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Use indigenous knowledge in management systems: the case study of Maphunwane district, Swaziland

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The survey methodology includes a study of thirty homesteads. A relatively informal approaches used which include talking to the community at various meetings and drinking places.

1:4 STRUCTURE OF REPORT

Chapter two focuses on a survey of international literature which includes: indigenous land use and sustainability; indigenous land use and management systems; indigenous land use and common property tenure; changes in indigenous management systems and sustainability and local environmental action. The last section of this chapter will look into some researchers' findings on indigenous knowledge.

Chapter three looks at a number of theories that can be used to legitimize the emphasis on indigenous knowledge in resource management and then incorporate them into decision -making model.

Chapter four reviews secondary sources dealing with indigenous knowledge and common property management in Swaziland: land tenure systems; local knowledge and sustainability; local knowledge and management systems and local environmental action.

Chapter five focuses on the case study mentioned above and provides an analysis and evaluation of the case study.

Chapter six deals with the incorporation of indigenous knowledge into planning theories.

using their indigenous knowledge and not the planner for the people;

- come out with a technique to be used to make the use of indigenous knowledge in management systems a participatory process;

In order to achieve these objectives a case study is put forward. The community under study is Maphunwane community in Swaziland.

1:3 METHODOLOGY

Participatory research was used to investigate indigenous knowledge in resource management systems within the specific context of the Maphunwane district within Swaziland. The indigenous experiences will be placed within the context of international literature on indigenous knowledge and resource management.A review of secondary sources dealing with indigenous knowledge in Swaziland.

The research also tries to investigate the perceptions that government officials, NGOs and other outsiders have of traditional resource management within the study area; the community perception of their own property management systems and agricultural systems; the stock of indigenous knowledge of the environment; social, cultural and other practices that relate to resource usage.

King 1979 in Vivian 1991). Increased environmental degradation combined with virtual exclusion of indigenous resource managers from sharing in the benefits of new projects, often leads to protest and the collapse of projects.

1:2 OBJECTIVES

It is the objective of this discourse to,

- explore how communities use their indigenous knowledge to manage their resources and to consider ways in which indigenous knowledge can be incorporated into the planning process;

- look at a number of theories that can be used to legitimize the emphasis on indigenous knowledge in resource management systems;

- find ways of incorporating indigenous knowledge into decision-making models;

- research into indigenous knowledge and to learn it as a continuous process;

- look into how a community can use its indigenous knowledge through participation to empower itself in decision-making;

- allow people to take decision together with the planner,

These new perspectives on local resource management should be placed within the context of "Sustainable Development" which is widely regarded as the development paradigm of the 1990s. First,"Sustainable development" is about human well being, utter dependence on natural resources and our almost universal desire for economic improvement. It also involves another set of cherished values - commitments to democratic decision-making, survival of cultural integrity, and greater equality.

Secondly, sustainable development is a strategy that manages all assets, natural resources and human resources as well as financial and physical assets, for increasing long term wealth and well being(Reptto,1986).

Thirdly, sustainable development is a form of development that meets the needs of the present without compromising the ability of the future generation to meet their own needs(Brundtland, 1987). Emphasis here is on the present and the future. It is a challenge to the traditional concepts of economic growth in development. The problem with traditional planning is that the peoples' indigenous knowledge are not always taken into account in decision making, hence the failure of many projects. Research on both local planning and national policy making provides many examples where major data gathering, analysis, or theoretical research efforts failed to meet expectations for their useful purpose. Large-scale land use models and urban data banks are among notable local failures (Brewer 1973; Lee 1973; Kraemer and

CHAPTER ONE

1:0 INTRODUCTION

1:1 BACKGROUND AND PROBLEM STATEMENT

The common perception is that the Third World countries need to be taught about the environment. Environmental problems in Africa such as overpopulation, desertification and pollution are viewed as a crisis of ignorance, while indigenous farming methods been regarded as primitive and unproductive. More recently has come the recognition that Third World Communities have been practising conservation for centuries and that the so called primitive responses have often been rational adaptations to local conditions. Intricate mechanisms have developed within certain communities to regulate resources. For planners, the implication of this new approach are significant. It requires sensitivity to local knowledge systems and learning from communities rather than imposing ill-adapted solutions.

