DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION

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INTRODUCTION

Women's participation in natural resource management is generally underestimated. This is mainly because participation in natural resource management is traditionally seen in terms of performance of tasks associated with such activities as wildlife ranging, afforestation, and soil conservation as a national target within an institutional setting. The link between household food security and natural resource management, particularly that aspect of it relating to agricultural production is often not clearly pronounced. Much of the debate on the issue has failed to recognize that agricultural food production processes are an important element of natural resource management. Yet a close examination of these processes clearly demonstrates farmers' role as managers of natural resources for the purposes of ensuring household and national food security. They are involved in soil conservation, wildlife plant life and water management. In short, they are involved in the management of the basic natural resources as defined by the four ecosystems such as water, soils, plants and wildlife.

Available literature has shown that African women play a key role in subsistence food production. (Boserup, 1970). The issue of household food security is central in the lives of African women.

If this is so, the important question to ask is:
"What is it that women do in subsistence food production that affects the environment i.e. natural resources?"

In attempting to answer this question, one finds that the agricultural production processes in which women are engaged involve the management of renewable natural resources, with the primary objective of ensuring household food security. It therefore follows that the way women perceive the environment and its related problems is going to be influenced by how they impact household food security. For instance, if people depend on crop, or animal production, wild life or plant life; for their food and income, their perception of the problems will be influenced by how the production and gathering processes are affected. Women may be aware of some practices which affect the environment negatively, and ultimately have an adverse effect on their source of livelihood. They however continue with those practices because that is the only way they can ensure household food security, or a continuous supply of food for household consumption. Often they find themselves in a dilemma, whereby to ensure desirable levels of productivity, they have to destroy another source of food, or the environment on which their livelihood is dependent. Women are thus faced with making these choices on a day to day basis, within the constraints of limited resources.

These contradictions confronting women create serious problems for them and for policy makers too. However, it is important to note that, there are two basic differences in the way policy makers and women perceive these problems. These will be discussed in the study.

The purpose of this paper is to provide an overview of the extent and nature of women's involvement in natural resource management. It will attempt to highlight the important link between women's natural resource management and household food security. It further brings to the surface contradictory processes that arise in women's attempts at ensuring a continuous supply of food for household consumption. In general, the paper provides, in a descriptive manner, an overview of the problems facing women in their natural resource management activities. It is intended as a background for more detailed investigation into specific problem areas relating to women and natural resource management.

BACKGROUND

The question of household food security encompasses a broad spectrum of issues relating to women and natural resources management . Women are involved in the management of basic renewable resources in both the production, gathering, processing and preparation of food. In fact, women's food and non-food related household responsibilities involve, on a day-

to-day basis, the management of water, plants, soils and wildlife. These four define ecosystems. A concept which emphasizes the interrelationships and dependencies between the components of the four basic natural resources. This concept is a reminder to us to recognize the interrelatedness of all resource domains, in conceptualizing the way in which women relate to their environment. The recognition is of particular relevance to rural African women, because in the absence of specialization in the provision of services, they manage the basic renewable resources, for different purposes, in an integrated manner. Although this paper focuses on women's natural resource management activities aimed at satisfying household food requirements, it is desirable to briefly allude to other natural resource management activities that do not directly satisfy household needs. Women also engage in management activities relating to the construction of roads, water reservoirs, public building, rural afforestation and national soil conservation programmes. These are generally community based natural resource management activities. This paper alludes to them because it finds it imperative that with respect to African women both the household and community-based activities be viewed as an integrated processes. An examination of these activities will clearly demonstrate this point despite apparent contradictions in some of the processes.

