension services, from the district to individual farmers. That responsibility has not been accompanied by the necessary resources. As a result, few smallholders can afford to exercise that freedom because of the expenses associated with local government programs.

Women and village politics

Village governments in the area where I was working were made up of between twenty and twenty-five members.

They were elected by the general village population. A pre-requisite for holding an elected position was the ability to read and write.

In each village that I looked at, women were a minority in government. For example, in Kikatiti, there were five women representatives out of twenty-two members. When asked why this was the case, I was told that women were too busy with day-to-day, family responsibilities. To increase women's representation, the Tanzanian government has a rule allocating at least one-quarter of village government seats to women. In the villages I looked at, that meant some women were compelled to take the job. The decree also created a view, expressed by some people who were interviewed, that women were being favoured.

Women were also under-represented at village meetings. Again, the reason given by chairmen was women's workload. The issue of participation, they said, was a household problem. In most cases village men said that women should stay at home and attend to their family's needs. Sometimes husbands prevented their spouses from going to meetings. The chairman of Kikatiti village suggested increasing women's participation by holding special women's meetings which they would be forced to attend or else pay fines. Payment of various fines was in fact the chief source of revenue for village governments.

Each village government was structured into a number

of committees responsible for making and enforcing local laws. It should be noted at this point that, in common with many other African countries and as with land tenure systems, there were various types of laws, the official or state-created system of law and customary law in which clan elders mete out justice (Molokomme, Welsh et al., 1987). Village governments worked on the basis of both systems. In the villages where I researched, the three main administrative committees were: Economy, Planning & Finance; Health & Social Development; and Security. Under this system, environmental issues were dealt with primarily by the Health and Social Development committee. Among other duties, this committee supervised water sources, tree felling and planting and agricultural planning. The Economy, Finance and Planning Department supplied permits to those who qualified for harvesting trees. In return, it received some money from each tree cut. All three government committees were supposed to play a role in enforcing environmental protection policies.

Local environmental policy

In terms of local environmental policies, there was little standardization among villages. At some locations there were specific rules and regulations, while at others environmental edicts were vague. For example, in Kikatiti, there was a policy saying that all villagers should farm and in such a way that the harvest would be good. This,

I was told, was meant to imply a certain level of environmental preservation. At the time of the interview, officials said there was no explicit policy on the environment. The reason given for this was a lack of resources, and up until recently, low awareness of environmental problems (defined mainly in terms of soil and water degradation and deforestation). There were, however, plans to organize visits to individual households to check on such matters as immunization, tree-planting, the conditions of latrines and general cleanliness. Also planned was the establishment of a separate committee to "supervise and control" the village environment. There was no policy on the environment at Imbaseny village and apparently no plans to implement any.

In Maji ya Chai village, the environmental policy in place focused on trees. Villagers were prohibited from cutting down trees (especially around water sources) without a permit. Also required was a commitment to plant two trees for every one removed. In the environmental policy of Maji ya Chai, people were also prevented from farming on hillsides to avoid soil degradation and flooding. It is interesting and important to note that a system of fines and punishment for environmental "abuses" such as allowing livestock to eat trees and destroying water sources, was also operating in Kikatiti. This apparently was not considered part of any environmental

conservation policy because, according to officials from that village, there was no such scheme. What this points out is the need to re-examine what labels researchers attach to local people's programs. This imperative is expanded on in the next chapter.

Despite the rules that were in place, little appeared to be done about the issue of enforcement. In my own brief experience in tree planting, few if any of the seedlings planted on village land survived. They were trampled on and eaten by local livestock or stolen by villagers. When asked about remedial measures, I was told that no one had been fined. Willingness to enforce aside, the capacity to do so must also be questioned when assessing environmental conservation policy -- at any level. This inability to enforce the environmental policies that did exist was also partly a result of the decentralization of government as well as the tentative nature of land holdings and boundaries. That one of the roots of the problem stemmed from the organization and resources possessed by local governments can be seen also by looking briefly at other levels of administration, the systemic incentives and constraints.

Located one level of authority above local administration is the district. In 1992, the Arumeru District Council formulated detailed development plans to be implemented for the period 1993-96. Plans included:

soil conservation measures (tree planting and contours); bee-keeping; fish farming; road improvements; construction of cattle dips and crop storage facilities and; training cooperative staff (ICRA, 1993: 22). The plans were ambitious. At the time the fieldwork was completed (1994), it was still too early to assess the outcome. However, in a context of severe resource scarcity, such schemes appeared unrealistic. Not only that, the decentralization policy had de-linked the Tanzanian government from district and regional forestry officials. This compounded the difficulty in making and enforcing environmental policy. It also encouraged a fragmented approach (Forestry Policy, 1986).

Environmental Programs and Donor Activities: Village Level

While there may not have been specific or enforceable policies governing the environment, in each of the villages there were a number of voluntary programs aimed at conservation, most of them originating outside the villages, at a district or wider level. Some of these are mentioned below because they provide an idea of the kind of interventions taking place and perceived, by donors, as necessary. Enough information is known about some of the programs to supply also a brief assessment or "lessons learned" based on their experiences at the village level.

Afforestation campaigns were initiated in the area in 1975, after researchers indicated the country, as a whole,

was losing between 300,000 and 400,000 hectares of trees annually (Ghamunga and Msangula, 1993: 6). Both government and non-governmental organizations have been much more active in the district since 1980, predominantly in forestry programs (ibid). Among those projects mentioned by the village officials I spoke with were tree-planting activities carried out with the assistance of NGOs such as the Tanzania Tree Planting Foundation, World Vision and various schools and churches. Terracing and other soil conservation programs were also referred to.

In terms of agroforestry, the Forestry Department has five nurseries in the district for distribution to villages, free of charge or at a minimal cost. Recently there have been problems reported with the timing of the seedling distribution. Over the last couple of years they arrived during the dry season and, as a result, died shortly after being planted. The choice of seedlings tends to be controlled centrally with little or no input of the villagers in planning. This has been a factor in the lack of results (Government of Tanzania, UNICEF, 1990: 102).

As well, the seedlings supplied by these plots were insufficient for the growing demand in the villages. The forestry department estimates that for Arusha Region (of which Arumeru is a part) ten million seedlings are needed each year to compensate for deforestation. Only three million are prepared in nursery gardens (Forest Policy,

1986), leaving the remaining tree-planting activities to be undertaken by individual villages and groups. By some accounts, (ECOSOC, UDSM, 1992: 51), local interest in these seedlings reveals an enthusiasm for environmental protection. While this may be partly true, there are other motivations, linked to the increasing commercialization of trees, i.e. the cash value of seedlings when sold. These tree-planting activities are supposed to be supplemented by district (government) extension workers, each having a number of villages in their jurisdiction. Revealing a lack of coordination, an inadequate flow of information as well as logistical constraints, such as a lack of transport (ICRA: 1993: 31), of people surveyed during another study of the district, ninety-seven percent believed that work on agroforestry had not been conducted in their area (Kiondo, 1993:5). At the same time, most of those people felt that advice was targeted toward only a few crops, mainly coffee, maize and beans (ibid), or almost exclusively at the regions located higher on the slopes of Mt. Meru (Angen, 1991). Other work done with villagers from this area reported a "strong desire" for more contact with extension services especially with regards to technical advice (ICRA, 1993: 33).

There are a number of environmental conservation schemes active in the area. The problems of water quality and supply were being partially addressed by government and

external donors in projects involving bore holes, dams and deep wells. One survey of the district counted almost fifty such ventures (ICRA, 1992: 141).

To deal with soil conservation, there were three programs that appeared to have a substantial role in the villages where fieldwork was conducted.

- (i) **SCAPA (Soil Conservation and Agro-Forestry Project, Arusha)** is a Scandinavian-funded soil conservation scheme, active in Arumeru since 1989. Its focus, unlike many other programs, is on educating small-scale farmers. The emphasis is on low cost technology and extension packages such as multipurpose tree planting, contour construction, and fodder production. Seminars are held with farmers on a regular basis.
- (ii) **Heifer Project International (HPI)** is an American project that provides credit for potential dairy farmers and encourages zero-grazing and prevention of soil erosion. SCAPA (see i above) also participates by supplying technical training. Farmers are given an incentive to participate in the form of one heifer. There are however certain conditions that must be met. They have to construct contours on their land and plant fodder on them. They also have to buy a sprayer and pesticides for their fields. Finally, farmers have to gradually repay the project with two

female calves for neighbouring farms. Thus, the project is supposed to regenerate itself. This project was at first a failure in some villages. HPI originally withdrew because villagers refused to cooperate. Instead, even after accepting the new cows, they continued to allow their livestock to roam freely, eat the fodder and destroy the contours. As two officials from the forestry office told me, the problem was that farmers did not like being told what to plant, in this case grass, and where to plant it on their land. Local resistance to the program stemmed from the fact that "people need cows and not land planning," explained the forestry officials.

- (iii) Sasakawa Global 2000 is another, internationally-funded project. It involves approximately 2,500 small farmers. Aims include providing credit in the form of inputs, i.e. seeds and fertilizers and training through extension staff, encouraging the switch to "modern" farming and, increasing agricultural productivity. The program revolves around a system of loans granted over a three-year period. The experience in some villages has been a dramatic halt to the program once the three years are up. While creating a dependency on fertilizer and new seed varieties, after the funding ceases, few farmers can afford to continue buying these inputs.

For purposes of this paper, what is most notable, in all three of these programs is the absence of women and the integration of local knowledge. Although SCAPA does work with some women's groups, it rarely addresses them as farmers, but rather as farmers' wives. In few if any of the programs did women benefit directly from the educational instruction or the credit schemes. Nor were their needs for firewood or crop preferences acknowledged. Gleaned from some of my own discussions with women from the villages, they actually did much of the work constructing terraces. Women said that after arriving home from a seminar their husbands would instruct them how to do the work! In a similar vein, in terms of the Heifer Project International, one woman gave an example of a male neighbour being given an animal after showing authorities contours built by her, but for which he took the credit, and the calf.

One of the village officials I spoke with felt that he and his village had also been excluded by donors. To him, the lack of communication and coordination meant that the issues, such as the environment, weren't given the emphasis they deserved. He saw NGOs/donors playing a role in building local, public support for an issue such as environmental conservation. He argued that they wouldn't be as effective in doing that if local government wasn't included. Consequently, the willingness to comply with

certain rules, and the ability to enforce protection plans, would be weakened considerably (Pallangyo, personal interview).

Part of the work that I did involved a Tanzanian NGO and its efforts to support a tree-planting project in a number of villages. From this experience, privy to the views of donors, recipients and participants, considerable information was obtained about the kind of contact that is effective in working with grassroots as well as the interactions that inhibit work from being carried out effectively. The lessons learned from these experiences will be discussed in more detail in the final chapter of conclusions and recommendations.

To be understood, this research has to be seen in context. Articulating the research environment was the purpose of this chapter. While the fieldwork was highly specific, that specificity is a result of a confluence of more general factors, local, national and international. Rather than review the country's entire political, economic and social history, the focus has been selective. I made an assessment of what issues were most important and revealing of rural "reality," based on my experience working in some villages in Arumeru District.

At the macro level, of profound impact are economic restructuring programs, i.e. SAPs. These initiatives have influenced people's wages, the prices of their crops, their

access to health facilities etc. At the national level, the Tanzanian state's philosophy and policy toward the majority, rural parts of the country has shaped people's daily lives by attempting to dictate where they live, what crops they grow, how they market them etc. As well, with specific reference to the research topic, of consequence are the country's environmental problems and the policies designed to deal with them. Also at the national level, some policies to address women and so-called women's issues were looked at. In so doing, some of the thinking behind such policies was revealed, to expose its inadequacies in terms of creating an environment in which women could exercise basic human rights and provide them with resources on an equitable basis. Finally, at the level closest to rural population, the district and village governments, local power struggles are resolved, determining issues of land allocation and tenure, access to basic necessities and participation in village politics etc.

Where available, woven throughout these various contextual spheres, I tried to be explicit about the impact on women. Often this kind of sex and/or gender-specific information was difficult to obtain. Relatively little of the literature and analysis was oriented in this way. Consequently, there are some major gaps. While this may be considered inappropriate in a study that centres around gender-based analysis, providing context is about being

descriptive rather than prescriptive. In other words, context is about explaining how things are and not how we'd like them to be.

However to mitigate the dearth of analysis, the next chapter, the fieldwork, privileges the perspectives of village women, their views about their environments, their attitudes about environmental conservation and the implications of associating them with this responsibility.

CHAPTER FOUR

FINDINGS

VOICES FROM THE FIELD

Adhabu ya kaburi aijuae maiti

It's the wearer who knows the shoe pinches

This is a Swahili proverb teaching empathy, the East African equivalent of the more familiar expression, "don't judge a person until you've walked a mile in her shoes." It has held some important lessons for me over the course of completing fieldwork for this research. The analogy also seemed fitting because this research is an attempt to move issues surrounding women, gender and environment a few *steps* forward. For many of the women I spoke with, the environment was "the shoe that pinches," its degradation impinging on all aspects of their lives including their ability to find sustenance and calling on their most creative coping mechanisms. Also conveyed is the idea that responsibility for environmental conservation is an unceasing and increasing burden in their daily lives.

The organization of this chapter is grounded in the steps I took to explore the research question of how women's knowledge, needs and concerns about the environment can be translated. As an inquiry into women's knowledge, needs and concerns, the fieldwork had to go beyond dealing

directly with these issues. The chapter deals with what people think: their perceptions of the environment and environmental conservation; the problems they face; and their views about who is responsible for environmental preservation and degradation. It focuses also on what they do: their daily activities and involvement in tree-planting programs and; the gendered division of labour. The fieldwork asks why they do it: their motivations for participating in environmental protection programs and; the external forces that impact fundamentally on the internal dynamics of the communities in which they live. Another aim of the research was to find out what people know: as reflected in their everyday responsibilities; their identification of environmental problems and causes and; tree-ranking exercises. The research tries also to assess what they need as indicated in their own "wish-lists" and concerns. Integral to understanding the fieldwork and these issues are the differences between and among men and women -- a result of gender roles, economic and class positions and geographic location -- as well as their similarities.

The findings in this chapter support the need to reassess some assumptions and conceptualizations that prevail in the literature on these issues. As well as revealing sophisticated knowledge about their environments and how to live sustainably in them, the villagers' replies

force a re-examination of the validity and implications of a "strategic" alliance between women and the environment.

The impact of gender could be seen in almost all areas of response. It influenced people's views about what the environment encompassed, who was responsible for conserving it, the division of labour and resources as well as differences in what women and men stated as needs and priorities. Gender differences also manifested themselves in conflicts over the environment, for example, decisions about what to plant, as well as the decision of some women to join tree-planting groups. Gender roles and politics were also decisive in determining what kind of access women had to productive resources. Inseparable from all of this is the fundamental influence of context and the micro and macro political economies.

As detailed in the chapter on methodology, a great deal of information was obtained in the fieldwork, through individual interviews with people in rural Tanzania. Another primary data source was a series of workshops held separately in these same villages, with women and men. Whenever possible, in this chapter, I will make use of the same or similar words as those used by the people themselves. Most of the sections begin with quotations from my conversations with women in the villages.

ENVIRONMENT

Environmental Problems and Causes:

"There is no good life in this village"

The last chapter provided information concerning the elements that made up both the micro and macro environments of the villages where I worked. The following is a more explicit discussion of the state of those environments and how they affected people in those villages. The nature of the problems people identify are clearly linked to events at various levels of the environment.

Although it may be a cliché, it is extremely important to note that, in the case of all the villagers I spoke with, survival was about struggle. Frequently mentioned as a pivotal problem was poverty. The drive to survive was characterized by a constant search for money income. Even though both women and men were involved in this endeavour, commercial activities and interests were more likely to be affiliated with men. It was noted that the strain to support themselves and their families often affected women and men differently.

In the workshops conducted with men and women, people were asked what the main environmental problems of their village were, along with their thoughts on what caused those problems. Classifying something as a "problem" is another way of identifying people's priorities and their perceived needs. Although people's needs are identified

and addressed in a separate section, it should be noted that such a division is arbitrary. In real life, problems and needs, as well as concerns, are part of the same spectrum. Among the many interesting observations that can be made from this information, of the factors that influence what people consider to be their problems, gender, geography and class are central. A very broad interpretation of the term environment is evident in the answers provided, an idea that will be explored subsequent to this discussion.

Villagers' answers provided much more than basic background information about the environment in these communities. A great deal of insight was gained about the kind of knowledge these people possess and use on an everyday basis. The responses given also offered a glimpse into the connections they make to explain events, environmental and otherwise, in their villages. An example frequently forwarded by women was the link between their workload and deforestation. This then requires bringing the gender division of labour into the analysis.

Looking at these developments as interconnected, as pointed out by the villagers, makes it much more difficult to categorize phenomena neatly into cause and effect relationships. The intertwining and cyclical characteristics can best be expressed through some examples, based on the lives of and supplied by the villagers.

Population and other pressures

To illustrate, a problem touched on by a number of people was land-scarcity. Whether it is the primary problem or a spin-off of another issue or both is of secondary importance. The point is, in the understanding of the villagers, and accurately so, their concerns were all linked. The population of the area had grown dramatically over the last twenty years. On the other hand, neither the village boundaries nor the amount of arable land available had expanded to meet the needs created by the increase in population. Many of the women I spoke with were dependent on plots as small as 0.1 ha for their sustenance. Compounding their problems, often these parcels of land were located several kilometres from their homes. As a result of these circumstances, farmland was being used more intensively leading to soil erosion and less agricultural output. Another result was an increase in the amount of time women were required to devote to subsistence activities.

The higher cost of many basic goods, due in part to economic restructuring and government policies, combined with a lack of alternative sources of income, also meant more reliance on livestock for milk and meat and future security, i.e. collateral. Some women said their husbands insisted on keeping many animals because men believed the number of cows or goats represented a person's success and

allowed them "to be proud." Both women and men talked about the environmental problems caused by overgrazing, including further soil degradation.

As well, the search for better grazing lands, exacerbated by drought conditions in the lowlands, meant cattle from other parts of the communities were being brought to and concentrated in higher areas of some of the villages. The women associated these livestock with an increase in tick-borne and other ailments including Foot and Mouth disease, worms and lung infections. Drought and poor returns from their crops made finding the funds to pay for medicines to treat farm animals almost impossible. Finding grass to feed the increasing number of cattle was also adding to many women's workload. The internal and external dynamics, of which population pressure was a part, also placed increased stress on water and firewood supplies, creating further environmental problems.

Water

At most of the women's workshops, water was identified as a central issue. For some, it was a lack of water, especially during the dry season. The supply of piped water, on which three of the villages in the study area depended, was insufficient because a growing population had outstripped the capacity of the system. Water shortages could also mean women had to walk distances of up to ten kilometres (one return trip), in search of it, as well as

the considerable time required to carry it, in buckets on their heads, back to their homes.

Part of the problem associated with water was that it was becoming commercialized. Some women were paying seventy Tanzanian shillings (about fifteen cents) for twenty litres. One woman who had six children, (an average family size), said she needed between eighty and one hundred litres per day. Women who had only their farms as a source of income said they found it a struggle to pay for their water consumption. Water was also in demand by men for making mud-bricks for housing and other construction projects.

The factors responsible for water shortages were pinpointed as a lack of rain (surface water) which was attributed to rapid deforestation -- a combination of injudicious cutting practices and the fact, according to one woman, that "People didn't understand early enough the importance of trees." Also noted was a reduction of the water level due to trees being cut down near water sources, i.e. river banks.

For others, the main concern with water was its quality. One community had found the bacteria responsible for dysentery in its water supply. Another village, Maji ya Chai, received its name "Tea Water" because of the brown colour of the river running through it, caused by deposits of fluoride. The fluoride, found both in drinking water

and in some of the crops grown in local soil, had created some major health problems. These included tooth decay and bone deterioration. Villagers also frequently linked fluoride to birth defects. Magnifying the problem, Kikatiti village often depended on water from Maji ya Chai to meet the needs of its inhabitants.