The point from all this is not to romanticise traditional knowledge or indigenous knowledge but to recognise that traditional systems of management are often more complex and subtle than the outsiders realise. The social, cultural and institutional strengths inherent in local resource usage should be built upon rather than dismissed as backward and unproductive.

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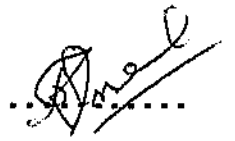
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DECLARATION:

I declare that this discourse is my own, unaided work. It is being submitted in partial fulfilment of the requirements for the degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted for any degree or examination purposes to any other university.



Paul Kofi Essel

22nd day of Oct., 1995

USE OF INDIGENOUS KNOWLEDGE IN MANAGEMENT SYSTEMS: THE CASE STUDY OF MAPHUNWANE DISTRICT, SWAZILAND.

BY

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1995

resource use, and which are in fact subject to degradation has became clear, and as more empirical studies have come out demonstrating the economic value of the commons(Bombey and Cernea,1989, in Vivian,1991).

The paper of Hardin (1968) describes the choice faced by group of hypothetical herdsmen pasturing their cows in common pasture. Any time one of the herdsmen had the opportunity to put another cow into the commons, it will always be to his advantage to do so, even though it reduces the quality of the pasture for himself and the rest of the herdsmen. The reason for this behaviour is that the individual herdsman would receive all the benefits from pasturing extra cow (because it belongs exclusively to him) whereas he would bear a fraction of the cost from the action (because the effect of the extra overgrazing would be spread over all the herdsmen). He does this with an expectation that, given the opportunity other herdsmen would do the same and would bear part of the cost resulting from their action, therefore refraining will not do him any good nor the land good. This cost effect is referred to as negative externality.

It is concluded that in order to prevent over-exploitation of natural resources each herdsman should be made to bear full cost of his action. One favoured way to do this is to allow each herdsman to buy a portion of land and privatise it. It is said that it will be irrational for him to add an extra cow that will overgraze because he alone will bear the full cost of destroying his property (land). Because the land will be his property and

observers seemed to rule out irrigation almost completely as an indigenous technology, but more recent investigations have shown a range of water management technologies associated with use of flood water paddy cultivation, stream diversions, dams and diversion through gravity flow" (Klee,1980, p22). African traditional practices should not be viewed as backward and primitive, but should be studied and built upon them in order to have sustainable development in the continent.

2:4 TRADITIONAL LAND USE AND COMMON PROPERTY MANAGEMENT SYSTEMS

Common property are central to many traditional management systems. Rural Third World communities often do not have as pervasive a sense of individual private property ownership as has developed in the industrialised world - instead systems of group ownership prevail. It has until recently been part of conventional wisdom to believe that common property systems were inherently less productive and less susceptible to degradation than private property systems. "This believe was due to the metaphor of the tragedy of the commons" (Hardin 1968 in Vivian 1992 p59) which maintain that , because no individual would have to pay for the full cost over exploitation, it would be in each individual's interest to extract as much as possible from the resource base, with the result that commonly held resources would be inevitably degraded. This view has largely lost theoretical support in recent years, as the distinction between common property regimes(which cons . of essence of jointly held property) and open access system which have no restrictions on

cropping and livestock with hunting, fishing and collecting; and utilizing ritual feasting for reward and incentive (Klee, 1980).

Some areas with restricted environmental potential, especially the drier margins of steep lands, were correlated with the dominance of one kind of activity, such as hunting, collecting or grazing. The indigenous Africans knew which animals to keep in their environment. They knew which crops to grow during a particular season. They knew where to send their cattle at a particular time of the year. As Porter(in Klee, 1980, p19) noted in writing of semiarid region of Kenya "..the timing of planting, weeding, irrigation and harvesting is carefully worked out so that there is a constant movement between zones and no intolerable peak load of work in any month".

Africans use hoes in cultivation, not that they do not know about ploughs and choose hoes as preferred tools. This suggests a clear indication of soil management problem where ploughing frequently leads to greater oxidation, breakdown of structure, and turns up lower quality soils (klee, 1980).