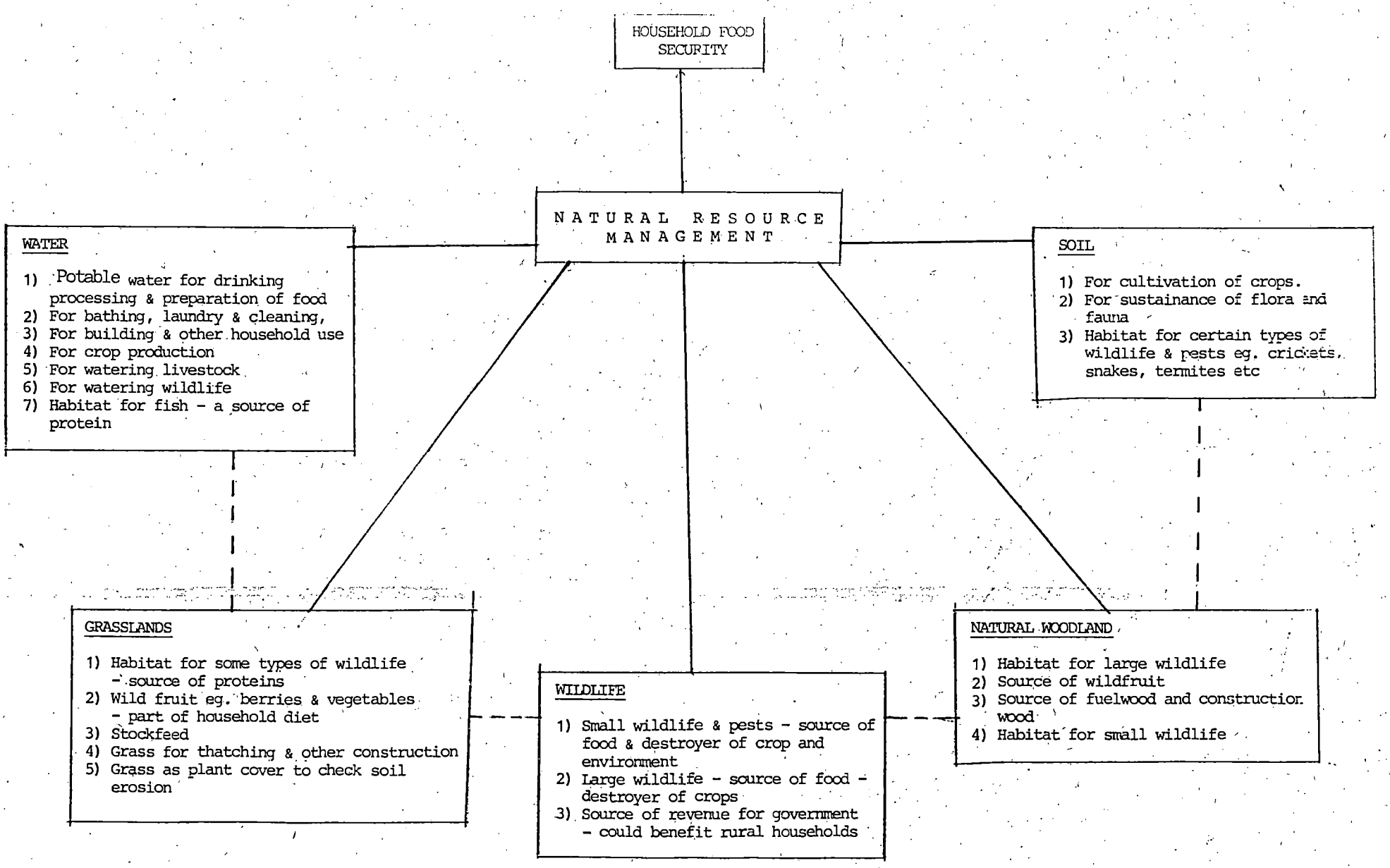
WOMEN'S RESOURCE MANAGEMENT ACTIVITIES

To answer the key question posed previously, ie.

> "What is it that women do in their pursuit for household food security, which affects the environment?"

We refer to the chart below, which gives a summary of the management activities that women are engaged in. Note that the chart clearly demonstrates women's involvement in the management of all the basic natural resources; namely water, soils, plants and wildlife. The chart, however does not tell the nature of the actual relationship between these resources and those women who manage them. In other words the chart addresses the question of the functional relationship that exists but does not bring out the question of entitlement. Women are shown as producers and gatherers of food but their relationship to the basic resources or the means of production is not clear in this chart.