Cited specifically as concerns were illnesses such as malaria, meningitis, worms and pneumonia. In fact, dirt, in the form of diseases and health concerns was considered an environmental problem in itself. Also discussed as environmental concerns were difficulties in childbirth and the lack of community health facilities.

Whither the weather?

Closely related to concerns about water were observations from both men and women about recent changes in climate. That area, in addition to many other regions of the country, had experienced irregular rainfall causing both extremes of drought and flooding. In turn, that had created problems of crop failures and malnutrition. Drought was also associated with insect, i.e. Army Worm, infestation. As a partial explanation for the unpredictable weather patterns, the villagers talked again about driving the rain away as a result of too much tree cutting. Noting the multiple uses of trees, failing to replace them also resulted in increased wind and, consequently, soil erosion.

Firewood

Many women also identified firewood as one of their main environmental problems. Similar to their concerns with water, many talked about the increasing distances they needed to travel to find firewood and the time and energy required simply to satisfy their daily cooking needs. The issue for some was an over-reliance on firewood as a source of their fuel. However, women with lower incomes said they could not afford to buy the other fuels such as charcoal or kerosene. Relevant to this, another problem also discussed was a lack of awareness in the use and benefits of already available, alternative and appropriate technologies such as fuel-efficient stoves. The criteria constituting "appropriate" were stipulated by some women as affordability and simplicity. Even advocates of these stoves acknowledged that coming up with the money necessary to buy them (about \$10 U.S.) was an obstacle, especially without access to loans.

Several women suggested that, like water, even firewood was rapidly becoming a "business." Those women who held jobs in town or who were employed in the villages, as well as those who did not have access to any land, sometimes bought bundles of firewood for one hundred Tanzanian shillings per bundle, (twenty cents) as it was still the cheapest source of fuel available. Some women said it was other women's own fault if they lacked firewood

because they should have had the foresight to plant more trees closer to their homesteads. Even those who had access to and could afford electricity did not underestimate the importance of trees. As one woman said, "The real source of fuel is trees. Without rain there's no electricity [the country's power grid was based on hydro-electricity]. Without trees, there is no rain."

It was pointed out that the commercialization of trees was having additional impacts. Part of the reason for women walking longer distances to find firewood was an increase in the number of people using trees and their by-products. Competition was on the increase from men who were using wood for producing charcoal, brick burning, and for timber -- activities all aimed at earning an income. Many people spoke of these economic-oriented activities in critical terms, alluding to them as "destructive." Some women said that their environmental expropriation, such as firewood, was more legitimate than men's activities. Whereas firewood was for the whole family, men destroyed the environment for individual (i.e. commercial) gain. One of the discussions with men revealed that they too distinguished between "positive" and "negative" purposes for cutting down trees. For example, using trees for building material and clearing the land for farming were considered positive uses especially if, as women advocated, homes were built and income went to the family. In

contrast to this, using trees for making charcoal or selling firewood was considered adverse. The men agreed that, (at the time of discussion), the negative uses outnumbered the positive, justifying their actions on the need to generate an income. Looking at it from another angle, the classification of positive and negative seemed to correspond to certain gender roles and values attached to them.

Significant differences

While the inquiry and findings focus on differences between women and men, from the outset it should be noted that there were various other differences that also significantly affected the research. In differentiating among communities, a factor that consistently determined what villagers considered problems was location. The differences lay more in the emphasis and degree to which people felt affected by problems rather than differences in the problems themselves. For example, while almost all people said that water was a problem, those without access to a clean supply felt it was more pressing a concern than others. For women who lived in a village several kilometres from the main road, transporting their goods to market and the distance to the nearest flour mill were seen as their major environmental problems. This is not to say that these differences aren't important. On the contrary. These problems are also priorities. As such, the success

or failure of a program designed to relieve their environmental problems depends on addressing geographically-specific concerns.

To a large degree the differences mentioned above are an indication and reflection of various class positions held by women within a community. The interviews with individuals gave me a chance to speak to women from a range of economic backgrounds and to explore some of those differences. An important factor in determining a woman's economic status was the size of the farm she lived on, in large part because of the amount of income it produced. As mentioned, a few of the women I spoke with had no land at all, or very small (0.1 hectare) plots. One woman's husband owned approximately 12 hectares. These differences were reflected in the kinds of concerns raised. The women with larger farms talked about buying firewood or kerosene or hiring people to construct terraces on their land. Therefore, for them, while a scarcity in fuel sources might raise the price or be the cause for some concern, they had more options for dealing with these problems than women who had to gather firewood themselves and manage their farms on their own. The availability of alternatives was increased by the fact that some of the women who lived on larger farms appeared to be more closely connected to members of village government and sometimes had access to certain benefits, such as positions on committees or land

allocations.

The marital status of a woman played a major role in differentiating her position in a community, her needs and also her level of freedom. Of the women interviewed, some were married and living with their husbands. Others were married but their husbands lived and worked in town or in another part of the country. While some of the women considered having a husband around an asset in terms of their contribution to on-farm activities as well as the social and financial security they represented, many others felt they were better off with their husbands gone. They explained that if their husbands were away working there was little conflict at home because, in these circumstances, women made most of the farming decisions on their own. As well, sometimes men would help their wives by sending them a small portion of their salaries. In contrast to this scenario, a small number of the women interviewed were divorced. Most often in these situations, they did not and could not own any land nor did they have access to many other resources. Consequently, their options were much more limited and their survival even more of a struggle.

Even within some of the women's tree-planting groups there were divisions. In the process of commenting on the low attendance record of her group, one chairwoman confessed that the problem was much more serious than

absenteeism. Confirming rumours that I had been hearing, she said that some of the women were becoming resentful and discouraged with the group. The problem, she explained, was two-fold. Some members had expected the group's activities to be financially profitable. When that income didn't materialize quickly enough, they began participating less frequently. Second, and more serious, some members believed that others in the group, i.e. the leader and secretary, were benefiting, but at their expense. The trouble began when the chairwoman and secretary began getting invited to neighbouring villages to give seminars. The other members were suspicious that they were getting paid for these presentations and also believed that their leader was selling tree seedlings, grown in the group's garden, for personal profit. A leader of another women's group recounted similar problems within other groups. She talked about a couple of groups in which corruption, for example a member destroying the financial records and money disappearing, had ended some projects (Akyoo, interview).

Differences, often but not always a source of division among women, were confirmed in interviews and workshops. A number of those I worked with also saw themselves as "different" from women in the other villages and groups. These distinctions were usually attributed to a confluence of class and geographic factors. They were most pronounced in the women who lived in the semi-rural community known as

NAIC, the National Artificial Insemination Centre. This was a government-run agricultural research institution which also housed a community. Many of the women of NAIC were either employed at the centre or worked in town. Some had a college or university education. In the villages most of the women were Mmerus. At NAIC, there were a number of people from other parts of Tanzania who were of different ethnic origins. In comparing themselves to women in villages who farmed for a living, these women believed they were better able to express themselves, more educated in general, and about the environment in particular. They also felt their priorities were different. As one resident expressed it, "Those women in villages can think that finding honey is more important than the fact that the activity is destructive to the environment." Overall, women from NAIC felt their lives were easier than for rural women, in terms of income, workload, access to water and modern technology.

Even though some women at NAIC believed that male/female relations were more harmonious in their community because of the higher levels of education, they still shared some dynamics with women in the villages. When I asked some women from NAIC why they went to bed so late, they said they had to wait up for their husbands to return from their trip to the local bar, and give them dinner. To do otherwise could mean a beating. The daily

schedules of women from NAIC who worked in office jobs in Arusha were varied in activity and timing, but they were comparable in the amount of work village women indicated they had to do (Figure 4.1), subject of course to seasonality. There were certain times of the year when women in both communities were especially active in agricultural activities, i.e. during the harvest and just before the rains. A more detailed look at the division of labour comes later in this chapter.

As well, some women living in the villages also wanted to differentiate themselves from other women, including those living in the same communities. One group in particular stressed the need for donors to treat each tree-planting group as an individual entity. Members from this group, two of whom were teachers and newcomers to the community, believed that some village women were "easily duped" and manipulated by people in authority. They identified the problem as a lack of education (reading and writing skills) that contributed to a lack of self-confidence. This made some rural women vulnerable to people who wanted to extract services and money from them and their tree-planting groups. Some of the men, when asked about differences, also emphasized the issue of education. Some said that discrepancies in the level of education rather than other differences between men and women were more likely to determine needs and knowledge.

FIGURE 4.1
DAILY WORK SCHEDULES (SAHAGUNA)

(i) NAIC village

(ii) Imbaseny Village

For example, they said, a woman who was educated could have a different outlook than an uneducated woman or man.

Even though the work I did only scratched the surface in this respect, I feel it serves to illustrate the need for donors, for village officials etc. to be better aware of whom they are interacting with and how they shape these contacts. Again, just as these differences will influence the results of projects, they should also be considered in the design of any schemes.

Definitions from the fieldwork:

"Life depends on a good environment"

Implicit in the previous discussion of the main environmental problems in the villages was a broad definition of "the environment." To clarify perceptions, people were explicitly asked for their definitions. These responses were closely followed by a related question: what did they consider to be environmental conservation?

The range of responses to these questions was extremely wide. The environment, in the eyes of many of these villagers, was all-encompassing. It included: "everything you can see;" "everything in daily life," including one's farm; land; family; food; livestock; insects; the market; buildings, such as latrines; climate, i.e. "greenness and dryness;" and air. Also associated with the term environment were people's health, culture and

traditions as well as business activities. Both men and women emphasized cleanliness, especially around their homes, as a vital part of a good environment.

What is clear from these responses, and confirmed in their thoughts on environmental conservation, is that people did not confine the environment to a particular level of perception or activity. That is, the environment was not compartmentalized as is the tendency in much Western thought. Rather, it was seen to comprise social, medical and economic uses and well as being the source of fulfillment for several daily needs, among them, fuel and water for cooking. A number of the women's groups classified the environment as being part of development in general. One group went further to divide the environment into social uses, i.e. homesteads, animals, houses and economic applications, i.e. farming and grazing areas, the village and township itself.

Many of the responses given by men were similar to those of women. However, men tended to put more emphasis on elements outside of the home in the form of services, such as hospitals, schools and markets. They also made more references to "business" activities. Clearer differences, as will be shown, are revealed in men's reaction to environmental degradation, its manifestations and also in their thinking regarding who has responsibility for conservation.

Map-making and analysis

The map making exercises, described in the methodology chapter, offer additional insight into the perceptions of men and women of their environments and priorities within those environments. People were asked to draw what they felt were the most important features in their village. As illustrated, there are a number of interesting incongruities in views, between both men and women and the two villages where the exercises took place, Maji ya Chai and Kikatiti. The maps were drawn at four of the workshops. For purposes of comparison, women and men from the same villages were asked to participate. These diagrams also make evident several similarities in perspective (See Figures 4.2 - 4.5). To suggest some possible explanations for these views, in addition to the maps themselves, some analysis is provided on the basis of other information received in the process of doing the fieldwork.

Map: Maji ya Chai

As shown in the maps drawn in Maji ya Chai, only the women drew trees. The women's group included in their drawing a nearby forest reserve and a foreign-funded afforestation project. As well, these women made the effort to distinguish between indigenous and non-native tree species by using different kinds of leaves and twigs to mark the varieties. To put this into some context,

indigenous species in this area, used for a variety of purposes, were disappearing rapidly as a result of deforestation and overgrazing. In one researcher's findings, only thirty percent of some species remained in Maji ya Chai and twenty percent in Kikatiti (Swai, 1993: 25).

On the whole, evaluating both the men's and women's diagrams, the women were much more innovative in their choice of materials. They made use of samples of trees and grasses. They also used flowers to indicate the group leader's home. As well, they found various sizes of rocks as well as a plastic bucket to indicate nearby hills. In part, I believe this is suggestive of a stronger awareness and more extensive knowledge of the environment, specifically, trees. Given women's responsibilities for collecting firewood, this is not surprising. Another difference noted is that while the men's map specifically identified coffee and maize, i.e. cash crops, the women emphasized their farm plots from which they obtained food. While the women appeared more conscious of the boundaries surrounding individual farms, the men accentuated the boundaries of the village as a whole. This could support the view that men tend to see the wider aspects of a village, whereas women concentrate on their more immediate surroundings, i.e. their homes. Finally, also of note is the difference in emphasis between men and women on local

FIGURE 4.2
Women's Group, Maji ya Chai

FIGURE 4.4
Women's Group, Kikotiti

FIGURE 4.5
Men's Group, Kikatiti

establishments. While both groups drew, for example, the village government offices and some schools, at their workshop, the men's references to local institutions, were more extensive. This variation could be an indication of the level of responsiveness that each group perceived in these institutions.

Although it might appear to be a relatively minor difference, I thought it was interesting that the men and not the women, drew a water tank. It was something that did not come to my immediate attention and I was therefore unable to directly ask people about it. However, based on what was learned in the fieldwork, I think it is worth some speculation because of its potential to reveal something about the role of projects and donors in a community. To explain the water tank, I would suggest that even though the men traditionally do not have responsibility for supplying water, they, unlike women, were probably included in a local water project that built the tank. Men may have been solicited by local government in work parties to assist in its construction. Women's low level of involvement in donor-assisted projects, (indicated by women in interviews), could have been reflected by their neglect to mention the tank. In contrast, in the women's map, their references to the forestry project could suggest more involvement and/or their view of its importance in fulfilling their daily needs. Yet another possibility to

explain the water tank reference, is that women may not have access to this facility. The tank could have been a source of irrigation water for men's cash crops. Instead, the women depended for their supply on surrounding rivers.

Map: Kikatiti

In the village of Kikatiti, the women's map was much more detailed than the men's and also more extensive compared to the women from neighbouring Maji ya Chai. The greater attention to institutions, including the market and trading spaces, are indicative of the type of village Kikatiti is. As mentioned in interviews with village officials, Kikatiti is rapidly expanding, becoming more "urbanized." Consequently, the population is becoming more aware of "urban" institutions. The fact that the women's map was more elaborate than the men's could be reflective of the fact that many of the men spent much time away from the village, either in the town of Arusha or towns elsewhere. More women in Kikatiti were engaged in small business which could also explain their appreciation of market areas.

Other differences in perception were provided by women's, but not men's, reference to individual homesteads. Again, only women pointed out trees on their map. As in Maji ya Chai, it was men who specified coffee (cash) crops. Women focused more on maize (food and cash) crops. The fact they did not mention beans, another staple of the

area, could have been because in the last couple of years, the bean harvest had failed because of the weather.

Another sign of difference, perhaps indicative of varying responsibilities, was the inclusion by men of facilities centering around livestock. For example, men drew the village animal dip as well as the paths for herding cattle. While women did not refer to these, they did indicate an area where animals were grazed freely, suggesting that this had some impact, perhaps in terms of access, to certain tracts of land.

In all cases, seemingly regardless of men's and women's responsibilities, water was significant. Expressing an awareness of the variability of their environments, both men and women indicated seasonal water sources. A common and important feature of the maps were transportation links -- the roads and footpaths as well as railway lines -- another indication of greater awareness both of towns and commerce. Among the most important institutions, both men and women included churches, schools, hospitals and village government offices. The significance attached to local government and education (schools) -- the idea that both are resources -- was reiterated in many of the interviews that followed the workshops.

Environmental Conservation

Continuing with the issue of people's perceptions of

their environments, they were also asked what they thought of the term "conservation." It should be noted that the category of conservation was something that I, as a researcher and outsider, imposed on the participants. People's answers revealed that the term was arbitrary. Much of what villagers already did, as a part of their daily lives, would be considered conservation even though they themselves may not have called it that. In the same way, what I would consider conservation, the villagers often viewed as a common-sense or intrinsic part of traditional agricultural practices. Consequently, when I asked about conservation I likely forfeited the considerable knowledge that did not fall under this label. By failing to name certain concepts accurately, for example, the environment itself, there was a substantial risk that if people did not respond to questions concerning conservation -- because that was not a term they customarily made use of -- they would appear ignorant. Even though this qualified the work I undertook, by exploring people's knowledge in other ways, these limitations hopefully had less of an impact.

I was not alone in bringing this concept to the research. Most outside donors who had established environmental programs in the area had also brought their concepts of conservation and protection, implicit in the mandates and activities of these schemes. Because most of

these schemes dealt only with preserving soil and water and planting trees, "environment" and "conservation" were also, by definition, being confined to these activities. This appeared to be having an impact on the villagers' own definitions of the concept. In the fieldwork, when people were asked to discuss conservation specifically, their answers resembled what I would consider typical of Western thinking.

The parallels were evident at almost all the workshops, but were strongest in the answers given by the men. For example, conservation activities were most commonly identified by them as: soil preservation; planting trees; building contours and terraces to control soil erosion; maintaining water sources; preserving natural vegetation; and ensuring against forest fires. Many of the women's responses were very similar. Both men and women also identified laws, to be discussed in more detail later, as a conservation mechanism.

However, despite the noted similarities in the responses of men and women about conservation, many women expressed several additional priorities, indicating some fundamental differences in perception. Women tended to place more emphasis on the homestead as a focal point for conservation activities such as cleanliness, including health precautions such as boiling water and using pit latrines. Also mentioned was the cultivation of small

vegetable gardens or plots on which to grow grasses to be used for fodder. These activities reflect the various duties that women are socially assigned and must fulfill daily. These tasks, as indicated in their divergent responses, vary between men and women.

Differences in views between men and women concerning what constitutes conservation might also be reflective of the fact that women reported having very little contact with donor-funded, environmental programs. As a result, they were probably less influenced by donors' definitions of environment and conservation. When women were asked, individually, about the role of donors and environmental projects in their village, only two out of twenty-two felt that they had been actively involved or consulted by donors. Many others commented that they were only asked to participate in what had already been planned or were told what to do. Some felt they were being "looked down upon." One woman said that the interview she had with me was the first time she had been asked to discuss the environment with a person from outside Tanzania.

In their answers, women generally revealed much more detailed knowledge of the environment and its preservation. For several women, conservation also encompassed: crop rotation; the use of "good quality" cows, (most often identified as imported breeds), to increase milk production and provide manure; zero-grazing (even though this would

mean more work for women as they are considered responsible for feeding livestock that stay near the home); planting grasses on terraces and planting trees on hillsides to maximize soil conservation and rainfall. In addition, the process of planting trees was touched on, which involved, among other things, preparing seeds.

KNOWLEDGE

What do people know?: Their answers

Asking people to identify local environmental problems and to talk about their perceptions of these issues provided a glimpse into locally-based environmental knowledge. A major task of this fieldwork was to uncover this kind of information, as well as differences in people's views. If, as the research question specifies, knowledge from a grassroots level is to be translated, i.e. comprehensively and accurately commuted into practical applications, it is first necessary to have some idea of what that knowledge consists of. To continue this task and make explicit what had often been implicit, people were asked directly what they knew about the environment and environmental conservation.

In response, many of the villagers said that they knew little. For instance, some women replied that *all* they knew how to do was take care of their farms. They neglected to elaborate that this involved extensive knowledge of cultivating crops, adapting to environmental

changes in climate, soil fertility and irrigation methods etc. One woman replied that their knowledge was limited by the fact that environmental conservation activities were only recently initiated. Twenty years ago, she said, there was no need to replace trees they cut down because the supply was abundant. This also appeared to be a case of people de-valuing their own wisdom, because, having said that, several proceeded then to name a number of specific and specialized conservation practices as well as revealing a high level of awareness of the complexities of environmental systems and their interaction with the non-natural world. As some other women pointed out, they must know something, otherwise they wouldn't have formed tree-planting groups to protect the environment! In this case the inconsistency between what people said they knew and what they actually knew was likely related to the inadequacy of the definitions I was using when asking them questions. This again points out the importance of understanding what we as researchers are asking to ensure that it is sensitive to local concepts.