Africans also know how to manage the soil, by mounding, composting, cover crops, household waste, animal manure and fallow. Old village sites sometimes become new sites for farming. They burn field to add potash to the soil. Elsewhere farmers knew about irrigation. The people along the river Nile have been practising irrigation for a long time. "Colonial land use

in fact been distilled over centuries and is often the best guide to sustainable resource management. The traditional people have knowledge of their plants, animals and the soil, as well as best means of managing resources. Perhaps the most striking and well-known example of community which has incredibly detailed knowledge of the plants, animals and soils of its environment, as well as the means of managing its resources in order to compensate for soil deficiencies is the Kayopo of the Amazon Basin (Cumming, 1990 in Vivian 1991).

It is not only in the Amazon Basin that the idea of traditional land use management can be found. There has been traditional land use management in Africa and other Third World countries which need to be studied. For example shifting cultivation has been practised in Africa for a long time. Karl Pelzer's definition of shifting cultivation ".... an economy of which the main characteristics are rotation of fields rather than crops; clearing by means of fire; absence of draft animals and manuring; use of human labour only; employment of dibble stick or hoe; short period of soil occupancy altering with long fallow periods" (in klee,1980,p15).

This method of farming is still practised in many parts of the tropical forest areas, for example Ghana and Nigeria. This system tries to restore the fertility of the soil. Many types of crops are grown in order to check soil erosion. African farmers and pastoralists do choose to ensure production in times of drought or crop failure; providing time for supplementing food from

Fishing is prohibited totally or partially in certain lakes and rivers in certain countries. Example can be found in Brong Ahafo in Ghana, where the community are not allowed to fish in the river "Tano" for religious reasons. As a result the waters in this river do not dry up during the dry season and the river contains big fishes up till to-day.

Social controls also have been developed in many communities explicitly to regulate resource use to ensure that the environment is managed sustainably. In Ghana, the head waters of most of the rivers are not to be farmed, because this is where the "gods" of the rivers are staying. Certain days of the week are not for farming. Some communities have instituted forest reserves to be used in the future date and no-one is allowed to farm in these forests. Example can be found in Hwidiem in Ahafo district in Ghana (Amanor,1990).

The intricate mechanisms governing pastoralists grazing patterns and the intimate environmental knowledge upon which such mechanisms are based, have been well documented(Lane,1990 in Vivian,1991). Herds are moved according to land use rules which prevent either the most productive and most drought resistant lands from being overgrazed.

A third institutional mechanism increasing the sustainability of the traditional resource use is the development, refinement and transmission of environmental knowledge in rural communities. Although often dismissed as intuitive, indigenous knowledge has

2:3 TRADITIONAL LAND USE AND MANAGEMENT SYSTEMS

People who rely immediately on natural resources for their livelihood have always developed methods to ensure that such traditional resource management systems, in spite of the external and internal pressures have remained not only viable , but also active and evolving in many parts of the world . Where still in existence to-day, these systems involve elaborate social, technological, and economic mechanisms to safeguard resources (Vivian, 1991).

There are numerous descriptions, for instance, of religious or spiritual significance attached to certain plants and animals which are thereby protected. Certain portions of the land are not to be cultivated. It is interestingly to note that up to the present day these lands have their virginity still untempered. To cite a few examples: The "komkomkwaye" in Assin Traditional area in Ghana, is an area where big trees,wild animals and elephants are found. Another example is the "nananompow" at Mankesim in the central region of Ghana, where the land was not cultivated in the past as 'spirits' were believed to live in the forest. Unfortunately, the people have found out that there was no 'spirit' lived in this forest and started to cultivate it. A particular striking and well documented example comes from india, where the Bishoi community have prohibited killing animals or cutting green trees since the fifteenth century. To-day Bishoi land is green and flourishing area in the mist of the surrounding Rjasthan desert (Sankkhala and Jackson,1985 in Vivian,1991).