It is not intended to engage in an in-depth discussion of issues relating to the question of entitlement to land . However, it is important to underscore the centrality of entitlement to the problems relating to land based natural resource management. This question of entitlement is very crucial because it determines the way in which women relate to their means of


HOUSEHOLD FOOD SECURITY
NATURAL RESOURCE MANAGEMENT
WATER
1) Potable water for drinking processing & preparation of food
2) For bathing, laundry & cleaning,
3) For building & other household use
4) For crop production
5) For watering livestock
6) For watering wildlife
7) Habitat for fish - a source of protein
SOIL
1) For cultivation of crops.
2) For sustainance of flora and fauna
3) Habitat for certain types of wildlife & pests eg. crickets, snakes, termites etc
GRASSLANDS
1) Habitat for some types of wildlife - source of proteins
2) Wild fruit eg. berries & vegetables - part of household diet
3) Stockfeed
4) Grass for thatching & other construction
5) Grass as plant cover to check soil erosion
WILDLIFE
1) Small wildlife & pests - source of food & destroyer of crop and environment
2) Large wildlife - source of food - destroyer of crops
3) Source of revenue for government - could benefit rural households
NATURAL WOODLAND
1) Habitat for large wildlife
2) Source of wildfruit
3) Source of fuelwood and construction wood
4) Habitat for small wildlife

production. The ease with which women can access these resources and the amount of control they can exercise over them can improve or undermine the efficiency with which they are going to utilize them. It has been argued that women's lack of access to and control over resources such as land for example has negative implications for agricultural production. The argument is that without access and control over the basic resource which is land, access to other resources found on land is limited. In terms of agricultural production, this means that influence over production decisions is reduced. In addition, entitlement or lack of it determines the ease of access to other support services such as credit facilities etc.

Granted that we argue that women's natural resource management be seen as an integrated process, the methodology of this paper is to individually examine management activities related to a particular resource. This allows an in depth examination of the management of each basic resource. Each activity will be viewed in terms of its impact or contribution towards household food security. The focus will be on problems associated with the supply of food for household consumption. Reference will also be made to some of the processing and preparation activities that impact the basic renewable natural resources. The emphasis throughout the paper is on problems facing women in managing natural resources for the purpose of ensuring household food

security.

In most of Africa, crop production constitutes the major source of food for the rural population. This activity is frequently combined with livestock production, which, as a source of food, does not rank very high, except among few ethnic groups such as the Masai in East Africa and some Nomadic groups in the Sudan.

Another important source of food that has been neglected in official statistics is wildlife and wild plant life. Wild vegetables, fruits, insects and animals constitute a very important part of the diet of most African rural households.

Crop production, to a very large extent depends on availability of water, ie. moisture levels. In Africa, there hardly exists a technology that can be a substitute for this resource. Yet its availability is primarily due to nature. For those women engaged in crop production, management of this resource entails their adjusting to existing conditions. Their crop management activities are determined by when and how much rain comes, Even their production decisions are influenced by how much rain is falling. There is very little that women are able to do to manipulate this resource. In many parts of Africa, women are ill equipped to deal with such adverse situations which threaten household food security.

On the other hand, during periods of inadequate rainfall, most households experience difficulties because women have not devised effective strategies for coping with droughts. Irrigation facilities in Africa are limited.

This problem is further exacerbated by the question of entitlement. Although water in most rural areas, is regarded as an open access resource to be utilized by all dwellers, it is not always easily accessible for the purposes of producing crops. The individual who occupies the piece of land on which that resource is placed often restricts access by others.

In the absence of irrigation facilities, the major crops suffer from lack of moisture during periods of drought. Women are not even able to benefit much from their small gardens that are normally maintained through the use of portable water from rivers. In Zimbabwe, for instance, a significant proportion of women cultivate small gardens near water points. They use cans or buckets to water these gardens. In some cases, small irrigation canals are constructed to feed into the gardens. During the dry season, vegetables are the major crops produced. When there is a drought, most water points dry out so that production more or less stops, which means that this source of food is cut off.

Water management activities on these gardens involve a certain amount of skills development. The construction of small-scale irrigation canals requires knowledge about the direction of water flow, the appropriate depth of canal which allows water to flow with ease, techniques for cutting off and releasing water and ensuring a relatively even spread. For some, these skills are acquired through extension education but for others, it is through their own efforts and experiences. They are coping strategies developed out of need.

Women's water management activities in crop production are an area in which government's increased involvement is desirable. For crop production it is not practical to expect every farmer to construct their own irrigation facilities. It is more sensible for government to provide facilities for groups of farmers so that they capture economies of scale.

With respect to water, women's management activities are not only confined to those relating to crop production. Provision of water for household use is one of the important responsibilities that women carry. This is the water that, among other things, is used in the processing and preparation of food.