Despite these shortcomings, my questioning was able to reveal some of the depth of the villagers' knowledge. Among the things women said they knew about and how to do, were:

- ◊ constructing terraces;
- ◊ practising zero-grazing (controlling livestock);

- ◊ preparing and planting trees, including those for "ornamental" (aesthetic) purposes, and flowers;
- ◊ educating and motivating others about the importance of trees;
- ◊ educating their families;
- ◊ selling trees to individuals, schools and local institutions;
- ◊ crop rotation;
- ◊ cultivating vegetable gardens;
- ◊ the use of fuel-efficient stoves;
- ◊ fencing their homesteads;
- ◊ controlling flooding during rainy season (with terraces and by digging ditches for run-off);
- ◊ planting grasses and certain species of trees to control soil erosion;
- ◊ applying fertilizers to soil, e.g. cow dung and mulching;
- ◊ alternative sources of animal fodder, e.g. leaves;
- ◊ keeping their homes clean

In this study, more women were spoken to than men because the aim was to find more out about women. There was however, sufficient information supplied by the men to notice some differences in the kind of knowledge they exhibited, as compared to what the women talked about. At the men's workshops, as at the women's, most said they did not know how to protect their environment. One of the older participants spoke briefly about their knowledge of planting trees and protecting water sources by avoiding farming along river banks. But, rather than speak in any

detail about what knowledge they did have, the men preferred to speak of what knowledge or know-how they felt was needed. The accent here was on training and guidance on how to obtain loans. They said financing was necessary to reduce dependence on trees and to buy graded dairy cattle. Overall, they appeared to emphasize external sources of assistance rather than relying on themselves.

Tree-Ranking Exercises

Some of the groups that attended the workshops were asked to select five or six tree species that they viewed as the most important and useful in their daily lives. These choices were, in turn, to be ranked, in order of preference (see Figure 4.6). In all, six groups participated in this particular exercise. Four involved women's groups and two groups were made up of men.

The purpose of the task was to reveal people's knowledge about their environments, using trees as a focus. Detailed knowledge and awareness could be seen in people's ability to discuss extensively various uses of trees, growing conditions and the impact of certain tree species on the surrounding environment. To an extent, men's and women's comments reflected different scopes of knowledge and varying emphasis, depending on need, dictated in turn by daily responsibilities. For example, women, much more than men, mentioned the quality of firewood and fodder as criteria for selecting a certain species. As well, women

Figure 4.6
Qualities of top six tree species^a
as indicated by women^b and men^c

Species Qualities	Carvelea	Mkuyu	Mijo- horo	Maroron	Mringa- ringa	Mruka
Firewood	3m/2m	1w/1m	2w	1w/1m	1w	1w/1m
Fodder	2w	2w/1m	1w		1w	
Timber	3w/2m		2w/2m	1w/1m	1w/1m	1m
Shade	1w	1w/2m	2w/2m			1w/1m
Hardiness	1w/1m	1m	1m	1w/1m		
Medicine	1w					
Soil fertility		1w/1m			1m	1w/1m
Preserves water	1m	1w/2m		1m		
Bee- keeping		1m			1m	
Charcoal				1m		
Low maint- enance	1m		1w			
Rapid maturity			1w			
Air quality						1m

^a for a translation of names of tree species, see Appendix V

^b w represents a women's group (e.g. 2w indicates two women's groups)

^c m represents a men's group (e.g. 3w indicates three men's groups)

made a number of references to fruit as a necessary attribute, while the men spoken to did not refer to this at all.

However, generally speaking, the results also revealed that men and women possess more common knowledge than suggested in some of the other data. Despite the division of daily tasks (discussed in more detail later) that designated gathering firewood and water as women's work, men also expressed an awareness of which trees were more suitable for firewood than others. Likewise, women often mentioned timber and building material, even though they were not directly involved in this area of activity. So, while responsibility may often not be shared, an awareness of others' needs and requirements may in fact be present.

In addition to those indicated in the chart, among the other reasons women had for choosing certain species over others were: their appearance (aesthetic quality); their potential in making other products, for example, glue; and their future investment value.

One of the men's groups made reference to a tree called Mwarobaini, more commonly known as the Neem tree. This is of note because it was a species that the NGO I worked with, as well as others, was promoting as the "wonder" tree in introducing it to women's tree-planting groups. However, none of the women in the villages made reference to this particular species. This raises

questions about the appropriateness of selection and reiterates the need to consult with the people affected, before introducing programs, environmental and otherwise. Confirming this, a story widely circulated among donors and development agencies (Lutheran Diocese, SCAPA, Forestry Department) recounted the failure of a district-wide project that attempted to introduce Eucalyptus trees to the area. Farmers were initially pleased by the rate at which the seedlings matured. But, they also soon realized that these trees were draining water from the surrounding soils. Some of the farmers, when they saw the detrimental effects, started believing that the new tree species was some sort of government conspiracy to get them off their land. As a result, development workers in the district believe that suspicion about new species and projects still lingers.

Also revealing from these exercises are the characteristics that women and men considered unfavourable or negative in certain species. Among the characteristics that were considered negative by women only were: factors that made it difficult to get firewood, such as the size of the tree/branches, the weight of the wood and thorns. Quality of wood was also a concern, for example, the length of time it burned and the amount of smoke it generated. Women also expressed some reservation that certain species could cause harm to people and farm buildings by branches breaking off or shallow roots uprooting, while other

species would damage certain crops because of their shade, water absorption and the tendency to attract diseases and insects. Other specific characteristics that were considered negative by women were:

- ◊ unappetizing fruit
- ◊ fruit damaging to coffee berries because of insects, shade
- ◊ short lifespan
- ◊ leaves can prevent growth of other plants
- ◊ susceptibility to fungus
- ◊ low quality timber
- ◊ high water consumption
- ◊ expensive timber
- ◊ protected by law (even on homestead)

The men spoken with identified as unfavourable trees that were susceptible to insects and vulnerable to drought and also those that attracted lightening. In addition, the men mentioned that some trees were not good for soil fertility for a variety of reasons, including, stripping the land of water and other nutrients.

Women's ability to identify many more negative properties of trees is further indication of differences between men and women. I would argue that this type of knowledge is a reflection of women's daily use of firewood. Less explicit, but not less important, in this particular exercise were the differences in priorities, between men

and women, concerning commercial and domestic uses of trees.

Differences as sources of conflict

"Men don't value the environment in the same way"

The differences in choices of tree species as well as the different reasons men and women gave for their selections reveal disparate knowledges, needs and priorities. They also manifested themselves in the form of gendered crops. As such these differences also were presented, in a number of conversations, as the source of friction between men and women.

Women in the village reported arguments with their husbands over what kind of crops to plant. The tension was often related to what should be given priority -- food crops such as maize and beans or cash crops like coffee or tomatoes. Some men thought that maize was bad for coffee trees and therefore ordered wives to plant another crop. In another case, one woman wanted to plant bananas because the large leaves would provide shade for dairy cows which she cared for. Her husband, however, refused. He believed that shade would decrease the yield from his coffee plants. Others described disagreements about farm cultivation and the timing of ploughing and sowing. Sometimes conflicts escalated to the point where a man would advise a woman to go and plant on her father's land, which would amount to separation or divorce.

Differences in priorities and views and ensuing conflicts were exacerbated by wider (macro) developments such as heightened competition, increased commercialization of resources, resource shortages and land scarcity. Men themselves identified land scarcity and economic want as the source of disputes with their wives. According to some women, they had been denied the right to use fertilizer by their husbands because the men had expropriated them to improve their own crops. There was also tension over the profit from milk. In Meru culture, as with many other Tanzanian peoples, men own cows but their milk belongs to women. Women said that men were breaking cultural rules by taking the milk money from them. This underscores the fact that men and women, contrary to much of what has been written, do have separate sources of income, and adamantly guard "their" resources.

Several conflicts, at different levels and of different types, were also revealed in asking people to respond to criticisms about their role in environmental degradation. This became an opportunity to hear people's own assessment or critical self-reflection. Specifically, women were asked how they felt about being considered culpable -- at the level of literature, in policy directives and by some development workers -- for inflicting much of the damage to the environment. In the Tanzanian context, women were often admonished for their

role in deforestation, in their search for firewood. Women's reactions to these criticisms, combined with their views of men's roles, also reveal an enormous amount of information about how they see themselves and others in their communities and the kinds of choices they have to make in their environments. Consequently, also exposed are some of the roots of societal conflicts, which, by most accounts, appeared to be on the increase.

Women's role in environmental degradation

About half of the women spoken to in interviews believed it was not accurate to say that they were particularly destructive to the environment. "That is not a fair criticism because both men and women share this world. If women use firewood for cooking, the cooked food is also eaten by men." Of those who objected to the criticism, some said that, measured against other destructive activities, such as charcoal making or brick burning, collecting firewood had a relatively minor impact. Some said that women only gathered branches that had already fallen on the ground. In so doing, they were actually promoting re-growth. Still others argued that their critics were out of line because women were not allowed to cut down a tree without permission from their husbands. Not only that, they said that few women were "tough enough" to fell a tree. As it turned out, this last argument became a point of contention. Some women admitted

to cutting down trees occasionally because they couldn't climb them to get the branches they needed. Whatever the case, when asked, the men at one workshop agreed that women, especially when compared to men and their activities, were not destructive.

Even those women who believed that they were environmentally destructive wanted to qualify their statements. They acknowledged that their firewood gathering was harmful, but, they said they had no choice because they had no alternative sources of fuel. As well, they attributed their workload and consequent lack of time to injudicious use of firewood through cutting trees concentrated in the same area. If they were destructive, it was out of necessity, to build or repair their homes or get food for their families. Some were harder on themselves, saying that if there was a problem on their homestead, they were responsible both for its cause and its reparation.

Men's role in environmental degradation

Given the chance to comment on men's actions and attitude toward the environment, all of the women who responded said that men, in one way or another, were destructive. Going beyond previous remarks that criticized men for the impact of their commercial activities many women believed a main reason for men's destructive behaviour was ignorance. "They don't think they'll finish

the forest," said one woman. According to others, men don't plant trees because they don't know about conservation. Others felt that men were well aware, but simply did not care. In a similar range of opinion, while some women empathized with men, saying that the high cost of living was forcing them to damage the environment, others blamed men for their stubborn sense of propriety and cultural tradition that made men feel they owned trees and therefore could dispose of them in whatever way they wanted.

In fitting with their broad interpretation of the term environment, these women also expanded the concept of environmental degradation to include a wide range of activities. In their opinion, a major problem with men was in the choices they made. Unlike their own situations, women believed that men had alternatives. Instead of making burnt bricks, why couldn't men choose concrete or mud for their material, some women asked. As well, all too often men chose themselves over their families by spending household income for their own needs, by buying beer, or presents for their girlfriends.

Some women, in fact, identified "extra-marital love relationships" as environmentally destructive. They were the cause not only of income being diverted, but also led to men abandoning their family responsibilities. Similarly, it was felt that by not supporting one's family

financially or with their labour, men were causing environmental degradation. Men's "selfishness" was also exemplified in their destruction of terraces that women had built to control soil erosion. The women believed that some men ploughed through them because they wanted to finish their plot preparation quickly and also because they did not understand the benefits of terraces.

One activity pinpointed as inexcusably bad for the environment was smoking cigarettes. Women said this was how men caused forest fires. They also were responsible for fires through their hunting, poaching and honey-seeking activities, i.e. by smoking animals and bees out. Other environmentally-destructive activities that women said men were responsible for included overgrazing and clearing the land for farming.

However, qualifying their earlier statements, some women said that, in themselves, commercial activities were not entirely bad. After all, everyone required timber to build homes and for the money it could be exchanged for. The fault lay in not replacing what was taken from the environment, including the failure to plant trees. Also problematic was the excessive use of certain materials. As one woman commented,

Fetching firewood is not their duty. They are doing our work. We know how to limit our firewood needs. The firewood fetched by men is done extensively.

Here, this woman, as did a number of others, identified

insufficient know-how on the part of men. These women also appeared to be exhibiting a gender-based sense of territoriality about their responsibility for and knowledge of firewood collection.

The politics of gender and environment

As can be seen in the range of views, differences in perceptions, duties and imperatives, in addition to the varying impacts of environmental constraints, all combine to create potential sources of conflict at several levels. These conflicts are also indicative of the political nature and considerations behind issues surrounding the environment. Women themselves confirmed that these matters were political in their identification of the interests that were at stake. When asked about the reasons for such conflicts, some of the women said that men were sometimes obstreperous because it was their way of exercising power, "to show they are the boss".

There were other ways in which control was exercised. At one point in a workshop, even after the women had demonstrated extensive environmental knowledge -- illustrated in tree-ranking exercises, their ideas on the causes of local environmental problems and through listing their daily activities -- they still labeled themselves "ignorant." I asked them if they believed they were uninformed because other people had told them so. Their response to this confirmed the

presence of politics and the importance of integrating gender into a study of the environment. The women said the problem actually was not a lack of knowledge. There was another, more important issue at work. The main problem, they said, was "their lack of power as women" at a household level, to participate in decision-making.

Men's attempts to assert control also played a role in women's ability to participate in tree-planting groups. All the women I spoke to were given approval to join by their husbands, but not without conditions. Most of the women had to organize their work schedules in such a way that they would get all their daily duties done before they went to a group meeting. If their husbands thought they were neglecting their household duties they would have to discontinue their membership.

These women also recounted reports of other women who were not allowed to get involved because their husbands refused to give them permission. Some men were said to be afraid that their wives would become educated through their group activities. They feared that this education, combined with the potential of women to acquire new sources of income, would make their wives "big-headed," and disrespectful at home. Other men reportedly believed that women's groups gave bad advice to their members which could result in "misunderstandings" between men and women. Some others felt that a woman would become "loose" if she took

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part in such activities.

While men's efforts to control their wives appeared to be pervasive, there were some notable exceptions. Some husbands supported their wives to the extent that they helped out with domestic tasks on the days when group meetings were held. Some even gave their wives the fees for membership. This illustrates the variety of relationships that take place in individual households. These examples also show that, within these dynamics of control and conflict, women were also able to manipulate or negotiate within the systemic -- social, environmental etc. -- constraints to their advantage through the use of various strategies. Some women talked about their ability to exercise power through "environmental conservation" measures such as cleanliness, putting flowers around their homes, preparing nice meals for and speaking softly to their husbands. These actions, they said, reduced the level of conflict at home and made their husbands more inclined to participate in household and on-farm activities. In these cases, women seemed to be relying on strategies of accommodation which were discussed in chapter one, the conceptual framework.

Other examples of women's strategies also emerged from some of the interviews conducted with professionals who had worked in rural areas around Arusha. These people were seeing more cases of women who decided to defy tradition by

not marrying. Some had seen or heard about women who were hiding money and bankbooks from their husbands (Ngalo, interview). In addition to avoiding the more obvious manifestations of men's control, these women's actions were also seen as attempts to hold on to property and belongings that, in marriage, would have to be forfeited to husbands.

Some of the examples are even more compelling for research about women, gender and the environment. Of particular relevance to environmental conservation, also cited were examples of women refusing to protect the environment because they did not own the land. Similarly, it was also reported that many women were refusing to plant trees because of a lack of say in ownership. Also mentioned were cases of women stealing firewood from government reserves to meet their needs. These, as referred to in the conceptual framework, are illustrations of resistance.

The role of access and ownership

Much of this resistance can be seen as response to a lack of or limited access to resources. When men were asked to identify causes of the conflicts with their wives, some believed many disagreements were a result of women's discontent with the fact that land belongs to men and that women should cooperate with any decision a man makes about land and other resources.

In many cases, struggles around ownership and access

were expressed in other, much less explicit ways. Again, to interpret and assess these sometimes elusive meanings accurately it is essential to understand how people themselves defined and conceptualized the issues. When, for example, asked pointedly about ownership and access to the trees they planted, women responded. But often the matter had to be probed. This suggests that ownership and access -- as with the concept of environment and conservation -- may not be expressed or comprehended in the same terms as employed by the researcher. Often the terms ownership and access are used interchangeably. In reality however, there were important distinctions made. To make these distinctions again means allowing for differences in views among people, depending on their particular locations. Take, for example, just two of the women's responses when asked about their relationship to resources. One said, "I feel happy because what I need is not access but good weather, shade and sometimes firewood." Another made the comment that, "Without land, you are nothing."

The women's replies pointed out the need to allow for the possibility that the concept of "access" is actually more important than ownership and that it means more than simply being allowed to use land and its products. Two researchers who had conducted work in the same rural areas noted that women did not seem to resent the idea of asking permission from their husbands to use trees -- even those

they had helped to plant and care for.

The question of ownership to them is remote; most of the women interviewed had not even thought of ownership. The women know the land, and they themselves, belong to men; consequently trees, which are the man's land, should belong to the man (Ghamunga and Msangula, 1993: 7).

As indicated in their responses concerning conservation and which will be discussed in more detail shortly, women plant trees for many reasons. They said that, measured against access, benefits such as shade, alleviating soil erosion and increasing fertility, were equally important. In other words, even without direct access, they would still "profit" from the trees they planted. Some said that they planted trees out of interest, for their country and because they knew the importance of trees in their lives.

Almost all the women questioned individually said they would have full or partial access to trees they planted. Factors that qualified women's access were land ownership and the need to ask permission from their husbands or the village administration. The kind of access they were referring to here was the ability to cut down trees. But few women said that they required this level of accessibility.

What they wanted and needed was firewood. Expressed in blunter terms by one woman, "You cannot eat trees." Neither ownership nor, in most cases, the ability to cut a tree down, were required to obtain firewood. It did

however require permission to prune branches. Women said that until recently, rarely had they been denied this. However, because of the increase in competition for wood products, the potential for an escalation in conflict between husbands and wives was also indicated, therefore making access an even more critical issue in the future. Asked hypothetically how they would feel if they were denied any access -- an extremely rare scenario -- some women said they would be discouraged and annoyed, perhaps to the extent that they would not plant trees at all.

Women also said that the terms of access changed depending on what stage a tree was in its life cycle. Upon harvesting, trees became men's property. Women's reactions to these variable conditions depended on what the men did with the trees. If they were sold and that income was returned to the family then the women said they would be happy. Likewise, if the trees were used to build a home for the family, women saw that as another form of beneficial access. In most cases, women said they would be satisfied if consulted by their husbands. Nevertheless, women also said that they had some ability to influence the level of access they received and gain other concessions by engaging in some of the strategies mentioned previously in the chapter. This "substantial skill in negotiating with men for rights of access and use" is also brought out in others' research (Rocheleau, 1991: 160).

For others, lack of access was a price they paid in exchange for good relations or "peace" with their husbands. For example, one woman, newly married, said asking for unrestricted access would mean creating "something like ownership competition" between herself and her husband.

In the villages where I worked, there were a number of examples that further illustrate the kinds of conflicts and the struggles for control that were taking place in these gendered and politicized contexts. Gender entered again into people's assessments of environmental problems and causes in an intriguing way. In the emphasis placed by many on the role of over-population in contributing directly and indirectly to environmental degradation, several women singled out family planning as integral to alleviating many of the problems. In the words of one woman,

Family planning and the environment are related because a person with a big family is fully committed to taking care of his or her family, therefore leaving no time to take care of the environment. If there is good understanding between a husband and wife, they can agree on family planning and can care for the environment.

Differences in views between men and women also meant family planning programs were a source of tension. Women talked about being forced to have large families. Men, they said, would not attend family planning clinics out of fear of being ridiculed by other men in the villages. The men did not want to be seen as being "herded" to the

clinics by their wives. For their part, when asked about this, men said they had not been asked by their wives to go to these family planning clinics. Others admitted that they were afraid of birth control drugs because of possible side effects on both men and women. It surprised me that it was one mzee (old man) at a workshop who first spoke out in favour of family planning -- surprising, because I assumed that older people would be more conservative, more apt to want many children. This man, however, argued that smaller families would be good for the environment because they would use fewer trees and require less money. At this point in the discussion, as if the mzee had provided a nod of approval, a few other men agreed that men were the problem in expecting their wives to bear them several children.