A major obstacle to the appreciation of the value of such "common property" systems has been the myth of "the tragedy of the commons", the notion that "common properties" are free for all areas where each individual acts without concern for his neighbours to extract maximum personal benefit from the land to the ultimate loss of all. (Hardin, 1968). Michael Cernea(1989) has pointed out, the term 'common property' has been largely misunderstood and falsely interpreted for the past two or three decades. Common property regime are not free for all as they have been described to be, but are structured ownership arrangements within which management rules are developed. In addition, group size is known and enforced, incentives exist for co-operation to follow the accepted institutional arrangements, and work sanction can also be applied to ensure compliance. Resource degradation in the developing countries, while incorrectly attributed to the common property systems, actually originates in the dissolution of local level institutional arrangements whose very purpose was to give rise to resource use patterns that were sustainable.

The point from all these is not to conclude naively that all traditional systems of resource are indisputably "sustainable" and above criticism, but rather they are far more diverse, complex and subtle than those outside realise. The social, cultural and institutional strengths inherent in traditional systems resource use need to be built on to achieve sustainability but not to be dismissed as backward and wasteful.

the people refer to the future generation as "our children who are still in the soil" (Colchester,1966 in Redclift,1992).

Clean evidence has emerged too that, these ideas are not just long cherished ideals but actually inform and influence day to day behaviour. Studies of shifting cultivation reveals not only their extreme variability and complexity but the numerous reserve of vernacular language on which they are based. Practice to conserve resources, restore soil fertility, mimic biodiversity and protect watersheds have been widely documented throughout the region. Equally studies reveal the immense reserve of practical lore on by societies concerning their environment. To the knowledgeable, the forest is an immense storehouse of medicines, drugs, herbs, spices, fruits, oil, bird nests and much else (de Beers and Mcdermott,1989 in Redclift,1992).

Similarly, studies of indigenous systems of irrigation agriculture have revealed both the appropriateness of the technology, and the complex social institutions which regulate water rights (Coward,1985 in Redclift, 1992). Thailand, the network of obligation and the right implicit in the tradition of the Mnang faai extends from management and protection of resources right up to the forest watersheds which are essential to maintaining water supplies (Per, 1990; Tongdeelert and Lohmann,1991 in Redclicft,1992). By such societal ways, very pragmatic community - based management processes secure biodiversity far more effectively than imposed conservation plans (Lohmann,1991 in Redclift in Redclift,1992).

2:2 INDIGENOUS LAND USE AND SUSTAINABILITY

Traditional land use practices in the Third World countries have been viewed by the First World countries as backward and irrational. Underlying this prejudice lies a deep mistrust of people who are neither subject to the government control and taxation systems nor contribute substantially to the market economy (Dove,1985in Redclift,1992). According to Turker (1988 in Redclift,1992), the Dutch summed up their prejudice to shifting cultivation in Indonesia by referring to it as "robber economy". The British classified shifting cultivation in India as wasteland - not because the practice laid waste the forests but because it provided no revenue to the empire. As pressure on the natural resources intensified, such systems have in addition, been criticised as being environmentally destructive (Agarnal and Narain, 1989; Clochester,1990a in Redclift,1992).

However, many detailed studies of these economies made since 1950s suggest a quite different conclusion. According to Brosius (1986 in Redclift,1992), hunters and gathers, such as the Penan of Sarawak, who explicitly see themselves as passing their land unharmed to generations that follow them, consciously manage their resources to ensure sustainable yield. The idea that present generations are merely stewards who hold the land of the ancestors in trust for future generations is echoed in many indigenous culture throughout the region, as in New Guinea where

CHAPTER TWO

2:0 LITERATURE REVIEW ON INDIGENOUS KNOWLEDGE

2:1 INTRODUCTION

Traditional resource management is a challenge to the neo-classical economists who argue that the invisible hand of market forces will allow economic balance and growth. They also maintain that the market forces will limit and save the resources by attaching price to them. In addition, the classical economists view sustainability in pure monetary terms and ignore the traditional ways of managing and coping with the scarcity of the resources which do not place much value on monetary goods.

This chapter will reveal how Third World countries manage to employ indigenous knowledge on local resources, using religious or spiritual significant, social concrols and environmental knowledge. They also commonly use their resources commonly in order to regulate it for the generation to come. It will also reveal changes that have taken place but tradition has not been lost. There will be local action if projects do not conform to their management systems.