Management activities associated with potable water place a burden on rural African women, particularly during periods of little or no rain. It is common knowledge that the greater part

of rural Africa is not serviced with purified piped water. Only a small proportion of the rural areas is serviced with communal bore holes and wells. The majority of the population depends on water from rivers, dams and natural wells for potable water. For many households, these water points are not easily accessible. During the dry periods, for example, women, who are responsible for the provision of potable water, have to walk long distances to fetch water. In some cases, they walk up to five kilometers to fetch a five-gallon bucket of water which they carry on their heads. These trips to and from the water points take up a lot of time because the collection of water is often combined with other related activities. This is a good example of women's integrated approach to natural resource management. When they go to the river to fetch water, they take the opportunity to do their laundry, take their baths, water their small gardens and sometimes gather vegetables. The water for these different purposes comes from the same source and it is managed in such a way that women try, within their constraints, to satisfy the different needs in the best way possible. For example, although their bathing and laundry are done in the same river that provides water for drinking and cooking they try to ensure that the water they carry back home is fit for human consumption. Sometimes, women are not able to provide their families with the cleanest water because of resource and time constraints. For instance looking at resource constraints in some dry areas, water is so scarce that people, livestock and

wildlife obtain it from the same source. In this case it becomes very difficult for women to ensure that they get clean water. Management activities associated with potable water, in such cases, can lead to a variety of problems arising from conflicting interests. On the one hand, it is in women's interest that livestock have access to drinking water, while on the other hand, they compete with women who have to ensure a continuous supply of water for drinking and food preparation. These livestock and wildlife that threaten the availability of water are an important source of protein and draught power and therefore contribute towards household food security too. Thus, in water management activities, women are faced with a number of contradictions. They must make choices which appear to impact the household food security and health status negatively.

Another area of concern in terms of women's natural resource management activities in agricultural production is that of soil degradation. Global awareness of the problem has reached high levels, yet most of the suggested remedies do not seem to pay adequate attention to women who till the land. African women's management activities associated with soils present special problems partly because most of the subsistence food production is carried out on marginal lands, where soil fertility levels continue to deteriorate. In such cases, there is a pressing need for access to knowledge of new improved technologies which restore soil fertility to levels that ensure greater productivity

and allow for adequate food supplies.

Unfortunately, women's access to such technology is limited by a number of factors. Firstly, not many of them enjoy easy access to extension service and credit facilities which would allow them to acquire and utilize these fertility restoring technologies (such as fertilizers). This in mainly because of the absence of entitlement with respect to land.

Secondly, some of women's soil management problems result from lack of time and adequate labour to carry out soil restoration tasks. These are activities such as transporting livestock manure to and spreading it throughout their fields, or constructing contours to check soil erosion. With very little improved technologies available to them to facilitate these tasks, women find them laborious and time consuming.

Previously, in many parts of Africa, the problem of soil degradation was dealt with in a different manner. People practiced the slash and burn system, whereby, as soon as they found that the soil they were cultivating had lost its fertility, they abandoned that piece of land and they cleared a new one. This method has been criticised by many who have not realized that the ash from burning raised the potash level in the soil, and that piece of abandoned land got a chance to regain some of its fertility through natural processes. Of course this practice

is no longer possible because of scarcity of land and the current systems of entitlement, which restrict the application of some of these indigenous coping strategies or techniques that ensured household food security. The same is true for the practice by nomads, who kept their animals on the move, permitting selective grazing, but usually not allowing a heavy concentration of animals to remain in any one place. However, there may be other indigenous coping strategies which are appropriate for existing condition. These need to be researched into and promoted where it is seen fit to do so.

Historically, household food security in Africa has not been a matter that was entirely dependent on agricultural production on domestication of wildlife and plants. People relied on both domestication and also drawing from resources that were wild. To date, many rural African households continue to depend an wildlife resources for a significant proportion of their protein supplies. In Zimbabwe, where most rural households have limited access to meat and other common sources of protein such as milk, eggs, and fish, these wildlife resources make an important contribution toward household food security. It is women who are primarily responsible for gathering these resources. It will be shown in this paper that some of the processes of acquiring these food resources are closely linked to agricultural food production.

Generally, wildlife are viewed as an important natural resource. Their importance being both economic, cultural and ecological. For the later they are important in that they sustain a particular ecological system in which there are functional processes which help maintain essential life support systems such as soil regeneration and protection, and recycling of nutrients. The cultural values of wildlife species are significant in the performance of certain rites, which perpetuate certain traditions and cultures. In the process, a particular traditional diet is perpetuated and this in turn contributes towards household food security by encouraging people to continue drawing from their traditional sources of food.