Even if family planning may seem, on the surface, remote to concerns about environmental conservation, the importance lies in its ability to crystallize the role that gender plays in shaping men's and women's relationships, their expectations and traditions. Family planning also revolves around the integral element of power. Birth control is about control. Women with large families have more responsibility and less outside mobility than ones with few children. Instead of seeing the potential of family planning to reduce women's workload, improve their health and that of their children, many men preferred to

see birth control as a negative development. Many suspected that the ability to limit family size through birth control, encouraged women to become morally "loose", i.e. promiscuous. For that reason, they would not allow their wives to take any form of contraception. Those women who did, had to do so secretly. They said if their husbands found out, they would be punished.

Gender division of labour:

"All the income belongs to men while all the work belongs to women."

Looking at environmental problems, conflict and the role of gender from another perspective, some women's groups related the issues to their experiences of "gender discrimination." By this they meant the unequal distribution of tasks, especially those related to domestic responsibilities. Compounding this, many women saw men as lazy. The demands created by women's workload left little time, energy or other resources to devote to conservation programs. More important, their daily responsibilities, combined with the dynamics created by external constraints, distorted the choice between immediate needs, like firewood, and long-term benefits brought about by environmental conservation. As pointed out earlier, women would cut down trees close to home instead of gathering branches at other locations. This was not due to ignorance. They did this because they did not have time due to other demands being made on them. They did however

have a family demanding a meal on their table. Women's workload and the lack of leisure time, it was also believed, were responsible for making them age faster.

The problem, as one woman explained it, was that many men "roamed about" rather than helping out around the house or with farming responsibilities. However, whenever there was a shortage of any sort, for example of food or water, women were blamed. Some women said that when they informed husbands of such problems, they would be told to "stay quiet", that it was a women's issue. It can be seen then that a division of labour where activities are labeled "women's" or "men's" work, can be an obstacle to the kind of cooperation that women indicated was needed to preserve the environment. For example, in the past, a man who helped his wife carry water was mocked by other men. But, that being said, some women remarked that things had changed and were changing

Women said they had recently noticed that more men were helping them with domestic tasks. Women believed that was a reflection of more education. But there were other factors involved. Speaking of the past, women said that, with reference to water, the division of labour used to be even less categorical. Reference was made to a water project to develop a piped system, initiated fifteen years previously. Men contributed to the project with both money and labour. What these examples show is that gender-based

tasks, backed by tradition, as formidable and immutable as this may sound, are susceptible to re-assignment and to change. An interesting inquiry lies in determining the sources of these changes.

In the fieldwork, an attempt was made to take a closer look at the division of labour in the communities where I worked. The division was revealed in part through the particular tasks that women and men were assigned. Four individuals and one group responded to a questionnaire detailing who did what on their farms and in their homes. The results are shown in Figure 4.7. Because people usually know about what they do, the exercise was intended as another way of finding out about people's knowledge.

While making some issues clearer, the information provided by people about the division of labour raised several unanswered issues. Initially what stands out about people's answers is the range of situations experienced in and among communities. Second, and applicable to much of the discussion of this chapter, is the inequitable distribution of power among men and women. While women are heavily, if not primarily, involved in agricultural labour and looking after the home, they have significantly less say (power) in the decisions made about their contributions. That charts reveal the several areas where women are excluded from playing a role, notably in most commercial decisions, i.e when to buy and sell and the

	Women	Men	Girls	Boys
Growing Trees (cont'd)				
harvesting -fruit	2/3/	3/5/	1/	1/5/
-fodder	1/2/3/4/	1/3/4/5	1/	1/
-fuelwood	1/2/4/5/	2/3/5/	1/2/5/	2/5/
felling		1/2/3/4/5/		5/
marketing produce		1/2/3/4/5/		
LOOKING AFTER HOUSEHOLD				
cooking	1/2/3/4/5/		2/3/4/5/	
washing utensils	1/2/4/5/		1/2/3/4/5/	
washing clothes	1/2/4/5/		1/2/3/5/	2/
looking after children	1/2/3/4/5/		3/5/	
cleaning the house	1/2/4/5/		1/2/3/4/5/	1/
tending the garden	1/2/5/		1/2/3/5/	1/
buying household goods	1/3/4/5/	2/	3/4/	
house building/upkeep	4/	1/2/3/5/		1/3/5/
MAKING DECISIONS				
crops				
-which ones to plant	2/3/4/	1/2/3/4/5/		
-where to plant	2/3/4/	1/2/3/4/5/		
-when to plant	1/2/3/4/	2/3/4/5/		
-when to harvest	1/2/3/4/5/	2/3/4/5/		
-marketing	2/4/5/	1/2/3/4/5/		
trees				
-which trees to plant		1/2/3/4/5/		
-where to plant		1/2/3/4/5/		
-how to use them	4/5/	1/2/3/4/5/		
livestock				
-when to buy, sell	1/5/	1/2/3/4/5/		
-price to pay, ask		1/2/3/4/5/		
-milk for home, sale	1/2/3/4/5/	2/		
-how to manage	1/4/5/	2/4/5/		

	Women	Men	Girls	Boys
Growing Trees (cont'd)				
harvesting -fruit	2/3/	3/5/	1/	1/5/
-fodder	1/2/3/4/	1/3/4/5	1/	1/
-fuelwood	1/2/4/5/	2/3/5/	1/2/5/	2/5/
felling		1/2/3/4/5/		5/
marketing produce		1/2/3/4/5/		
LOOKING AFTER HOUSEHOLD				
cooking	1/2/3/4/5/		2/3/4/5/	
washing utensils	1/2/4/5/		1/2/3/4/5/	
washing clothes	1/2/4/5/		1/2/3/5/	2/
looking after children	1/2/3/4/5/		3/5/	
cleaning the house	1/2/4/5/		1/2/3/4/5/	1/
tending the garden	1/2/5/		1/2/3/5/	1/
buying household goods	1/3/4/5/	2/	3/4/	
house building/upkeep	4/	1/2/3/5/		1/3/5/
MAKING DECISIONS				
crops				
-which ones to plant	2/3/4/	1/2/3/4/5/		
-where to plant	2/3/4/	1/2/3/4/5/		
-when to plant	1/2/3/4/	2/3/4/5/		
-when to harvest	1/2/3/4/5/	2/3/4/5/		
-marketing	2/4/5/	1/2/3/4/5/		
trees				
-which trees to plant		1/2/3/4/5/		
-where to plant		1/2/3/4/5/		
-how to use them	4/5/	1/2/3/4/5/		
livestock				
-when to buy, sell	1/5/	1/2/3/4/5/		
-price to pay, ask		1/2/3/4/5/		
-milk for home, sale	1/2/3/4/5/	2/		
-how to manage	1/4/5/	2/4/5/		

	Women	Men	Girls	Boys
MAKING DECISIONS (cont'd)				
credit				
-when to take loans	1/3/4/	2/3,4/5/		
-how to repay loans	1/2/3/4/5/	2/3,4/5/		
-what to use loans for	1/2/3/4/5/	1/2/3/4/5/		
-amount to borrow	1/2/3/5/	1/2/3,4/5/		
education				
-which children attend	2/3/4/5/	1/2/3/4/5/		
-when to stop education	2/3/4/	1/2/3/4/5/		
-how to pay school fees	2/3/5/	1/2/3/4/5/		
budget responsibilities				
-savings	2/3/4/	1/3/5/		
-loan repayments	1/3/4/	2/3/4,5/		
-amount to spend:				
weddings, festivals	2/3/4/	1/2/3/4/5/		
household needs	2/3/4/5/	1/2/3/4/5/		

1 = woman from NAIC, works in town, does some farming (1 acre)

2 = men's group, Maji ya Chai (various occupations)

3 = woman from Kikatiti, farmer, (19 acres), wife of businessman

4 = woman's group leader from Maji ya Chai, farmer, (3 acres), husband works off-farm

5 = woman's group leader from Kikatiti, farmer, (5 acres) single mother

marketing process.

The questionnaire also revealed several discrepancies between what people said they did, what others said they did and what they expressed and demonstrated a knowledge of in activities and conversations held in other contexts. For example, while men acknowledged in the fieldwork and confirmed in the chart that collecting water is "women's work" the men complained about the amount of time needed to transport it to their homes. They said they helped women, i.e. their wives, when the latter were sick. However, their comments directly clashed with what the women, almost without exception, had told me about this particular household responsibility. Water, they said, wasn't considered a problem by men, because they refused to assist women, even when they fell ill. Who was telling the "truth"? Whose interpretation of events was accurate? The information provided in the charts does not reveal the difference between what were seen as norms and what, on a daily basis, actually transpired. The other fieldwork I did, including interviews and participant observation, tried to explain actual activities and responsibilities. The confusion generated in the charts can be applied constructively to analyze and reveal women's and men's perceptions of one another and their work. After all, perception is their reality.

To use another example of conflicting responses, in

interviews throughout the fieldwork, women implied that they, with few exceptions, planted trees. Appearing to support this claim, men consistently said that they needed more education on conservation, especially about planting trees. Yet, in the context of responding to the division of labour chart, revealing another inconsistency between theory and reality, both the men and women said that men alone planted trees while women helped take care of them. Perhaps it could be argued that my experience with women who were organized in tree-planting groups was an anomaly.

Nevertheless, it was these women who said the men, not women, planted trees. Judging from this as well as other answers, I believe the discrepancies were a reflection in part of a set of social expectations dictating what people *should* do, that, in the current context, were no longer accurate or valid. The women I worked with were becoming heavily involved in both preparing the land and planting the trees, contrary to what they said in response to the division of labour chart. This could be explained in part by other conversations in which women revealed that the division of labour was changing. In the past, I was given to understand that men did perform most of the activities around trees. However, in the past two decades, as a result of an increasing presence of environmental conservation schemes to coincide with an increasing scarcity of certain resources, i.e.

trees, women were playing more of a role, out of necessity, in ensuring a supply of fuel. The formation of groups to this aim, i.e. tree-planting were relatively new. Perhaps when women responded to the questionnaire, they were stating the way things were rather than what had become. As well, looking over the replies given in the survey, especially in terms of the variety of response, it is difficult to say whether people were answering on the basis of what they experienced in their individual households, what they saw in their communities, what they thought should be the apportionment of tasks or, a combination of all these.

As another example, almost everyone I spoke with initially said that women did not prune or fell trees because they physically could not. However, in other conversations, after I had been in the community for a while, some women said that they did in fact cut trees down or prune their branches when there was no other source of fuelwood around. None of the women however would admit this when asked in the questionnaire. This may have been out of fear of social sanction. Several times people commented that it was not proper for a woman to fell a tree.

In another incongruity, the information provided in the tables suggested a fairly even distribution of tasks among men and women. Conversations indicated otherwise.

None of the women I spoke with believed that the apportionment of work was equitable. In reality, they bore the brunt of responsibilities. This exposes some of the shortcomings inherent in many division-of-labour charts. In failing to indicate the amount of work rather than simply the tasks themselves and who performs them, the results are distorted.

Taking care of the environment: Who's responsibility?

"Women feel the pain more than men"

Within this complex division of labour, it was much more difficult to determine who, in general, was supposed to be or was responsible for environmental conservation. Because of inadequate, Western definitions of environment, and, by association, responsibility for conservation, these terms, as we use them, were too wide to fit into unambiguous categories and these issues were often not specifically dealt with when asking people to discuss the division of labour. Instead, I posed the question "Who is responsible for protecting the environment" directly to many of the women spoken with. The picture, however hazy, that emerges from their answers reveals another distinct split between theory (the social norm), that is, who should protect the environment, and reality, who actually and actively protects the environment. At the workshops held with men, there was agreement that both men and women are responsible. They however acknowledged that women do have

more work in this area because men are often absent and "it is mother's job to cook food and take care of the children."

In this way, the division of labour, or rather, the actual realization of task allocation, was used to link people directly to a responsibility for environmental conservation. A number of women said they felt responsible because they were already involved in planting, watering and pruning trees and because the very nature of their farm activities, such as building terraces, implicitly included environmental conservation. As an extension of conceptualizing the environment as one's home, women's responsibility for household duties also made them liable for conservation activities. Something like general household cleanliness was also considered environmental protection. It is interesting that even though the environment was seen, as has been shown in their own perceptions, to encompass much more than a person's home or farm, this breadth of interpretation does not appear to apply to the level of responsibility attached to conserving it. Rather, household duties were being translated into a disproportionate assignment of environmental conservation-related work. One women's group felt that the environment had already been popularly classified as a "gender issue." Because people tended to understand gender issues as relating to women only, care for the environment had been

assigned as women's exclusive domain. At least that was where many of the women felt things were leading.

On their part, women appeared to be evenly split between believing that both women and men were responsible, and asserting that women shouldered the burden. In the individual interviews, only one woman stated that men alone were responsible. She said that men, as leaders of households, were supposed to take care of these kinds of matters. But women, because they were "under" men, usually followed their husband's instructions in participating in activities such as farming and conservation.

Of those who asserted that both women and men (and usually children) were accountable, some said that because the environment concerned everyone, it was therefore everyone's responsibility to care for it. In their words, "The environment is not for one side, it is for all sides." Similarly, others said the whole of society is responsible because, in the event of environmental problems, everyone is affected. That is to say, environmental calamity "doesn't discriminate," and "drought doesn't know a father or mother or child...the whole family will suffer." Others equated looking after the environment to caring for their children, thus making both it men's and women's responsibility. In this same way, they did not expect someone from outside their homestead to help them, just as a stranger wouldn't assist in raising their children. Some

replies were based on consideration of principles of fairness. Everyone was responsible because "otherwise the work will be a load to the other side." For some others, their answers were based on calculations of success or failure. If only a few were held responsible, the aims of environmental conservation efforts would languish.

Of those who said that it was women's responsibility, most believed that both men and women *should* perform these duties. However, by pinpointing women, they were basing their opinion on the fact that their husbands were often away, employed in town or in another district or because they were divorced. If women didn't do it no one would and they would face serious problems. This could be interpreted then to mean that women were responsible by default. This was also where the split between theory and reality could be clearly seen.

It was also another opportunity to understand how gender relations and conflict come into play. Some women said they did the work alone because there was a lack of cooperation between them and their husbands. One source of conflict stemmed from women's perception that men were evading their responsibilities by choosing to stay away from the household and instead spend time with other men drinking. Some said environmental conservation was their responsibility because their husbands ordered them to do it! By so doing, some women argued that men were "taking

advantage of tradition." Others said they had to tell to their husbands what they did everyday, and it was essential those activities include conservation.

According to others, environmental conservation was largely women's duty because women were the victims of degradation. By preserving the environment, they would be helping themselves, for example, by ensuring an adequate firewood supply.

Also specifically named responsible were members of the village government and government forestry officers, in part because they were seen as having the power of law-making and enforcement. These views were qualified though by comments that these authorities had proven unreliable in the past, putting the onus on villagers themselves to solve their problems.

Targeting Women

Many of the authors who suggest that there are strategic linkages between women and the environment also talk about the importance of targeting women in environmental conservation schemes. Given the attitudes and circumstances assigning women primary responsibility for environmental conservation, how appropriate is it for environmental conservation projects to target women? I used the fieldwork to ask this question of the villagers. It was also an opportunity to assess whether women's responsibilities were or would be accompanied by the

resources necessary to fulfill them, whether women would benefit from their participation and if so, how.

None of the women said that being asked to participate in environmental conservation programs would make their lives easier, at least not in the short term. Being targeted, they said, would not change anything. They would continue to be busy. If anything, their workload would be increased. I think these views can be explained in part because these women did not anticipate that environmental programs would be accompanied by any kind of change that would reduce their workload. These women's views also appear to suggest that even though some women were motivated to conserve the environment by the long-term benefits, such as an increased firewood supply, when asked about being targeted most were thinking about the short-term impacts, which were not positive.

Those women who felt it was expedient to focus on them said it was merely acknowledging that women are already more responsible for caring for the environment. Some men agreed with this saying that it was right to target women because of their role in household activities. Other women supported women-only schemes because they were most affected by what goes on in their surroundings and would be the chief beneficiaries of a good environment. In turn, if women benefited, the whole family would also. Women, I was told, were, according to tradition, better able to save

money. Somehow, this also made it more appropriate to work solely with them. In the opinion of others, targeting women made sense because men were rarely at home. Women were easier to access.

The issue for other people focused on fairness. One man said it was fair to target women because they needed trees more than men. Some women said it was fair to target women "because men are so selfish they can easily monopolize the resources." This reveals a link made by some between being targeted and receiving money or other practical benefits. The anticipation of these kinds of advantages was also used in counter-arguments. It was not fair to target only women because men too should benefit.

Others, among them, men and women, objected to pinpointing women because they felt that everyone benefited from a good environment and therefore everyone should participate. On a point of principle, some women believed it was not good to segregate people. It would make them feel "abandoned." At a men's workshop, some said that men had to be targeted because otherwise they would be allowed to be "loose". To involve men would instill some kind of discipline or control over them. This was interesting because it was the first time the idea of being socially irresponsible was applied to men by men.

Why conserve the environment?

While the issue of targeting certain members of a community in conservation schemes may add some insight into why people participate as well as making people's actions more predictable, the act of targeting may be secondary to other considerations to explain why people consciously conserve the environment. The dictates of a community's division of labour as well as issues of access and ownership may be more helpful in explaining why and how people preserve the environment. But, there is still much more to explaining people's motivations than task allocation.

The fieldwork I took part in used tree-planting as a catalyst for finding out about people's knowledge, needs and their grounds for conserving the environment. Both men and women identified tree-planting as a way of preserving the environment. It became clear though from speaking to people that this was again work done mainly by women. There were no men's tree-planting groups, or for that matter, no men's groups comparable to the organizations formed by women. As a result, the answers that follow were provided solely by women. For a number of reasons their motivations for planting trees are revealing. They provide a glimpse into the considerations informing women's rationale for conserving the environment and another view of what people see as their problems and needs.

Women said they planted trees for various reasons including:

- ◇ to prevent or stop desertification and soil erosion
- ◇ to provide shelter for homes and farms from winds
- ◇ to supply themselves with building material
- ◇ for shade
- ◇ to attract rain and conserve water in the soil (to ensure food supply for people and animals)
- ◇ to provide nutrients to crops
- ◇ for ornamental (decorative) purposes
- ◇ to make their country green
- ◇ for firewood
- ◇ to sell the seedlings for money
- ◇ to provide animal fodder
- ◇ for fruit
- ◇ to respond to a radio campaign that said trees are crying
- ◇ for children's and grandchildren's future use ("for a better tomorrow")
- ◇ to repay people for planting trees for their use in the past

Of these motivations, earning an income was mentioned frequently by women. Indeed, much of the literature that deals with environmental issues in developing countries characterizes daily decision-making as a stark choice between immediate, economic needs and future, environmental exigencies. In the context of poverty, it is argued that the more immediate imperatives usually prevail, even if people are fully aware of the inter-related nature and

long-term impacts of their decisions. But such an assessment is simplistic. The choice is not so clear-cut. Just as short and long-term goals are reconcilable, so also are economic and environmental objectives.

This issue was raised in the fieldwork because most of the women's groups were selling some of their tree seedlings. Was the financial gain more important than environmental conservation? When asked this question, none of the women chose the economic advantages over possible environmental gains. The closest anyone came to leaning solely towards financial profit was the comment that conservation may be considered a luxury by the poor.

Most stated however that economic and environmental benefits were inseparable if not equally important. Comparing their seedlings with coffee trees, one woman responded to the question with a question: "What is wrong if you use trees and earn some income from them without destroying the environment?" In terms of their daily demands, women believed that fulfilling the need for money could also help the environment. Indeed, "if you get some income from your trees you can use the money to help you grow more trees." In even clearer terms, another said that, "To get income is to preserve the environment." If forced to choose environment or economic gain, almost all replied that while the economic aspect is important, it is not sufficient to justify cutting trees down.