The economic aspect of wildlife is of great importance as a national issue in an institutional setting. Wildlife are a source of revenue, particularly foreign exchange, for a number of African government. For example in Tanzania, there is always a flow of tourists coming to view wildlife. The same applies to Kenya, Zimbabwe, Malawi etc. Animals such as Giraffes, elephants, buck, duiker and zebra, attract tourists, who pay money to view them.

Another economic aspect of these animals is that of their valuable by - products. Horns, hides and skins from these animals fetch a lot of money on the international market. According to Zimbabwe's Minister of Tourism and Natural

Resources, wildlife activities in 1986, brought over Z$200 million (some of it in foreign exchange) to the national economy. She pointed out that about 50% of this came from communal areas, where the majority of rural women are based. The minister argued that, if properly managed, these wildlife activities could bring residents more revenue than they obtained from cultivating crops. She further pointed out that there was less competition in wildlife products on the global markets (Chitepo, Zimbabwe Herald Newspaper, 2/7/87). The Minister, however, did not expand on how this revenue would be distributed so that household food security would not be threatened. She did not touch on entitlement, which to a large extent would determine how the revenue from these activities could be distributed among the local people.

The emphasis on the economic advantages at a national level over shadows some important issues which arise at micro level. It is true that some governments are beginning to recognize the importance of paying some attention to the micro environments which sustain the natural resources. A move in that direction is positive because it eventually forces government or policy makers to address women's natural resource management problems. The government of Zimbabwe is one of those that are beginning to address the micro environment issues. On June 24th 1987, the Presidential address to parliament spelt out the governments intentions to give the issue more focus. He stated that:

> "With regard to wildlife management, it is my government;s intention to extend this responsibility to the communal people through the introduction of management of indigenous resources". (Zimbabwe Parliament, 24/6/87).

Such a policy is useful in that it shifts attention to women's problems. Furthermore, by focusing on the management of indigenous resources, it allows for tho incorporation of some traditional practices which might enhance good management of the resources. The important role of wildlife as a source of food can thus be accorded recognition at both the micro and macro-levels.

Problems resulting from the relationship between women's wildlife management activities, crop production and household food security tend to be either ignored or underdeveloped. For many rural households in Zimbabwe, wildlife resources, which are normally thought of and treated as pests constitute an important part of the diet that is enjoyed in most households. The situation is paradoxical because the availability of these pests which threaten crop production is threatened by a variety of agricultural practices. Some ploughing, weeding practices and the use of certain biological inputs reduce the availability of pests as a source of proteins and are a health hazard. Such agricultural practices as the spreading of fertile soil from

termite mounds reduce the availability of termites which are a very popular part of the diet. The use of pesticides to destroy pests, renders some of them unfit for human consumption. The mere act of clearing new land for agricultural expansion causes wild life resources to diminish. Since within each ecosystem, various animal species find their particular habitat, i.e areas that meet their requirements for food, water and shelter from weather and enemies, the clearing of land for agricultural development creates an unsuitable environment for the species. No wildlife species will survive for long if its environment becomes unsuitable. This situation is found to be undesirable not only from the conservationists' point of view but also from rural women whose source of protein diminishes.

The problem of dealing with wildlife that destroy crops take on a different form when it involves larger types of wildlife such as elephants and baboons. Unlike pests, it is illegal to kill elephants or baboons, for whatever purpose, in the absence of a licence. This is partly because these wildlife attract tourists which bring revenue to governments. Secondly, their products such as ivory and hides have a high economic value on the international market. Because of these factors, women have to device acceptable techniques of dealing with these wildlife. In most cases, the choice of techniques has been limited to spending long hours in the fields scaring these wildlife by using different sounds and constructing forms or shapes that represent

the enemy of these animals.

The task of preventing larger wildlife from destroying crops is very time consuming. It takes women from other households chores including the activities that increase food supplies to the household. Since the revenue from tourism and marketed products of these wildlife, does not accrue directly to these households, the existence of such wildlife as elephants and baboons in most rural areas is seen as a direct threat to household food security and income in general.