Although men were not asked this question directly, some indication of their position was provided in their reaction to their wives' conservation activities. Common to most men, regardless of whether they supported or discouraged their wives' membership in tree-planting groups, was the requirement that the women's participation generate money and/or something useful, such as a skill, to be used at home. For example, one woman said her husband permitted her to join so long as she planted trees on their farm. The need for men to see concrete results, usually in the form of cash, was stressed by several women as a prerequisite for their involvement in conservation programs. Women said that evidence of men's motivations, or lack thereof, could be found in the fact they men never started voluntary groups, waiting instead for donors. As well, as pointed out in the tree-ranking exercises, men mainly chose trees that would benefit them financially and, similarly, showed a preference for cash crops.

Even more revealing of the wide range of reasons that women had for preserving the environment were the answers women gave -- at workshops and during interviews -- when asked why they joined groups, many established explicitly for conservation, primarily through tree-planting. While protection of the environment was one of their main motivations, for many, the goals were much more varied and far-reaching. Often the original mandate of

these groups was expanded to include activities such as weaving and basket-making for sale at local markets, tailoring, cultivating fish in ponds they constructed, starting an animal food business, attending meetings and seminars on various issues outside their villages and entertaining guests. This is also an indication of the range of needs the women looked to meet in joining these groups.

It should be noted that in responding to the question of membership that, although some "found it necessary being a woman" to participate in environmental conservation, a number never referred to this as a reason for joining these groups. Among their motivations for joining groups, women included:

- ◊ to exchange views and ideas with other women with an aim of increasing knowledge and improving their daily lives. Some mentioned a need to talk about problems unique to women because they felt isolated. Two group leaders specifically named discrimination by men as a major problem
- ◊ to earn a supplementary source of income, for example, through selling tree seedlings
- ◊ worries about the state of the environment in their village
- ◊ as a result of hearing government radio campaigns that discussed the benefits of cooperation among women. Some also became interested after seeing the activities of groups and their success in tree-planting. Others were encouraged to join by friends who were already members

- ◊ to achieve social progress and work towards women's liberation. Some referred to this as "self-development"
- ◊ one of the oldest women said she felt she needed new ideas in farming and modern cattle-keeping in order to change her life and her income

What these motivations reveal is that, through and in addition to the practical benefits women anticipated receiving, some were also consciously striving to change themselves and their position in society -- in other words, to make strategic gains.

WOMEN'S AND MEN'S NEEDS

Being a woman, I need firewood. I also need contours to plant grass for my animals while my husband needs food and not firewood because firewood fetching and grass or animal food fetching is a woman's duty.

In light of people's roles, their problems, perceptions and constraints and with the intention of designing more sensitive and relevant policies, as part of the fieldwork I asked people directly what they thought they needed to protect their environment. Using the classifications of strategic, i.e. transformational, power-related, and practical, i.e. fulfilling daily necessities, most of what people indicated appeared to be geared toward meeting practical, rather than strategic concerns. But, as pointed out in the literature review, although there are fundamental differences in the kinds of needs people have, practical gender needs can also be strategic. The "wish-lists" of the people spoken to were often specific and

modest. As well, many of their requirements often did not appear to be directly related to environmental conservation. But, in their own estimations, these were the things or conditions they required in order to participate in conservation activities in a way that was sustainable, i.e. a part of their daily lives. They are priorities as well as needs.

Often the needs pinpointed by these women once again revealed their intimate understanding of the impacts of environmental degradation on their lives. For example, one woman said,

I think I need rain. Without trees no rain. Without grasses no milk. Without terraces no good harvest and extra grass for our animals. So we need all these things plus education concerning the environment.

In practical terms, people named a number of things, besides rain, that they believed would help them protect their environment. From the outset, it should be noted that in this area, both men and women gave almost identical answers, suggesting some fertile common ground for policy making. However, it should also be noted that although the requirements might be shared, the aim was in fulfilling each individual's needs. Among the main practical needs men and women identified, some simply said they wanted more water and tanks in which to store it. Everyone said they required money. Women said they would use it to help provide their families with their basic needs, such as

food. A number of others said they would use the money to purchase fuel-efficient stoves, build biogas systems, or buy alternative fuel sources. Men did not say what they would use the money for. Several people said they needed more land on which to grow more crops to support themselves as well as modern machinery, such as tractors, to help them cultivate. Many also identified a need for more trees and basic equipment like wheel barrows to assist in tree-planting activities. They also said they needed additional contours to increase soil fertility and their agricultural yields. Also identified as a need was more livestock, especially good dairy cattle. Finally, I was told by some women's groups that they needed strength or health to do the work necessary to satisfy their daily responsibilities and protect the environment.

In addition to these practical needs, women made requests for things that could be seen as strategic, or more likely to lead to social transformation while, at the same time, protecting the environment. As pointed out earlier, many felt they needed education about farming practices, tree-planting, health issues, family planning and parenting. This is another example of what could be considered both a practical and strategic need for its potential to make people more aware of their circumstances, in context, provide some idea of the potential for change and also to supply practical skills. For example, some

women mentioned the idea of sewing classes. They said this kind of instruction would "simplify their lives" and help them save money by enabling them to tailor clothes themselves. To support the gains brought by education and to enforce good environmental practices, the need for laws such as zero grazing was also suggested.

Bringing gender to the forefront, women also believed that "mutual understanding" or cooperation between a husband and wife were essential prerequisites for a good environment. One group specifically named equal rights as another imperative.

With the exception of those who mentioned family planning programs, very few of the men spoken to suggested any kind of concern or requirement for social change. Rather, they placed their emphasis on what would be defined as practical needs. Another difference noted when talking to the men was their accentuation on external, especially government assistance. For example, some men stated that the government should distribute trees and employ more forest rangers to look after forests. A few women also mentioned external assistance, but were, in this case, much less specific. One of the men's groups also identified a need for more small industries and cooperatives (i.e. economic development) in order to preserve the environment.

It is these needs, practical and strategic, on which the next chapter builds. The ideology of participatory

research requires that these needs and priorities, identified at a grassroots level, must inform any form of intervention, in this case, environmental conservation programs. In turn, those needs must be understood in context, environmental, political, social -- gendered. This chapter has elaborated on some of those contexts by discussing local environmental problems and their causes, people's varied and frequently conflicting perceptions of their environments, of their role in conserving and abusing them, including their motivations, priorities, knowledges and needs. Woven throughout these communities are the politics of gender. These dynamics play an important role in shaping people's perceptions, in deciding who does what, who gets what resources and on what terms. In short, gender itself is an environment that influences is affected by other contexts.

The fifth and final chapter integrates these and other observations made throughout the first four to present some overall conclusions to respond to the research question and address the process of participatory research.

CONCLUSIONS

CHAPTER FIVE

STEPS FORWARD

I'm finding that I really need to fight the urge to give up, abandon these interviews, when, about 10-15 minutes into them I don't seem to be getting any "information" (my definition). Either I'm asking the wrong questions or there's a breakdown of communication. I wish I wasn't so worried about the end result. I get the most discouraged when I think about the coherence required for my M.A. research. I can't imagine stringing anything together out of these fragments of information, a few of insight. Do I know what I'm doing? Why am I finding this so difficult?

Entry from my journal, during the period when I began the fieldwork

Over the course of this research I covered a considerable distance physically, emotionally and intellectually. As the voyage progressed, so did my understanding. The evolution of my thinking is perhaps best revealed in the shaping of the research question. When I first set out to do the research I began by asking, *What is the role of the environment -- as a physical and political issue -- in furthering and politicizing women's concerns in a developing country context?* As explained in the chapter on methodology, not only was that question too broad and too vague, it was also not of compelling or even of immediate concern to the people with whom I wanted to explore these issues. In attempting to do participatory research, it was essential to orient an inquiry according to people's immediate needs and priorities, in other words,

their agendas. What this original question also revealed was a number of unexamined assumptions, which I had not realized. For example, the question implied that "the environment" was confined to natural surroundings and that the term meant the same thing for everyone, regardless of gender, race, class and geographic location. It appeared also to take "women's concerns" as a given. As discovered in the fieldwork, these assumptions did not correspond to their reality. How could I know people's definitions, their perception of the environment without actually asking them? Such an inquiry called for taking a step inside the world of the people who I worked with. The goal in changing the research question was to try to relate to and relay their comprehension of the issues. Hence the question, *How can women's needs, knowledge and concerns about the environment be translated into policy?* By shedding some of the more obvious assumptions, it comes one step closer to finding out about dynamics and issues at a grassroots level. This process was facilitated by relying on guidelines established by participatory research methodology.

However, this change in approach also added to the endeavour. There were actually two projects implicit in the question suggesting at least two steps or directions to be taken. First, it was necessary to find out who these women were and gain access to their knowledge, needs and

concerns about the environment. Then, and only then, could the second intention -- translating this information into some form of action -- be considered. This second, although no less essential, endeavour, originated from the inclination of participatory, action research. Action, in the literature and in my work, is associated with change. It is not simply change aimed at improving the lives of women, based on needs and priorities identified by them but more fundamentally, it calls also for a shift in much current thinking about development. Traditionally, the vision of development has been of "us" doing something to "them". What I am supporting is the idea of development as an organic activity that originates from within a society. The process of development should ultimately lead to people's empowerment, a goal that requires both physical resources and self-awareness. While it remains nebulous how precisely to accomplish this, as a start, I believe the process can be initiated by an open, honest discussion of the issues. As such, participatory research represents a good beginning.

In addition to the tasks suggested by the research question, probing exposes other assumptions. The goal of action and change is equated with the formulation of policy. By making this association, as a researcher, I limited the scope of possible results. While documenting women's views and getting them into policy is of great

value and represents progress, it does not by any means, guarantee any significant degree of change. The issue remains lodged at another level of translation, which may be en route to but is still distinct from action.

Most of my efforts ended up being devoted to the initial task(s) of unearthing women's views. Through the fieldwork I was at least able to begin being made aware of some of the knowledge possessed and needs expressed by a group of women in rural Tanzania. To a much lesser extent, I was able to look at how to use and ask others about using this awareness constructively, to bring about change. As discussed in the chapter on methodology, the ability to empower people through research, especially when the work is facilitated by an outsider, is operationally unclear and ethically questionable. In the literature on participatory research, the nature and implications of the changes called for, often by Western development practitioners, are usually left unexplored. My research was also limited by these weaknesses. Nevertheless, in doing the fieldwork and explaining how it was carried out, the research went some way to elaborate, methodologically, the difficult issue of how to discover and translate people's views. The question of "how to" needs however to be pursued further. An entire thesis could be devoted to a discussion of this sort. Perhaps that is a another step forward.

In the meantime, ethically, academically and personally, it is essential, after doing fieldwork of this nature, to try to make some sense out of and find the significance in the sea of information collected. This final chapter attempts to do this by summarizing the central observations made and the conclusions that emerged out of the experience of doing fieldwork in Tanzania. The hope is, that out of these "lessons learned" the perspectives, especially of outsiders, will be more enlightened and consequently policy will be more informed and research will be less extractive.

My work represents a compromise straddling some of the tensions in development thinking about participation and empowerment. The contention is between conventional thinking that tends to objectify people in the developing world and inserts the development worker into the process of development as an essential agent in bringing empowerment to a community. More recently in development thinking is the idea of participation as the increased involvement of people in their communities, in discussions, awareness-raising activities etc. to guide the process of empowerment themselves, in their own terms. Empowerment is characterized in terms of understanding and insight.

As my work reflected, I believe strongly in the latter, hands-off approach because ultimately it is more sustainable. However, I am less confident in asserting (a)

the extent to which people were empowered in the process of this research and (b) the willingness of development theorists and practitioners to accept a diminished role in the field. As a compromise and perhaps an acknowledgment of the difficulties in changing the way many of we Westerners think, this chapter forwards some suggestions for development workers for designing more informed interventions around women, gender and environment at a grassroots level. Taken into consideration are questions concerning how to translate people's knowledge, needs and concerns and what is required to activate change and transformation. A primary source of these observations and suggestions were the many experts I spoke with -- Tanzanian villagers, academics and practitioners -- working, in their own ways, on these issues. Some proposals and questions for future work will also be included.

CENTRAL OBSERVATIONS AND CONCLUSIONS

Participatory Research, Gender Analysis, Environmental Change

The results of this research come from a combination of participatory methodology and gender analysis focusing on environmental change. Participatory methodology works on the premise that when doing research, the most important views are those possessed by the people living the reality of the study/issue area. Participatory research starts by asking rather than assuming, *What is the situation?*, by

encouraging people to talk, personally and directly, about their lives. This research was specifically interested in women's knowledge, needs and concerns. By applying participatory research methodology, a good deal more information was made available.

Gender analysis attempts to go beneath a particular reality to ask, *Why is it like this?*, for example, why do people relate to each other in these ways, why do people behave in certain ways and hold particular beliefs? In asking this, gender analysis also has the potential to begin understanding the politics involved, the interests at stake and the potential implications of altering any of those dynamics. Asking *why* can represent one of the first steps toward empowerment. Looking back at the process and results of this exercise, it becomes apparent that gender analysis is absolutely essential to understanding environmental change. To start, gender roles greatly influence women's and men's perceptions of the environment, how they define it and in turn, those views shape people's behaviour and interactions.

Much of the work dealing with environmental problems and conservation in developing countries imposes a narrow conceptualization (when authors take the effort to define it) of the environment. Often it is restricted to natural surroundings, i.e. trees, water, soil and air. But, contrary to these definitions, the people who informed this

study held a much more comprehensive view of the environment to encompass all natural elements as well as non-natural components such as businesses, buildings and health services.

Generally speaking, as revealed in workshops, interviews, map-making and other participatory exercises, women, more so than men, tended to see as central, but not confined to the environment, their homes, and their immediate surroundings as well as their domestic responsibilities. In this way, women's views of the environment were directly related to their gender roles. Similarly, environmental conservation activities tended to be seen by the villagers as an extension and expansion of women's daily duties.

In the same way that it is inaccurate to impose external definitions of environment on rural populations, it is also a distortion to isolate conservation as an activity. Based on villagers' comments, the concept of conservation was in fact an artificial distinction or separation of everyday activities. At a grassroots level, in many cases, conservation was an intrinsic part of people's interaction with the environment, as witnessed in their basic yet sophisticated methods of farming. Consequently the term "conservation" itself may not have much meaning for these people. To use that as evidence of an absence of protective practices or knowledge would

therefore be a distortion. If we are going to communicate with people, it has to be in their language, in their terms, in their context. Seen this way, environmentally-destructive behaviour is not necessarily an indication of ignorance, again and especially when a wider context is taken into account.

An awareness of these broad yet highly specific perceptions of "environment" and "conservation" will have a major impact on the kind of interventions, i.e. environmental conservation programs, designed by donor agencies. A divergence in definitions between Western donors and rural populations and between rural women and men, may help explain why conservation programs may not have accomplished what was intended. People may have been talking about and considering different factors when planning and implementing conservation schemes. From the information gathered in the fieldwork, I suggest there is a need, in the context of outside involvement, to rethink and broaden definitions of environment in order to make programs relevant. Projects that fail to address what people consider to be their environment, let alone their extensive environmental knowledge and needs, will likely end in failure.

Acknowledging this requires a re-assessment of what has been assumed in much of the development literature to be a natural inclination on the part of women to preserve

the environment. In some ways, this view is understandable. The fieldwork found that many villagers themselves made a connection between women and environment. But by listening and looking more closely, the connections appear to be much less entrenched than otherwise assumed.

In fact, in the area where the fieldwork was conducted, environmental conservation activities, as defined by the West, were a relatively recent addition to women's workload. The women I spoke with said that they used to be men's responsibilities. The change appeared to reflect a larger trend and is based on a change in immediate circumstances. Many men are leaving the homestead and their responsibilities to find work or amusement elsewhere leaving women to shoulder duties including environmental conservation.

As well, in much of the literature is the growing trend to interpret the linkages between women, gender and the environment as both natural and strategic (Davidson: 1991). However, some authors consider this orientation controversial because it tends toward biological determinism and portrays women as static. The findings in the fieldwork I participated in also indicate a need to question the so-called strategic alliance.

The conceptual framework for this research makes use of the classification of needs into practical and strategic -- the former referring to meeting daily needs, the latter

being associated with fundamental, structural change.

I found these categories useful in re-assessing the association of women with the environment. For example, in the villages, many of the women themselves indicated that certain strategic and practical needs and interests were necessary in order for them to participate in environmental conservation. On the strategic side, some women actually mentioned their ability to exercise power through environmental conservation measures such as cleanliness, putting flowers around their homes and preparing nice meals. By this, they were referring to an increased ability to gain concessions from men. These concessions however, were envisioned within the existing power relations. It was change, but not the transformation implied by some authors. That would however suggest some link between women's capacity to care for the environment and their level of independence. But some authors make the strategy of associating women with the environment into a direct correlation, i.e. because women care for the environment, they can improve their position in society. Turning that statement around to ask the reverse, exposes some of the more obvious flaws. Is conservation required in order for women to make strategic and practical gains? Most of the women I spoke to told me about the inequities between themselves and their husbands, as well as men in general. But still they were participating in tree-

planting and other conservation activities. Sometimes they got involved not because they wanted to but because their husbands ordered them to. Looked at this way, it would appear paradoxical to suggest that a strategic gain can be built on a relationship that is itself based on oppressive gender relations. Some of the women in the villages felt that men were "taking advantage of tradition" in making women responsible for environmental conservation. Others revealed in their motivations that, by participating, they were trying to meet many of their daily, practical needs, as well as raise their incomes which could be seen as both practical and strategic. Still others cited the strategic goal of women's liberation as a reason for joining a tree-planting group. Perhaps another way of re-assessing the idea of a strategic linkage is to ask, do environmental issues and changes contribute toward social change or is it social change that leads to favorable action on the environment? Or is it an element of both?

Is the idea of a strategic linkage between women and the environment something that we, as outsiders, impose or does it also correspond to rural circumstances, as experienced by people living that reality? My own assessment, based on the fieldwork, would suggest that there are several, complex linkages between women and gender and the environment. But linkages aren't necessarily strategic nor are they correlations. They are

qualified. Just as it should not be assumed that action and empowerment follow from participatory methodology, it should not be presumed that environmental conservation is necessarily associated with emancipatory gender change.

That women and environment are closely related is a reality in much of rural Tanzania. A number of practical measures can be taken to make the interaction mutually beneficial. On a more fundamental level however, as a social, i.e. gendered relationship, what is isn't necessarily what should be. As illustrated in the change in men's behaviour, gender roles can be modified. More attention should be paid to the source and implications of these changes. Efforts that focus on a women/environment connection and which take it as a given, risk re-enforcing the inequities on which they were built. For example, without other changes, conservation programs are likely to merely add to women's workload. How strategic is that? If a goal of development is to improve women's lives, in part by freeing them, for example, to pursue economic-generating activities or further their education, increasing their daily responsibilities which already consume most of their time and for which, in many cases, they are not remunerated or rewarded, likely limits rather than expands their opportunities.

In addition to assigning women the task of environmental conservation, the gendered division of labour

also commits women to undertake the majority of on-farm labour and off-farm domestic chores. These responsibilities are rarely matched with the resources necessary to adequately fulfill them. This incongruity is reflected in the struggles and actions that women resort to in order to meet their daily needs, for example, extensive tree-cutting in areas close to home, cooking over an open, smokey fire. Contrary to some popular notions, women in rural areas are neither irrational -- defined by Western economists -- nor ignorant. Rather, they base their decisions on an assessment of what they need and what they have to do to get it. As mentioned in the findings, chapter four, more women are turning to beer brewing. Some people are highly critical of the activity because it contributes to environmental destruction. However, in its aim to supplement women's income, to support basic needs, is it not also a survival strategy? It is the dynamics depriving women of income and other resources which are irrational. Explaining environmental degradation in general, and women's behaviour in particular, on the basis of poverty is in part accurate, but it is also superficial. A major, yet underlying source of that poverty is gender discrimination.

While much of what people do can be understood in terms of gender-based responsibilities, so also is what they know. Because of women's workload and the fact they

are usually assigned conservation activities, they tend to know a great deal about their environments, the results and implications of degradation as well as methods of preservation. However, this knowledge cannot necessarily be easily accessed by outsiders and is therefore often ignored. As well, despite the wealth of information they possess, this knowledge is often de-valued by others in the community and, as a result, by the women themselves. Labelling women ignorant can be seen as another strategy by which to prevent them from having their voices raised or heard.

At the very least, this knowledge must be a starting point for development practitioners in designing any kind of environmental conservation project. To ignore it is to risk being irrelevant and patronizing, and, as a result precluding participation of local people. A closer look at knowledge may be helpful in revealing epistemologies that are both socially and ecologically based. Some scrutiny in these areas may also reveal people's strategies for dealing with environmental degradation and its impacts.

At a grassroots level women design and depend on strategies to deal with both gender discrimination and environmental degradation. Often their strategies are based on gender identities, for example, the formation of women's groups. As seen in the fieldwork, projects established ostensibly to preserve the environment through

tree-planting have evolved to serve many other purposes. Women who joined these groups said they did so to share ideas, acquire skills and, for some, to gain a sense of solidarity to help them deal with their problems, many of them related to gender discrimination. As expressions of need articulated and sensitive to specific sites, these groups are likely to be more sustainable than outside interventions. Consequently, their importance cannot be over-emphasized.

As pointed out in the conceptual framework for this paper, the confluence of gender and environment represents a particular set of power relations and is the site of a number of power struggles. These were witnessed in the hostility of some village men to their wives joining women's groups. They feared these groups would change their wives, giving them more income and ideas and consequently, more power. Another site of struggle over control was seen in the tension surrounding access to and use of contraception which women themselves linked to their capacity to care for the environment.

Gender informs women's struggles and strategies in other ways as well. For example, some women consciously use their gender identities to improve their daily lives and gain concessions from men. In what may be considered a strategy of accommodation, some women in the villages "speak softly" and cook good meals in order to attract

their husbands back to the homestead and away from local bars. In these scenarios women were motivated by a number of factors including pride and the desire for security and social status.

Other strategies, as a reaction against gender discrimination, may take the form of resistances. There are a number of stories in the area where I worked about women refusing to plant or deliberately destroying seedlings from government nurseries. They were objecting to being excluded from extension services as well as the fact that they would not receive the fruits of their labour, i.e. firewood from the trees.

Women's relationships to land and other resources is mediated to a great extent by their gender roles. Women get access to land through men either as husbands, fathers, brothers or other male relatives. According to tradition in much of Tanzania, women cannot inherit or own land. Land, like women, is "owned" by men, despite women's contribution of labour, time and cash income to the family and farm. As the example of women's resistance above illustrates, there is a direct link between ownership and willingness to invest in conservation measures. That of course excludes mandatory conservation measures, enforced by husbands, also mentioned above. Because outright ownership of land for women is seldom an option, it is probably more meaningful, if not more realistic in the

short term to pay greater attention to the concept and terms of women's access to resources, determined largely by usufruct rights they exercise. Women continue to cultivate crops and plant trees in return for qualified access to this produce. Often, in the past, women's work on the land ensured them both access and certain other rights. While still inequitable, many women managed to work, with difficulty, within these constraints to secure sustenance. But, women's "tenure" is becoming more and more tenuous as the terms of access change, in response to recent changes in both internal and external contexts as well as the erosion of many customary rights through selective interpretation of what these rights entailed. The increasing commercialization of resources combined with population and other pressures has increased competition and intensity of resource use. These dynamics establish the grounds for an escalation in conflicts between men and women. Even when rural men and women have similar needs, the perception among themselves, due to the influence of gender and tradition, is that they are somehow mutually exclusive.

Not surprisingly, women reported more arguments with their husbands over decisions concerning what kind of crops to plant, the timing and method of cultivation as well as over what to do with the surplus. Acrimony surrounding resources is also a reflection of the fact that women's and

men's needs, priorities, knowledge and use of resources are often disparate. Again, these differences are, to a great extent, a result of gender roles. For example while both men and women need trees, women tend to rely on them for firewood and other domestic uses, whereas men use them for timber and commercial purposes.

In addition to exposing differences between men and women, gender analysis also points out important distinctions among people. As noted in the first chapter, in reviewing the relevant literature and deciding on a conceptual framework, much of what has been written about women, the environment and women and the environment is based on unexamined stereotypes, such as, women in developing countries are: homogeneous; ignorant; invisible; and victims. This research reiterated the need to continue to adjust these notions.

Gender analysis works by deconstructing, by trying to determine the factors that shape people's identities. While such analysis focuses on the socialization of men and women into particular roles, this kind of inquiry is also valuable because it can expose other elements of identity, such as class, education and physical location. The various combinations of those factors leads to and reinforces people having different priorities and perceptions. For example, a woman whose husband works year-round in town finds herself in a very different

situation compared to a woman who is divorced, even though they are both essentially single-headed households. Understanding those variations is vital if interventions are to be valid, responsive and relevant.

The ability of gender analysis to dismantle individual identities can also be focused on other constructions, for example, the family. In research on developing countries, the tendency has been to see the rural family as a unit. In reality it is made up individuals who, although living under the same roof, rely on separate resource streams. This represents another source of competition and conflict, which has in fact materialized. In some families, men have begun expropriating women's traditional sources of revenue, (for example, milk money). Recognition of these developments means more attention has to be paid to what each member does to meet his/her needs and fulfill his/her responsibilities. What also must be understood is that resources given to a family in the form of outside intervention may not be distributed to members equally or at all.

What is practical may not be strategic

Without understanding the underlying dynamics, the best intentions will not be realized. While designing a program that channels resources to a family may seem practical, unaccompanied by an awareness of how those resources are distributed, such schemes are not strategic.

Corresponding to the idea that there are practical and strategic needs, proposals for change can also be broadly categorized as practical and strategic. As pointed out in the discussion in chapter four, the labels "practical" and "strategic" will mean different things to different people -- what one person may consider a practical need, may to a village woman, be viewed as a strategic and vital gain. The point is that one type of change does not preclude the other. That is, they are not mutually exclusive. But, at the same time, while working on practical considerations may lay a foundation on which to build fundamental change, movement at one level doesn't necessarily facilitate transformation at another. Meeting both types of needs is crucial. Also critical is to understand where an activity fits into a community and to what end that work is devoted. Efforts portrayed as strategic but which actually address and possibly perpetuate the larger status quo should be seen for what they are.

What was found in the fieldwork, in applying gender analysis to examine environmental change is that, ultimately, strategic change is required to make relations between men and women and their environment more equitable and sustainable. Just as gender relations are based on deeply, socially entrenched ideas, (manifested in everyday locations) their transformation calls for engagement at a level that can permeate such rooted conceptions.

Confirming the spirit and possibly the intent of this, the Tanzanian government's report to the United Nations Conference on Environment and Development (UNCED), stated that women must have economic, social and political powers if their participation in conservation is to be meaningful. Accordingly, "whenever possible, projects should link environmental improvements to women's independence, status, and negotiating power in getting credit, marketing advice and other supports," (United Republic of Tanzania, 1991: 5.8).

BUILDING ON COMMUNITY RESOURCES

An aim, throughout this chapter and the thesis as a whole, has been to bridge the gap between theory and practice, to reach a point of praxis. Accordingly, efforts have been made to shape and use the information provided by the communities where the fieldwork was conducted for practical applications, for example, to inform policy-making.

Finally, this next section attempts to move some of these ideas forward, reduce the role of Western interventions, and allow the views of those closer to and within grassroots communities. Those communities include members of local and foreign NGOs active in the area as well as the villagers themselves.

What follows first is a list of ideas and strategies, as outlined in interviews with NGOs. They represent their

response to the question, how can women's knowledge, needs and concerns be translated into action, seen most often in terms of policy. Some of these ideas or proposals may appear contradictory. For example, there is some division among respondents concerning whether to tackle the issues with a "women-only" approach or to integrate both men and women. Rather than cancelling each other out, these approaches should be seen to reflect the range of views present and noted for the tension that accompanies research of this kind. Some of the suggested strategies and priorities include:

- ◊ exploring questions surrounding the use and ownership of land by women, including investigating the impact of customary laws on women. Some suggested returning to the way customary edicts were originally interpreted because under those systems, women's rights were more entrenched (Olekambaine);
- ◊ changing the structure of government administration to allow more action and participation at the local level (Olekambaine);
- ◊ asking people how they perceive a situation, problems solutions. Encourage ownership of issues. Understand knowledge as empowerment (Ghamunga, Abebe);
- ◊ encouraging the development of environmental programs because while they will increase women's workload, this will only be true for the short-term -- analogy of a harvest, sowing now to reap the benefits later (Olekambaine);

- ◊ examining discrepancies in education by examining external factors such as pregnancy, that make education accessible (Warioba);
- ◊ focusing research on the household and its internal gender relations, to learn more about who owns and controls resources (Warioba, Mollel);
- ◊ identifying practical and strategic needs (Warioba);
- ◊ increasing women-only training programs to build confidence among women (Warioba);
- ◊ targeting men in power to raise their awareness of the issues and forming pressure groups (Warioba, Binagi);
- ◊ requiring planners to ask the questions: who is going to grow the trees; who is going to be responsible for taking care of them; who is going to have access and ownership and where does an activity fit in women's schedules? (Warioba);
- ◊ creating a balance in project implementation. If tree planting takes time, reduce women's workload elsewhere, for example, by situating water taps closer to home. The idea is to create alternative not additional work (Warioba, Lema);
- ◊ determining how projects/activities are addressing the need to increase the number of women decision-makers and pressure politicians to this end (Warioba);
- ◊ understanding that the success of tree-planting depends on women's security of land tenure (Macha);
- ◊ encouraging the collection and better use of concrete, empirical data to "make the problems seem real" and to educate people about the long-term benefits of involving women equitably in environmental conservation projects (Mziray, Binagi);

- ◇ holding seminars in villages about the environment, i.e. best uses of, conservation (Akyoo, Mollel);
- ◇ changing cultural norms by educating people about their roles within the family (Akyoo);
- ◇ implementing policies at a village level in such a way that they do not sound like they're advocating conflict or a "gender war". In other words, show men that women are on their side (Akyoo, Kivuyo);
- ◇ holding group discussions at a grassroots level and make information accessible. Utilize church and village meetings and include villagers in policy making at the ward and district levels (Akyoo);
- ◇ avoiding formal questionnaires because women tend to view them with suspicion. Instead use participatory models including participant observation (Sambali);
- ◇ presenting findings from villages at regular scientific seminars (Sambali);
- ◇ concentration on targeting women because if you attempt to involve men in something they see as women's problems they won't participate. Establishing legitimacy in their eyes will take time. In the meantime, focus on women (Sambali);
- ◇ differentiating among women (Mukurasi);
- ◇ initiating gender analysis training among NGOs and at a village level (Mukrasi);
- ◇ departing from the segregation inherent in WID-type programs by approaching development from a gender perspective (Abebe);
- ◇ assembling a glossary of terminologies of gender issues to make the vocabulary accessible (Mukurasi);

- ◇ increasing women's attendance at international seminars (Mukurasi);
- ◇ discussing issues with village leaders and urge them to make women's attendance at village meetings compulsory (Mollel);
- ◇ making training programs 50:50 (women:men). It's important to involve men because otherwise women may not be given permission to participate from men, e.g. husbands, fathers. Women-only activities can make some men suspicious or resentful (Mollel, Mghase);
- ◇ discussing problems and projects in such a way that people decide their own roles (Mollel);
- ◇ teaching women in groups how to: write project proposals; operate bank accounts, apply for credit, repair machines, sensitize people about women's land rights. The overall aim in cultivating these skills is to prevent men from expropriating women's projects (Mgaya, Ngalo);
- ◇ meeting basic needs as a first step toward translating knowledge, needs and understanding people's roles etc. (Misana, Runaniria, Ghamunga);
- ◇ making men understand what women's roles are rather than simply organizing women (Abebe);
- ◇ making different media, for example, radio, more accessible to women in villages (Misana);
- ◇ asking those who represent women at international and local conferences to report back to and educate people at home. There is a sense that "those who attend international meetings keep the files in their cupboards." (WODSTA workshop);

- ◇ treating village women's groups as individual entities as much as possible. The administrative convenience of running projects with an umbrella-type structure may come at a the cost of poor communication, isolating particular groups and imposing inappropriate or unwanted projects (Kikundi cha Matumaini);
- ◇ reducing the role of intermediaries, decrease "the number of hands" between donors and women's groups. Instead, transfer skills, e.g. of seeking donors, managing projects to the groups themselves (Kikundi cha Matumaini);
- ◇ acquainting people with the political system to allow them to put more pressure on local government officials (Laizer, Megiro);
- ◇ formalizing traditional knowledge to make understandable to policy-makers (Runaniria);
- ◇ involving women in "intermediate" (i.e. income generating) activities to maintain group solidarity and ensure sustainability (Runaniria);
- ◇ encouraging people to do as much as possible without government assistance (Laizer, Megiro);
- ◇ identifying resources at the village level (Warioba);

To respond to some of these suggestions, villagers were asked to identify what they considered to be resources in their communities. As a number of people indicated, the most appropriate interventions will build on these local views. Contrary to some popular perceptions of rural people paralyzed by poverty, the villagers believed they could undertake initiatives without external assistance and

forwarded a number of ideas. Many of them may sound obvious. But, how many are actually considered when designing interventions. On a very practical level, in the current context of resource scarcity in the villages, programs that build on already-available resources, are more likely to be implemented.

The women and women's groups interviewed identified a number of elements (Figure 5.1) as the main "resources" in their village. Interestingly, some of what they pinpointed as resources were also things that were not in the villages but which they wanted or felt they needed to begin addressing their problems.

When asked about communicating these ideas and getting them into policy, many people placed a strong emphasis on village government. Despite a poor record in the past of including women or of enforcing environmental by-laws, people still saw local government as the main, and possibly only body through which they could communicate their views and let their needs and problems be known. Village government was also considered to have the power to change and improve the immediate environment through policies governing environmental protection and degradation, through educating villagers and by creating income-earning projects. Women's groups said they felt it was important to establish good communication with village government with the intention that local officials could assist them

Figure 5.1 Community Resources & Solutions

Resources	Proposals / Comments
★ people	The basis of any project has to be local people, their views, labour, time and commitment.
★ health	People's health, determined by access to nutritious food and medical facilities is vital to their ability to farm, raise their families and preserve the environment.
★ women's groups	A vital mechanism for: exchanging views with other women; education; acquiring loans; attracting men to work with them.
★ land / farms ★ modern farming ★ modern farming techniques	Land is the basis is a good environment. A good farm can provide for basic needs. Profit from surplus can be used to buy charcoal or kerosene to reduce use of fire-wood. Use of manure and fertilizers can increase yield. Knowledge, e.g. building contours, can be used both to increase production and preserve the environment. Land is also seen as essential collateral for loans.
★ livestock	Sometimes referred to as "walking bank accounts", livestock are seen as both ensuring future food and financial security and as another form of collateral.
★ village government ★ leadership	Local governments have some financial resources on hand and can support people in attempting to secure loans. Village administrations can also lobby for support from other levels of government.
★ by-laws	Enacted by village government to control deforestation, establish guidelines for cutting and planting and provide mechanisms for re-enforcement

Figure 5.1 (continued)

Resources	Proposals / Comments
<ul style="list-style-type: none"> * extension services * communication 	<p>There are some linkages already and some government development workers live in the villages. Most villagers however wanted more contact, especially in the form of education about farming techniques, environmental conservation improved technologies</p>
<ul style="list-style-type: none"> * small business * loans 	<p>The ability to generate an income is viewed as vital to the ability to survive and meet short-term needs as well as as a resource for protecting the environment. Villagers felt that, given the opportunity, e.g. through loans, they would be able to initiate small business activities to sustain themselves.</p>

in their endeavours. Women said they understood that in order to secure help, they first had to prove to people, i.e. officials, that they could start something on their own. As a more obvious point of intervention then, I think that anything that can strengthen the lines of communication between local populations and village administrations would be helpful. In terms of the work I did, this could mean making village meetings more accessible to women. However, efforts to support grassroots projects independently, are also integral. Village governments are often well informed about what is going on in their jurisdiction. Nevertheless, many of the village officials were not aware of the work of the women's groups with which I became involved.

In Sum

I think that one of the reasons why the "solutions" or ideas suggested at a grassroots level are frequently ignored are because they make so-called development experts uncomfortable. The ideas presented villagers are problematic, not least because outsiders can seldom claim expertise, let alone understanding of local dynamics and institutions.

Earlier in the chapter, in locating my research, I stated that it straddled what I would consider traditional thinking about development, from a Western perspective, and more innovative ideas, i.e. that development must come from people in the developing world themselves. This notion denies the possibility of a linear series of steps to be followed to acquire development. Rather, development is defined in terms of people's empowerment -- the ability to think and act for themselves, to initiate change that is most appropriate, from them, based on their knowledge, needs and concerns.

My research addressed conventional development concerns by suggesting some guidelines for future interventions by development agencies. In articulating people's knowledge, needs and concerns about the environment, details about their everyday lives and priorities, hopefully these interventions can be better informed and consequently more appropriate.

In addition, I hope my work also shone some light on how development can be empowering by going first to the grassroots. When I asked some villagers what they thought of my questions they said no one had really asked them their views before. It was through my discussions with villagers that their suggestions of community resources and solutions came forward. Some of the participants said they did not realize they had any resources because they had always been encouraged to look outside for assistance.

I asked the women I worked with to explain to me why their husbands ordered them around, why they did most of the work and how was it that they did not own or have equitable access to land or education. While many of them chuckled at my ignorance, they also began to openly admit that the status quo was not fair. From that admission there is still a considerable jump to the conviction that they had the power to change things. However, by taking the time to listen to and express interest in their views and treat them as experts, perhaps I helped build confidence in themselves that they and others conceded was missing and was a factor in their inability to effect change.

I also spoke with village leaders. In asking them, for example, about women's lack of participation in decision-making and local government, perhaps the fact that someone was interested sufficiently in these issues would

make them more accountable. Through discussions with members of the Tanzanian NGO that was trying to establish tree-planting projects in that area, I was able to give them information about the villagers and what they wanted. This was data the NGO did not have the resources to gather itself.

It is difficult to measure most of what I did in quantitative terms. Qualitatively, did my work make a difference? In my own outlook on these issues, yes. As for the people in Tanzania who touched my life, did I affect theirs? Maybe. But, without following up firsthand, I cannot be certain.

There is a Swahili proverb that says, *kamba hukatika pabovu*, or a rope is broken at its weakest link. In the context of development studies, I think the weakest link is the lack of awareness of local realities and the resistance to using that information to make development empowering. I hope that my work, which is really the work of all who participated, can be one strand toward understanding.