One might argue that these local people could apply for licenses so that they are able to shoot down these animals, which could serve as their protein supply. The fact is that to get a hunting licence one has to have an approved weapon and should be literate enough to be able to complete the application forms. Furthermore, one should have physical access to those centres where the applications are submitted and processed. All these are barriers that exclude rural women from taking advantage of technology i.e. guns to make their tasks easier and less time consuming. In addition to these barriers, meat from these larger animals has not been readily accepted in the diet of most households. Most people just do not enjoy meat from elephants and baboons so that even if they were to slaughter them it would be for the purpose of getting rid of them and not to gain access to meat. In this case, there would be no direct contribution to

household food security except in the way of reducing the threat to crop production.

The above discussion may lead one to conclude that women's wildlife management activities are limited to those that relate to crop production. This is not the case. The above discussion is biased towards those activities relating to crop production because it attempts to highlight those special problems that arise when there are contradictions such as wanting to get rid of pests and at he same time wanting to preserve them as a source of protein.

Women are also involved in the management of wildlife that has no direct relation to agricultural production. As indicated previously, most rural households have limited access to meat. Only those with livestock get access to milk when it is available. Eggs are generally considered a luxury food and are frequently reserved for reproduction. Fish is not a very common element of the diet in many parts of Zimbabwe. As a result, the small type wildlife resources offer a readily available source of proteins. It is important to bear in mind that this is an aspect of the diet that is enjoyed by most households.

We have already noted that the gathering of these wildlife resources is primarily the responsibility of women. The processes of acquiring these resources are generally time

consuming. There are hardly any time-saving technologies that have been developed to facilitate these tasks. This may be due to the fact that the market value of these wildlife resources is localized and the consumption of some types is area specific. As a national goal, developing technologies that facilitate these tasks is an area that has not received much attention even within such institutions as department of nutrition. Women thus have spend long hours, shaking caterpillars from tree tops, digging out crickets in the fields, chasing after termites and locusts and trapping rats. Because of time constraints sometimes women are forced to engage in bad management practices such as setting large tracts of grasslands on fire to trap rats and rabbits or cutting down trees to gain easier access to caterpillars or cicaders. These practices are devastating to the environment, particularly where there are problems of over grazing and deforestation. Furthermore, they destroy the environment which sustains their source of proteins.

It is worth noting that in managing wildlife resources women cannot separate issues relating to grasslands and natural woodland. The discussion above shows that most of the management activities associated with wildlife, impact either grasslands, natural woodlands or both. It showed that in their efforts to achieve the goal of household food security through the acquisition of wildlife resources they undermine other sources of food. For instance, loss of grasslands, through fires reduces

stockfeeds and therefore diminishes milk products and other livestock products.

Some of the most common causes of loss of grasslands are excessive grazing or ill considered attempts at farming. Population pressure continues to force people to clear new pieces of land. For example, Zimbabwe's population is estimated to be growing at the rate of 3 percent per annum. It has been estimated that each year, an additional 2 percent of Zimbabwe's land surface is cleared for cultivation and other purposes such as settlement. In the majority of cases, these new settlements are on marginal lands where there is competition between human and animal populations for the available limited resources. Most of these new settlements cannot sustain crop production activities. The need for supplementing the diet with wildlife and plant products is thus more pressing.

Loss of grasslands implies a loss other wild plant life that are a source of food to many households. Wild vegetables are widely consumed in many parts of Zimbabwe's rural households. Wild derere (the shona name for okra), nyovhi and mushroom are a very popular part of the diet. Although these are seasonal, they are often dried or preserved so that they are available for consumption throughout the year.

Another important grassland food resource is the wildfruit.

Fruits such as gooseberries, tsambatsi, and other wild berries are often used to supplement children's diets. When they are in season, they make a significant contribution towards a favourable household nutritional status.

The gathering of these fruit is frequently done by children in situations where there are children old enough to herd livestock. This could be anything from four year olds and above. In the absence of children, women carry out this task. Sometimes they do so even when the children are available. Women combine this task with such activities as gathering wild vegetables and fuelwood.

Although grass products are not often consumed by households, they make an important contribution towards household food security. Throughout Zimbabwe's rural areas, food storage facilities are constructed from grass, woodlands and soil products. Almost all of the roofing of storage facilities is done with thatching grass. In fact, most of the building in rural areas are grass thatched. Women often walk long distances to cut the grass and transport it to where it is to be used. This task is becoming increasingly difficult to perform and time consuming because of the continuing loss of grasslands.
Similar problems arise from deforestation. Firstly, deforestation results in the diminishing of an important food source. Women and children gather a variety of wildfruit for

their consumption at different times of the year. In addition, these wild fruit are an important source of cash for many rural women. Where available, women gather large amounts of wild fruit and sell them to travellers, to local people at the market or travel to city markets where they sell to urban travellers. After disposing of their fruit at city markets, women often use the money to buy sugar, salt, bread and other household food requirements.