APPENDICES

Appendix I

WORKSHOP GUIDELINES

- I. Introduction and explanation of purpose of visit
- II. Participatory Exercises (throughout workshop):
Map making; Tree ranking; Daily Schedules
- III. Discussion Questions

Discussion Questions

- ◇ What do you think of when I say the word "environment"?
- ◇ What does the term environmental conservation mean to you?
- ◇ Who do you feel is responsible for environmental conservation in your village?
- ◇ Do you think that women have a special role in conserving the environment? Why or why not? If yes, how?
- ◇ Does environmental conservation increase the work you do every day? Is there a way of fitting it into your regular schedule? Some suggestions?
- ◇ What are the main environmental problems that you face in your village? (Discuss also, changes in environment over the last 10 - 20 years).
- ◇ What do you think the causes of those problems are?
- ◇ Women in developing countries are sometimes accused of destroying the environment. Do you think that is a fair criticism? If it's not true, why are people saying such things?
- ◇ Do you believe that women know a lot about the environment and how to protect it? What kinds of things do you know? Where do you feel you need education?
- ◇ Is there anything that prevents you from protecting the environment or makes you destroy it? (e.g. cultural traditions regarding trees, water, land)

- ◇ What role do men play in environmental conservation?
- ◇ Are men destructive to the environment? If so, in what way?
- ◇ If there is a problem with the environment in the village who can you go to for assistance? Do you feel that people in your village, for example, local government, listen to you? Examples? If not, why not?
- ◇ If I was a person who was able to make policy, what would you tell me you needed to improve the environment in your village? (wish list)
- ◇ What would you consider resources in your community?
- ◇ What can you do, without assistance, to improve the environment?

Appendix II

GUIDELINES FOR INDIVIDUAL INTERVIEWS

WOMEN INVOLVED IN TREE-PLANTING PROJECT

Questions

- ◇ How and why did you decide to join this group?
- ◇ As a rural woman in Tanzania, I often hear how much work you have to do every day. Why and how do you have time to participate in these activities when many other women do not join in?
- ◇ How much time do you give to the project every week?
- ◇ What kinds of activities are you involved in?
- ◇ Did your husband play any role in your decision to become involved? How does he feel about the group? Is he supportive? How have other men in the village reacted?
- ◇ What is the role of Mr. Njaa in this group?
- ◇ If Mr. Njaa was not involved, do you think you would have started the group and its activities yourselves? If not, why not?
- ◇ Who do you think is responsible for taking care of the environment and why?
- ◇ How are they responsible?
- ◇ Women are sometimes accused of destroying the environment. Do you think this is a fair criticism? Explain.
- ◇ Do men do things that harm the environment?
- ◇ If so, why and how?
- ◇ Do you and the women of your village know a lot about taking care of the environment? Examples.
- ◇ Are women ever prevented from protecting the environment? If so, what obstacles do you face?

- ◇ What do you think you need to protect and improve the environment?
- ◇ Do you feel that men and women have different views of the environment? Different needs? Different kinds of knowledge? Explain.
- ◇ Has there ever been a time when you and your husband disagreed about how to use the environment (for example, about the use of land, what to plant?) If so, what was the disagreement about? Why do you think you disagreed? What was the outcome?
- ◇ Based on your knowledge and experience with environmental conservation projects in your community, do you feel that donors involved you, asked you what you thought or what you needed to protect the environment?
- ◇ What suggestions do you have for getting your views about the environment put into policy (various levels).
- ◇ What would you identify as resources in your community right now? (human, physical, institutional)
- ◇ Without assistance from donors (external sources), what could you, either personally or as a community do to address the problems of environmental degradation?
- ◇ Why are you planting trees? How will this activity benefit you now and in the future?
- ◇ How important is it that you may earn some income from these trees, for example, by selling the seedlings? Is the economic part more or less important than the fact that you are also conserving the environment?
- ◇ Will you have access to the trees when they are ready for harvesting? What kind of access (complete, partial, necessary to ask permission?)
- ◇ If you will not have access or if that access will be severely limited, why are you planting trees? (motivations)
- ◇ How do you feel about having no or limited access to the trees you plant?
- ◇ What and where is the source of your fuelwood?
- ◇ How much fuelwood do you gather per week? How many hours does one trip take?

- ◊ Do you have any concerns about the source of fuelwood running out? Where will you go if this happens? What can you do to make sure the supply does not run out?
- ◊ Where do you get your water? Are you worried about its supply and/or quality? How many trips do you need to take everyday to collect water? How long does it take? How far do you have to walk? How do you carry it?

Appendix III

GUIDELINES FOR PERSONAL PROFILE

- ◇ Name of village (ward, division, district)
- ◇ Female / Male
- ◇ Age
- ◇ Level of Education
- ◇ Household composition (including age of children)
- ◇ Marital status
- ◇ Size of farm
- ◇ Work other than farming (Alternative sources of income)
- ◇ Estimate of annual income
- ◇ Membership in village organizations, environmental projects etc. (Reasons for joining, or not joining)
- ◇ What environmental projects are going on in your village?

Appendix IV

NAMES, DATES AND DETAILS

WORKSHOP PARTICIPANTS

The locations, dates and groups participating in the workshops are as follows;

1. Nronga village, Machame District, Kilimanjaro Region

Name of group: Nronga Women's Dairy Cooperative
Formed: 1988

Date of workshop: March 31, 1994

A village women's group established to form a milk cooperative. The aim of the group is to increase members' income, improve the health of children and promote development in the village in general.

2. Maji ya Chai Village, Maji ya Chai Ward, Arumeru District, Arusha Region
Formed: 1993

Date of workshop: April 14, 1994

Women's group, participating in WODSTA tree-planting project. Other activities include making and selling handicrafts, i.e. crocheting, knitting, basket-making.

3. NAIC (National Artificial Insemination Centre), Nkoaranga Ward, Arumeru District, Arusha Region

Group name: "Kikundi cha Jitegemee" or "Project of self-reliance"
Formed: 1992

Date of workshop: April 19, 26, 1994

This women's group had also received tree-seedlings from WODSTA. They had a vegetable garden, the produce to be consumed by members and sold at market. The emphasis of their activities appeared to be on income generation. At one point they had a fish pond and were selling grass for fodder to other people in the community.

This is the only group in which the majority of women worked in town at government or other office jobs. Many had finished high school and some had university degrees. They were a fascinating mix of urban and

rural, with jobs in Arusha and homes in the countryside. I think it is accurate to say that the members of this group represented a different class of women compared to those found in the villages. For these reasons, I thought the group would be a point of comparison, a chance to discuss some of the differences in position and outlook as well as issues that unified women across class lines.

4. Kikatiti Village, Kikatiti Ward, Arumeru District, Arusha Region

Group name: Kikatiti Women's Development Group
Formed: 1993

Date of workshop: April 24, 1994

One of my key informant's, Gladness, was the leader of this group. She also was chosen by WODSTA to act as a representative for the other groups that received seedlings. Besides the tree-nursery and tree planting the group was active in raising money and marketing fuel efficient stoves. Members, some of whom are farmers, others make their living selling produce or milk at the market, were also constructing a fish pond.

5. Imbaseny Village, Maji ya Chai Ward, Arumeru District, Arusha Region

Group Name: "Upendo Pentecostal", "Pentecostal Love/charity"
Formed: 1993

Date of workshop: April 27, 1994

This is a church-based group. It was initiated by Mr. Njaa. Members were all farmers. Motivations included helping the village and its children, to increase overall development. They have a tree nursery. They received seedlings both from WODSTA and another Tanzanian NGO. Future plans include planting trees and also selling seedlings.

6. Kikatiti Village, Kikatiti Ward, Arumeru District, Arusha Region

Date of workshop: May 4, 1994

This was a meeting of village men. Some of them were husbands of members of the women's group, others had been invited with the help of the leader of the village government. Those present were farmers or businessmen.

7. Maji ya Chai Village, Maji ya Chai Ward, Arumeru District, Arusha Region

Date of workshop: May 9, 1994

Again, with the assistance of members of the village government who put the word out that there was a meeting, a workshop of men from this village was convened. Over the course of the meeting approximately forty men -- farmers and businessmen among them -- attended.

8. Maji ya Chai Village, Maji ya Chai Ward, Arumeru District, Arusha Region

Group Name: "Kikundi cha Ukombozi," "Salvation, Liberation Project"

Formed: 1991

Date of workshop: May 9. 1994

Activities of this group include sewing, knitting, basket-weaving for sale at local markets. They also assemble for group cooking lessons, instruction on general hygiene and mending school uniforms. As with a number of the women's groups, they started out of a desire to develop their communities, with a focus on families and children. This group was not part of the WODSTA project. I was introduced to them by a community development worker. The group's leader is a school teacher.

9. Tengeru Village, Duluti Ward, Arumeru District, Arusha Region

Group Name: "Kimamapa Mavinuni" English translation?
Formed: 1993

Date of workshop: May 12, 1994

This women's group cultivates fish, raises indigenous poultry, plants trees and sews. They joined the group as a way of linking up with other women and improving communication.

10. Maji ya Chai Village, Maji ya Chai Ward, Arumeru District, Arusha Region

Group Name: "Kikundi cha Matumaini", "Project of hope"
Formed: 1993

The project began as out of one woman's home. Mr. Njaa suggested that she invite other women to expand the work. Current activities include a tree nursery (with the assistance of WODSTA), a fish pond (the original, backyard project), and sewing classes. The group's leader is an elementary school teacher. Her views were especially interesting as she is an outsider, from another tribe. She was more open about relations between women and men in the community, a topic that may have been considered off limits to the other women.

11. Urisho Village, Arumeru District, Arusha Region

Formed: 1991

This women's group was another recipient of WODSTA funds and seedlings. The village was located on the slopes of Mt. Meru, several kilometres from the main road, and was inaccessible by car during the rainy season. Its location offered a contrast from the other villages which were much closer to the road and markets, in the lowlands. The group had a small vegetable garden and fish pond and also conducted sewing classes.

12. Maji ya Chai Village, Maji ya Chai Ward, Arumeru District, Arusha Region

Date of workshop: May 21, 1994

The men who attended this meeting were mainly husbands of the women I spoke to in meeting #2 (see above). They were assembled by the leader of that group and her husband. What stands out about this group is that it was one of the few times I was able to speak to elders in the village. The views of these mzees were not what I expected. They were more frank, open and appeared to have more empathy with the women than many of the younger men.

Appendix V

TREE SPECIES

**Villagers call
them:**

Carvelea
Mkuyu
Mjorhoru
Mringaringa
Mruka
Mororon
Sasbania
Mwarobaini

**Scientists and others
others call them:**

Grevillea robusta
Ficus valis chodea
Senna siamea
Cordia abyssinica
Albizia schimerana
?
Sesbania
Azadirachta indica(Neem)

**Other species commonly named
(not included in charts)**

Loliondo
Cyprass
Msesewe
Mfufuru
Mgunga
Ilandee (Miandeege)
Nkamakaa
Mchungwa
Parachichi

Olea capensis
Cupressus lusitanica
Rauvolfia inebris
Croton microstachys
Acacia spp
Bosquicia phobercs
Terminalia sp (combrufum)
Orange
Avocado

BIBLIOGRAPHY

- "Africa Aid pledges fall short, says bank." Daily News. 22 Oct. 1993: 1.
- Agarwal, Bina. "Rural Women, Poverty and Natural Resources: Sustenance, Sustainability and Struggle for Change." Economic and Political Weekly. 28 Oct. 1989: 46-65.
- Angen, M. "Gender Issues in Arumeru District: A Survey Report." Dar es Salaam: CIDA, 1991.
- Bali, Theodora A.L. "Women in Irrigation Agriculture: A Case Study of Batemi of Ngorngoro District, in Arusha Region." Diss. University of Dar es Salaam, 1990.
- Biehl, Janet. Finding Our Way: Rethinking Ecofeminist Politics. Montreal: Black Rose Books, 1991.
- Biermann, Werner. "The Problems of Industrialization in Tanzania." Journal of African Studies. 3 (1987): 127-140.
- Biermann, Werner and Jumanne H. Wagao. "The IMF and Economic Policy in Tanzania: 1980-84." Journal of African Studies. 3 (1987): 118-125.
- Boesen, Jannik et al. Tanzania. Crisis and Struggle for Survival. Uppsala: Scandinavian Institute of African Studies, 1986.
- Bujra, Janet. "Taxing Development in Tanzania: Why Must Women Pay?" Review of African Political Economy. 47 (1990): 44-63.
- Bujra, Janet M. "Urging Women to Redouble Their Efforts: Class, Gender and Capitalist Transformation in Africa." Women and Class in Africa. Eds. Claire Robertson and Iris Berger. New York: Africana Publishing Company, 1986.
- Cassam, Annar. "The Invisible Woman." Alternative Development Strategies for Africa: Environment, Women. 2 Ed. Mohamed Suliman. London: Institute for African Alternatives, 1991.
- CCIC, MATCH International, AQOCI. Two Halves Make a Whole: Balancing Gender Relations in Development. Ottawa: CCIC (Canadian Council on International Cooperation), 1991.

- Chambers, Robert. Rapid (or Relaxed) and Participatory Rural Appraisal: Notes on Practical Approaches and Methods. Notes for participants in a workshop. March, 1991. New Delhi: INTACH.
- Chambers, Robert. Rural Development: Putting the Last First. UK: Longman Scientific & Technical, 1983.
- Chanock, Martin. "Paradigms, Policies and Property: A Review of the Customary Law of Land Tenure." Law in Colonial Africa. Eds. K. Mann and R. Roberts. London: Heineman, 1991.
- Chitikitira, David. "Combating deforestation in Tanzania." Family Mirror. 2nd Issue. October 1993: 11.
- CIDA. Toward a WID Strategy in Tanzania. Ottawa, 1989.
- Commonwealth Secretariat. Women, Conservation and Agriculture: A Manual For Trainers. London: Women and Development Programme, Human Resources Development Group, 1992.
- Couto, Robert A. "Participatory Research: Methodology & Critique." Clinical Sociology Review. 5 (1987): 83-90.
- Cutrufelli, Maria Rosa. Women of Africa: Roots of Opression. London: Zed Press, 1983.
- Dankelman, Irene, and Joan Davidson. Women and Environment in the Third World: Alliance for the Future. London: Earthscan Publications, 1988.
- Davidson, Joan. "Gender and Environment: Ideas for Action and Research." Development Research: The Environmental Challenge. Ed. James T. Winpenny. London: Overseas Development Institute, 1991.
- Dei, George J.S. "Sustainable Development in the African Context: Revisiting Some Theoretical and Methodological Issues." Africa Development. Ed. Tadesse Zenebeworke. 2.XVIII (1993).
- "Demand for family planning services increases." Daily News. 9 Nov. 1993: 3
- Ellis, Frank. "Prices and the Transformation of Peasant Agriculture: the Tanzanian Case." IDS Bulletin 4.13 (1982): 66-72.

- Elson, Diane. Gender Issues in Development Strategies. Vienna: Paper presented at Seminar on Integration of Women in Development. 9-11 Dec. 1991.
- Elson, Diane. "How is Structural Adjustment Affecting Women?" Development 1 (1989): 67-74.
- Endely, Joyce B. "Strategies and Programmes for Women in Africa's Agricultural Sector." Alternative Development Strategies for Africa: Environment, Women. 2 Ed. Mohamed Suliman. London: Institute for African Alternatives, 1991.
- Environment Liaison Centre International (ELCI). WedNews. Special Issue No. 5. Nairobi: 1993.
- Falk Moore, Sally, and Paul Puritt. The Chagga and Meru of Tanzania. Ed. William M. O'Barr. London: International African Institute, 1977.
- Feldstein, Hilary Sims, and Janice Jiggins. "Concepts and Tools for Gender Analysis and Agroforestry." Nairobi: ICRAF (International Centre for Research in Agroforestry), 1993.
- Hall, Bud. "From Margins to Centre: The Development and Purpose of Participatory Research." American Sociologist. Winter (1992).
- Haram, Liv. "Urbanization And The Problem Of 'Prostitution': Health Care-Seeking Behaviour In The Context Of AIDS In Northern Tanzania." (Research Proposal) University of Bergen: Centre for Development Studies, 1992.
- Harding, Sandra. Whose Science. whose Knowledge; Thinking From Women's Lives? Ithaca: Cornell U.P., 1991.
- Harvard Institute for International Development, UNDP. "Women in Development (WID): A 10-Point Framework of Analysis." Workshop on Women Gender and Development. 11-14 Sept. 1989. Harare: 1989.
- Havnevik, Kjell J. Tanzania: The Limits to Development from Above. Sweden: Nordiska Afrikainstitutet, 1993.
- Helleiner, G.K. "The IMF, the World Bank and Africa's Adjustment and External Debt Problems: An Unofficial View." World Development 6.20 (1992): 779-792.
- Hessing, Melody. "Women and Sustainability: Ecofeminist Perspectives." Alternatives. 4.19 (1993): 14-21.

- Hull, James P. Let Them Eat Julius Nyerere: Canada, Tanzania And Foreign Aid. Toronto: Citizens for Foreign Aid Reform Inc., 1984.
- Ibrahim, Darry A. "The Political Consideration of Women's Role in Development." (Background paper), 1990.
- ICRA (International Centre for Development-Oriented Research in Agriculture), and Selian Agricultural Research Institute. In Search of Water: A study of farming systems in the lowlands of Arumeru District, Tanzania. Working Document Series No. 30. Netherlands: ICRA, 1993. (Also entitled, Participatory Rural Appraisal in Arumeru).
- Jackson, Cecile. "Environmentalisms and Gender Interests in the Third World." Development and Change. 4.24 (1993): 649-677.
- . "Gender Analysis And Environmentalisms." Social Theory And The Global Environment. Eds. Michael Redclift, and Ted Benton. London: Routledge, 1994.
- Jacobson, Jodi L. Gender Bias: Roadblock to Sustainable Development. Worldwatch Paper No. 110. Washington: Worldwatch Institute, 1992.
- Jiggins, Janice. Rev. of Beyond Ujamaa in Tanzania: Underdevelopment and an Uncaptured Peasantry. by G. Hyden. Third World Quarterly 1.3 (1986): 88-95.
- Kabira, Wanjiku Mukabi and Elizabeth Akinyi Nzioki. Celebrating Women's Resistance: A Case Study of Women's Groups Movement in Kenya. Nairobi: African Women's Perspective, 1993.
- Kikopa, Jane Rose. Law and the Status of Women in Tanzania. Addis Ababa: African Training and Research Centre for Women, Ford Foundation, United Nations Economic Commission for Africa, 1981.
- Kiondo, Nimzanael P. "Women and Agroforestry: A Case Study in Tanzania: Women in Arumeru District." New Hampshire: African-Caribbean Institute, 1993.
- Kirby, Sandra, and Kate McKenna. Experience, Research, Social Change: Methods From The Margins. Toronto: Garamond Press, 1989.
- Klumper, Collette. "Report on the Gender Awareness Training, Mwanza Rural Housing Programme and Tarime Development Trust Fund." Missungwi: COOPIBO, 1993.

- Koda, Bertha. Emancipation of Women in Tanzania and the Role of the U.W.T. Diss. University of Dar es Salaam. 1975.
- Leach, Melissa. "Gender and the environment: traps and opportunities." Development in Practice. 1.2 (1992): 12-22.
- Leach, Melissa et al. "Gender Relations and Environmental Change." IDS Bulletin. 1.26 (1995): 1-8.
- Lebeuf, Anne M.D. "The Role of Women in the Political Organization of African Societies." Women of Tropical Africa. Ed. Denise Paulme. Berkely: University of California Press, 1963.
- Levy, Caren. "Gender and the Environment: the challenge of cross-cutting issues in development policy and planning." Environment and Urbanization. 1.4 (1992): 134-49.
- Lockwood, Matthew. Engendering Adjustment or Adjusting Gender? Some New Approaches to Women and Development in Africa. Discussion Paper No. 315. Sussex: Institute of Development Studies, 1992.
- Lofchie, Michael E. "Tanzania's Agricultural Decline." Coping With Africa's Food Crisis. 1988.
- Longwe, Sara Hlupekile. Coalition Building in Women's Research: Bringing Together the Observer and the Observed. Workshop on Women. Jan. 1992. Dar es Salaam: Southern African Women's Initiatives.
- Mackenzie, Fiona. "Exploring the Connections: Structural Adjustment, Gender and the Environment." Geoforum. 1.24 (1993): 71-87.
- . "Gender and Land Rights in Murang'a District." Journal of Peasant Studies. 4.17 (1990): 609-643.
- . Seeds of Silence: land and the politics of environment and gender in colonial Kenya 1890-1952. (Draft) 1995.
- MacWilliam, Anita. "Is There Sexism In Kiswahili?." Canadian Woman Studies. 1-2.7 (n.d.): 98-100.
- Maguire, Patricia. Doing Participatory Research: a feminist approach. Amherst MA: The Centre for International Education, 1987.