Woodlands are the major source of energy for cooking and heating requirements of the majority of rural households. According to a report prepared by the Beijer Institute, almost 47% of Zimbabwe's total energy consumption is from fuelwood. 81% of the energy demands of rural households is met from fuelwood. (Beijer Institute, 1986) The problem of scarcity of fuelwood has been escalating in recent years. In Zimbabwe it has now reached a point where in many parts of the country, women travel four kilometers or more to collect fuelwood, and this collection trip often takes more than two hours to complete. A construction wood collection trip can take longer. Sometimes women travel up to ten kilometers taking up to six hours to complete the trip. Management activities associated with the collection firewood and construction wood have placed a lot of pressure on women. These activities involve the identification of the best tree species for a particular function, the choice of which trees to cut down and how to cut them. As the woodlands get more

deforestated, the tasks become more difficult and time consuming to perform. In the end, women are forced to cut down trees and bushes indiscriminantly because of pressure of time and scarcity of resources.

These fuelwood problems arising from deforestation may not appear to have any bearing on household food security other than making the food preparation processed more difficult. On the contrary, they do. Any tasks that place such demands on women's time affect the household food security situation negatively. It means that some of the time they could have spent working in the fields, in their gardens, gathering wild vegetables and fruit and catching wildlife resources, is reallocated to fetching fuelwood. This reduces the household's inflow of food. The more acute the problem of deforestation becomes, the more pressure is felt on the household food systems.

A number of governments have recognized the gravity of the problems of deforestation. In many countries, governments are implementing programmes for reafforestation, which are aimed at alleviating the situation. In most cases, however, the programmes are not addressing the real needs of those people that are most affected. In Zimbabwe, for instance scarcity of fuelwood is most pressing for rural women. Yet, the government programme for reafforestation focuses on planting eucalyptus trees which are the major source of construction wood. This

tree species is generally not considered very good for fuelwood., partly because it does not produce good lasting charcoal. In addition, the eucalyptus tree has less popularity because in areas where it is planted, it diminishes other vegetation around it. This means that planting eucalytus reduces the supply of grass and other wildlife resources that are traditionally used as part of the household diet. A related reason for the little attraction that the eucalyptus tree holds for women is that it does not bear any fruits to supplement their diet. It is purely a cash crop which does not make a direct contribution towards household food supplies. Furthermore, it takes several years to earn cash, despite the fact that most reafforestation programmes favour this species because it is fast growing. It would be more beneficial if reafforestation efforts took a multipurpose approach to the problems of deforestation. Focus should thus be on planting indigenous fruit bearing trees which would make a direct contribution towards household food security. It is also desirable to include the more favoured fuelwood species in the tree planting programmes.

Making these trees more easily accessible would not only leave women more time for food producing tasks, but would help improve food preparation practices in those cases where women have had to reduce their cooking time because of the scarcity of fuelwood.

CONCLUSION:

Womens's involvement in natural resource management has been underestimated primarily because it has been taken as separate from their important responsibility of ensuring continuous supplies of household food. It is further underplayed by the fact that official statistics on household food supplies have failed to incorporate food from non-agricultural plant and wildlife resources. The general tendency has been to use agricultural food supplies as the key instrument for dealing with food security questions.

This paper has attempted to draw attention to the link between natural resource management and household food security. It makes the point that processes leading to the provision of food supplies in African rural households, are a component of natural resource management. In light of the fact that African women are estimated to provide about 80 percent of the subsistence food, this paper concludes that their involvement in the management of natural resources is proportionately high.

The paper discusses in some detail, problems resulting from contradictions which are inherent in women's natural resource management activities, that ensure household food security.

These problems have received limited attention from researchers and policy makers. This is partly because most research on household food security has not taken an integrated approach. It has taken agricultural production as the source of household food security and neglected other sources or contributors. This has resulted in other important traditional contributors being pushed to the periphery. In fact they continue to be marginalised as the problems of environmental degradation and demographic pressures worsen. Consequently, efforts have not been made to develop these other important sources of food. Thus household food security has been undermined and women's natural resource management activities are not made any easier.

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