Mahmoud, Fatima Babiker. "African Women and Feminist Schools of Thought." Alternative Development Strategies for Africa. Ed. Mohamed Suliman. 2 London: Institute for African Alternatives, 1991.

Mascarenhas Ophelia and Marjorie Mbilinyi. Women in Tanzania: An Annotated Bibliography. Uppsala, Sweden: Institute of African Studies, 1983.

Mbilinyi, Marjorie. Big Slavery: Agribusiness and the Crisis in Women's Employment in Tanzania. Dar es Salaam: Dar es Salaam University Press, 1991.

---. Gender and Structural Adjustment. Background paper for Symposium on Gender and Structural Adjustment. 26 Feb. 1994. Dar es Salaam: TGNP (Tanzania Gender Networking Program), 1994.

---. "Research Priorities In Women's Studies In Eastern Africa." Women Studies International Forum. 7.4 (1984): 289-300.

---. "'Structural Adjustment', Agribusiness and Rural Women in Tanzania." The Food Question: Profits Versus People. London: Earthscan Publications, 1992.

---. "Women in Development Ideology: The Promotion of Competition and Exploitation." The African Review. 1.11 (1984): 14-33.

Mbilinyi Marjorie, and Patricia Mbughunui, Eds. Education in Tanzania with a Gender Perspective. Stockholm: SIDA, 1991.

McCall, Michael. "The Implications Of Eastern African Rural Social Structure For Local-Level Development: The Case For Participatory Development Based On Indigenous Knowledge Systems." Regional Development Dialogue. 2.9 (1988): 41-69.

McCracken, Jennifer. "Women, Environment and Development in India: A collection of quotes and anecdotes." Women, Environment, Development Seminar Report. London: The Women's Environmental Network, 1989.

Meena, Ruth. "Gender Research/Studies in Southern Africa: An Overview." Gender in Southern Africa: Conceptual and Theoretical Issues. Harare: SAPES Books, 1992.

- Merchant, Carolyn. "Ecofeminism and Feminist Theory." Reweaving The World. Eds. Irene Diamond, and Gloria Feman Orenstein. San Francisco: Sierra Club Books, 1990.
- Mies, Maria. "Towards a methodology for feminist research." Theories of Women's Studies. Eds. G. Bowles, and R. Duelli Klein. London: Routledge, 1983.
- Mlambiti, M.E. Rural Development Alternatives and the Role of Local Level Development Strategy -- The Case of Tanzania. Seminar on Eastern African Rural Development Experience. 30 June - 3 July, 1987. Nairobi: UNCRD, Institute For Development Studies, Univ. of Nairobi, 1987.
- Mohamed, Amir A. Kiswahili for Foreigners. Zanzibar: Al-Khayria Press, n.d.
- Mohanty, Chandra. "Under Western Eyes: Feminist Scholarship and Colonial Discourses." Feminist Review. 30 (1988): 131-145.
- Mollel, M. "Short Description of Arumeru District, Staff Position and Environmental Conservation." Arusha: Regional Forestry Office. 23 Feb. 1994. N. pag.
- Moore, Henrietta L. Feminism and Anthropology. Cambridge: Polity Press, 1988.
- Moser, Caroline. Gender Planning and Development: Theory, Practice & Training. London: Routledge, 1993.
- Mosha, Aggripina A. The Study of Planning Practices, Resident's Awareness and Attitudes, and Their Environmental Consequences on Women and Children in the High Density Area of Sinza in Dar Es Salaam. Research Report No. 16. University of Dar es Salaam: Women's Research and Documentation Project (WRDP), 1992.
- Msambichaka, L.A. "State Policies and Food Production in Tanzania." The State and Agriculture in Africa. Ed. Thandika Mkandawire and Naceur Bourenane. London: CODESRIA, 1987.
- Mtoi, Manasse Timmy. "Institutional and Policy Parameters Affecting Gender Issues in Farming Systems Research in Tanzania." Gender Issues in Farming Systems Research and Extension. Eds. Susan V. Poats, Marianne Schmink, and Anita Spring. Boulder, Colorado: Westview Press, 1988.

- Mughabuso, Japhet. H.L. "The Efforts Undertaken By Sasakawa Global 2000 In Increasing Rural Production: Case Study, Arumeru District, Arusha Region." Diss. Tengeru: Community Development Training Institute, 1991.
- Mukurasi, Laeticia. "The State, Socialism and Women in Tanzania: A Feminist Analysis of Post-Arusha Declaration Legislation and Policy." Diss. Institute of Development Studies. University of Sussex, 1991.
- Mushi, Theo. "New Economic policies: facts and fiction." Family Mirror. 2nd Issue. October 1993: 12
- Mwasumbi, Jonas. "Umati to involve men in programmes." Daily News. 22 Oct. 1993: 4.
- Nkululeko, Dabi. "The Right to Self Determination in Research: Azania and Azanian Women." Women in Southern Africa. Ed. Christine N. Qunta. London: Allison & Busby Limited, 1987.
- Nyerere, J. "Socialism and Rural Development, 1967." Ujamaa, Essays on Socialism. Nairobi: Oxford University Press, 1968.
- Oakley, Ann. "Interviewing women: a contradiction in terms." Doing Feminist Research. Ed. Helen Roberts. London: Routledge, 1981.
- O'Barr, Jean. "African Women in Politics." African Women South of the Sahara. Eds. Margaret Jean Hay, and Sharon Stichter. London: Longman, 1984.
- Østergaard, Lise, ed. Gender and Development: A Practical Guide. London: Routledge, 1992.
- Park, Peter. "What is Participatory Research? A Theoretical and Methodological Perspective." Voices of Change: Participatory Research in the United States and Canada. Toronto: OISE Press, 1993.
- Pietilä Hilikka and Jeanne Vickers. Making Women Matter: The Role of the United Nations. London: Zed Books, 1990.
- Plewes Betty and Rieky Stuart. "Women and Development Revisited: The Case for a Gender and Development Approach." Conflicts of Interest: Canada and the Third World. Eds. Jamie Swift and Brian Tomlinson. Toronto: Between The Lines, 1991.

- Prentice, Susan. "Taking Sides: What's Wrong with Eco-feminism?" Women and Environments. Spring (1988): n.p. Toronto: Weed Foundation.
- Rahnema, Majid. "Participatory Action Research: The 'Last Temptation of Saint' Development'". Alternatives. 2.15 (1990): 199-226.
- Rajab, Ahmed. "South Survey: Tanzania." South. December (1989): 89-90.
- Randall, Vicky. Women and Politics: An International Perspective. 2nd ed. Chicago: University of Chicago Press, 1987.
- Rathgeber, Eva M. "WID, WAD, GAD: Trends in Research and Practice." The Journal of Developing Areas. 24 (1990): 489-502.
- Robertson Clair, and Iris Berger. Women And Class In Africa. New York: Africana Publishing Company, 1986.
- Rocheleau, Dianne E. "Gender, Ecology, and the Science of Survival: Stories and Lessons from Kenya." Agriculture and Human Values. 1-2.8 (1991): 156-65.
- Rodda, Annabel. Women and the Environment. London & New Jersey: Zed Books Ltd., 1991.
- Rogers, Susan G. "Efforts Toward Women's Development in Tanzania: Gender Rhetoric vs. Gender Realities." Eds. Kathleen Staudt and Jane S. Jaquette. Women in Developing Countries: A Policy Focus. New York: Haworth Press Inc., 1983.
- Rwezaura, Barthazar Aloys. Traditional Family and Change in Tanzania: A Study of the Kuria Social System. Baden Baden: Nomos Verlagsgesellschaft, 1985.
- Segal, Lynne. Is the Future Female? Troubled Thoughts on Contemporary Feminism. London: Virago Press Limited. 1987.
- Sen, Gita and Caren Grown. Development, Crises, and Alternative Visions: Third World Women's Perspectives. New York: Monthly Review Press, 1987.
- Sharp, Robin. "Organizing for Change: People-Power and the Role of Institutions." Making Development Sustainable. Ed. Johan Holmberg. Washington: Island Press, 1992.

- Shiva, Vandana. Staying Alive: Women, Ecology and Development. London: Zed Books, 1989.
- Sizya, M.J. "The Donor Community and Tanzania's Development." Dar es Salaam: n.p., 1992.
- Sontheimer, Sally, Ed. Women and the Environment: Crisis and Development in the Third World. London: Earthscan Publications, 1991.
- Spear, Thomas. "Tanzania: Return to the Land." Africa Report. March-April (1989): 45-47.
- Srinivasam, Viji. "The Methodology of Participatory Evaluation." Participatory Research and Evaluation: experiments in research as a process of liberation. Eds. Fernandes, W., and Rajesh Tandon. New Delhi: Indian Social Institute, 1981.
- Stamp, Patricia. Technology, Gender and Power in Africa. Ottawa: International Development and Research Centre (IDRC), 1989.
- Stackhouse, John^a. "African states increasingly ceding development." Globe and Mail. 25 Aug. 1994: A6.
- Stackhouse, John^b. "Government missing out on Tanzania's good times." Globe and Mail. 27 Aug. 1994: A6.
- Stackhouse, John. "How the meek are earning their inheritance." Globe and Mail. 4 Feb. 1995: D1.
- Stackhouse, John^c. "Teaching the babies not to have babies." Globe and Mail. 3 Sept. 1994: D3.
- Sundet, Geir. "Beyond Developmentalism in Tanzania." Review of African Political Economy. 59 (1994): 39-49.
- Swai, Wenisaria V. "Afforestation and Forests Conservation: The Case of Arumeru District, Arusha Region." Diss. Tengeru: Community Development Training Institute, 1993.
- Swantz, Marja-Liisa. "The Effect of Economic Change on Gender Roles: The Case of Tanzania." Development 2-3 (1988): 93-96.
- . Women in Development: A Creative Role Denied? (The Case of Tanzania). London: C. Hurst & Company, 1985.

- TGNP (Tanzania Gender Networking Programme). Gender Profile of Tanzania. Dar es Salaam: TGNP, 1993.
- Thorsell, William. "New news menu may be needed to whet our appetite for information." Globe and Mail. 20 Feb. 1993: A6.
- Tibaijuka, Dr. Anna. "The Impact of Structural Adjustment Programmes on Women: The Case of Tanzania's Economic Recovery Program. Dar es Salaam: CIDA, 1988.
- Todd, Dave. "Getting out of Africa: Canada follows bureaucrats' advice to give up on the poorest of the poor." Ottawa Citizen. 12 April, 1993: A3.
- UNEP. Division of Information. Women, Environment and Development. Brief No. 5/80. Nairobi: 1980.
- United Nations Development Program. Human Development Report 1993. New York: Oxford University Press, 1993.
- United Republic of Tanzania. National Report for the 1992 United Nations Conference on Environment and Development (UNCED). Dar es Salaam: Government Printer, 1991.
- . Ministry of Community Development, Culture, Youth and Sports. Situation of Women in Tanzania. Dar es Salaam: Government Printer, 1988.
- . Ministry of Community Development, Women Affairs and Children. Policy on Women in Development in Tanzania. Dar es Salaam: Government Printer, 1992.
- . UNICEF. Women and Children in Mainland Tanzania: A Situation Analysis. Dar es Salaam: n.p., 1990.
- University of Dar es Salaam (USDM) & United Nations Department of Economic and Social Development (ECOSOC). Population, Environment and Development in Tanzania. New York. 1992.
- van den Hombergh, Heleen. Gender, Environment and Development: A Guide to the Literature. Utrecht: The Institute for Development Research Amsterdam, International Books, 1993.
- van Pelt, P. Bantu Customs in Mainland Tanzania. Tabora, Tanzania: T.M.P. Book Department, 1971.

- Vita, Paul B. "Development Research in Eastern and Southern Africa: Some Issues for the 1990s." Africa Development. 2. XIV. Dakar, Senegal: (CODESRIA) Council for the Development of Economic and Social Research in Africa, 1989.
- Vuorela, Ulla. The Women's Question And The Modes Of Human Reproduction: An Analysis of a Tanzanian Village. Helsinki: Monographs of the Finnish Society for Development Studies, No. 1, 1987.
- Wagao, Jumanne, H. Adjustment Policies in Tanzania, 1981-1989: The Impact on Growth, Structure and Human Welfare. Innocenti Occasional Papers, No. 9. UNICEF: 1990.
- Waldman, Peter. "Message Lost in translation." Globe and Mail. 14 Sept. 1994: A8.
Journal.
- Welsh, Gita Honwana, Francesca Dagino, and Albie Sachs. "Transforming Family: New Directions in Mozambique." Women and Law in Southern Africa. Ed. Alice Armstrong. Harare: Zimbabwe Publishing House, 1987.
- Whitehead, Ann. "Food Crisis and Gender Conflict in the African Countryside." The Food Question: Profits Versus People. London: Earthscan Publications, 1992.
- Williams, Paula J. Women, Trees and Forests in Africa: A Resource Guide. Nairobi: Environment Liaison Centre International, 1992.
- World Bank. World Development Report 1992: Development and the Environment. New York: Oxford University Press, 1992.
- World Bank. World Development Report 1994: Infrastructure For Development. New York: Oxford University Press. 1994.
- Young, Roger. Canadian Development Assistance to Tanzania. Ottawa: The North-South Institute, 1983.

INTERVIEWS

The following is a list of most of the people who I interviewed on a formal basis in the process of conducting this research, in addition to the people I spoke with in the villages.

- ◇ **Mr. Mulugeta Abebe:** Ministry Service Director, World Vision Tanzania, Arusha
- ◇ **Mrs. Mary Lazaro Akyoo:** Chairperson, Siny'isi Women's Group, Chairperson, local CCM Ward
- ◇ **Ms. Fatma Alloo:** Chairwoman, Tanzanian Women's Media Organization (TAMWA), Dar es Salaam
- ◇ **Mrs. Ellen Binagi:** Chief Resident Tutor, Institute of Adult Education, Dar es Salaam
- ◇ **Mr. Olfred Birago:** District Executive Director, Arumeru
- ◇ **Ms. Colette Klumper:** Gender specialist, CIPIBO (Belgian NGO)
- ◇ **Mr. Henry Fosbrooke:** Conservationist, Sociologist
- ◇ **Mrs. Florence Ghamunga:** Instructor, Community Development Training Institute (CDTI), Tengeru (Arumeru)
- ◇ **Ms. Helen Hambley:** WID Desk, IDRC, Nairobi
- ◇ **Dr. Anne-Marie Izac:** Coordinator, Characterization and Impact Programme, International Centre for Research in Agroforestry (ICRAF), Nairobi
- ◇ **Mrs. Lydia Joachim:** Regional Commissioner's Office, Arusha, WODSTA member
- ◇ **Mr. Elisuriki D. Kaaya:** Member, Village Executive, Kikatiti
- ◇ **Mr. Kamajenge:** Appropriate Technology Division, Ministry of Community Development, Women and Children's Affairs, Dar es Salaam.
- ◇ **Mrs. Peter Katyega,** Livestock Training Institute (LITI), Tengeru, Arumeru

- ◇ **Ms. Esther Kerario:** Natural Resource Officer, National Environmental Management Council (NEMC), Dar es Salaam
- ◇ **Mr. Paul Kessy:** President's Office, Planning Commission, Dar es Salaam
- ◇ **Ms. Zainabu Kivuyo:** Project Officer, Soil Conservation Program, Arusha (SCAPA)
- ◇ **Ms. Mary Laizer:** Secretary, Women's Department, Lutheran Diocese, Arusha Region (ADDO)
- ◇ **Mr. Lema (Bwana Miti):** Director, Forestry Dept., Regional Forestry Office, Arusha
- ◇ **Dr. Ingrid Lewis:** Project Advisor, Network Vegetable Production, Technical Cooperation, Federal Republic of Germany
- ◇ **Ms. Alice A. 'Ligunya:** Women in sustainable development sector (WISED), Kenya Energy and Environment Organizations (KENGO), Nairobi
- ◇ **Mrs. Mary Luwilo:** District Commissioner, Arumeru
- ◇ **Ms. Fortunata Macha:** Tutor, Cooperative Education Centre, Moshi
- ◇ **Mr. Peter Mafie:** King'ori Divisional Forest Officer,
- ◇ **Ms. Doreen Matemua:** Chairwoman, WODSTA
- ◇ **Mr. Richard Maturo:** Village Chairman, Maji ya Chai
- ◇ **Ms. Jenny Mbando (Mama Maendeleo):** Community Development Officer, Kikatiti Village
- ◇ **Mr. Wilbert Mbise:** Village Accountant, Maji ya Chai
- ◇ **Mr. George Meena:** Kikatiti Ward Forest Officer
- ◇ **Mrs. Elizabeth Megiro:** Assistant Secretary, Women's Department, Lutheran Diocese, Arusha Region (ADDO)
- ◇ **Ms. Agnes Mgaya:** Gender specialist, Women's Desk Officer, Community Development Training Fund (CDTF), Dar es Salaam
- ◇ **Ms. Grace Mghase:** Community Development Assistant, WID officer, Traditional Irrigation Programme (TIP), Arusha
- ◇ **Mr. Edward Mhina:** President's Office, Planning Commission, Dar es Salaam

- ◇ **Ms. Elizabeth Minde:** Advocate, Lawyer, Kilimanjaro Women's Information Exchange) KWIECO, Moshi
- ◇ **Prof. Salome Misana:** Head, Geography Dept., Univ. of Dar es Salaam
- ◇ **Mrs. Agrippina Mosha:** Tanzania Gender Networking Program, Dar es Salaam
- ◇ **Mrs. Theodora Mollel:** Regional Development Officer, Regional Development Director's Office, Arusha (economist and teacher)
- ◇ **Ms. Laetitia Mukurasi:** National Programme Officer (WID), UNDP, Dar es Salaam
- ◇ **Prof. Mziray:** Law Dept., Univ. of Nairobi
- ◇ **Mrs. Sheila Mziray.** Mother's Union, WODSTA member
- ◇ **Mr. Godson Ndossy:** Medical Officer, Kikatiti Dispensary
- ◇ **Mrs. Ngalo:** Africa Development Foundation, Arusha
- ◇ **Ms. Cecilia Kinuthia-Njenga:** WEDNET Programme Coordinator, Environment Liaison Centre International (ELCI), Nairobi
- ◇ **Ms. Yona Andrew Nnko:** Teacher, Primary School, Kikatiti
- ◇ **Mrs. P. Olekambaine:** Head, Women's Section, Ministry of Community Development, Women and Children's Affairs, Dar es Salaam
- ◇ **Mr. Emanuelli Ludusunsa Pallangyo:** Village Chairman, Kikatiti
- ◇ **Ms. Hadja Ramodhani,** Ministry of Tourism, Natural Resources and Environment, Forestry and Beekeeping Division
- ◇ **Ms. Patricia Runaniria:** Project Officer, Africa 2000, Dar es Salaam
- ◇ **Ms. Janet Sambali:** Principal Scientific Officer, Commission for Science and Technology, Tanzania, Dar es Salaam
- ◇ **Mrs. Hemel Noel Sariah:** Ward Health Assistant, Kikatiti

- ◇ **Ms. Nancy Tesha:** Director, Dept. of Community Development, Women's Affairs and Children, Kilimanjaro Region (sociologist)
- ◇ **Prof. Aileen Tripp:** University of Minnesota
- ◇ **Ms. Lyne Ukio:** Secretary General, WODSTA
- ◇ **Ms. Helen Usiri:** Head, Nronga Women's Dairy Cooperative, Hai District
- ◇ **Ms. Christine Warioba:** Project Officer, Ministry of Community Development, Women's and Children's Affairs

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