The last section of this chapter will look into some researchers views on indigenous knowledge.

Chapter seven deals with the incorporation of appropriate techniques into planning procedures.

Chapter eight forms the conclusion of the discourse put forward recommendations which is essential to the success of the proposed technique plus the summary.

in different ways and set priorities on that basis. How we interpret is based on our experience. Experience in our community is very much commonsense and not scientific sense. Human consciousness becomes important. Social practices are influenced with commonsense. This has to do with understanding of individuals in terms of their own interpretation of these realities, and it is this understanding of the society in terms of the meaning, which people ascribe to the social practices in that society.

The phenomenology or interpretive approach to planning focuses attention on different kinds of knowledge and different processes for deciding what is true. In reviewing the characteristics of positivism and phenomenological approaches, De Neufville (1987) says that the ideas underpinning the latter approach have not yet had the elaborate and application of the positive model and then proceeds to make a substantial contribution to the discourse on phenomenology in her study of planning knowledge and action. He goes on to say that , "... certain k ideas, however, about the content of this knowledge, the styles of research and the processes of creating knowledge have considerable application to planning. In particular, they provide ways to help link Knowledge to action. He stresses that the focus of phenomenology is on specific situation rather than generalisation. It deals with a particular situation and the behaviour of the community in relation to the situation. Behaviour is allied to values, perceptions and interpretations of the community, which are in turn a reflection of the intentions and beliefs of the members

CHAPTER THREE

3:0 PLANNING THEORIES AND INDIGENOUS KNOWLEDGE

3:1 INTRODUCTION

There are a number of theories that can be used to legitimize the emphasis on indigenous knowledge in resource management systems. In the discussion below, I will outline two of these theories, which are phenomenology and critical theories, and then incorporate them into the decision-making model.

3:2 PHENOMENOLOGY AND INDIGENOUS KNOWLEDGE IN MANAGEMENTS SYSTEMS

Phenomenology deals with different perceptions of the same event. What is important is how one sees something, and belief is based on value. It is defined as a school of philosophy that holds that knowledge is acquired through the act of experience in life and therefore, this knowledge is intuitive and non systematised. The notion of how one sees something is important and belief is based on values (De Neufvvlle, 1987)

Phenomenology attempts to make sense of the world, and tries to give meaningful definition and explanation to what is going on in life as we rationalise what we do. We experience and interpret

important the environment is to him. Muntemba (1990) argues that "environmental degradation is becoming a liberating force":

> "I have come across communities/chiefdoms where the ecological degradation which found expression in the food crisis of the 1980s pushed people into taking conservation measures which in fact flouted national laws...Some governments are willing and anxious to try ways of managing the natural resources to ensure the livelihoods of poor people. Where people know this, they are seizing the opportunity for further empowerment"(Muntemba 1990:4 in Vivian,1991).

Success in this local empowerment for healthy environment will depend upon the recognition of the local rights to decide for themselves. The development agents and the environmentalist should support people's rights for self determination. They can have a debate with them and find a suitable solution for a sustainable development of the environment.

The next chapter will chapter will discuss the various theories and decision making models. This will help to link indigenous knowledge to development planning.

It is true that many poor people cultivate the marginal lands for their survival in spite of the fact that this can cause serious erosion. This cannot be taken as a serious environmental degradation. Of serious concern are those who exploit to amass wealth and degrade the environment. Both cannot give tangible answer for the problem of environmental degradation.

CONCLUSION

As we have already seen from our analysis above, the poor communities not only have the ability to manage their resources sustainably, but have adopted ways and means of doing it. Poverty is not the cause of environmental degradation in the Third World countries, it is the question of empowerment. The Third World communities have been disempowered over a long time. The local communities are always excluded to participate in resource management. Any decision taken about the environment the local people are left out. Decision on resource management are always taken by those who don't have the knowledge about the environment. They take decision to exploit the environment for their own gains because they know the environment do not belong to them and they will one day leave with their booty and settle somewhere, and find another environment.To them there is no limit to resources.

It is clear that participation is essential for sustainable development. The person who has the right of tenure knows how

This is because indigenous knowledge has been largely handed down through oral traditions passed down over generations.A senior consultant at the ONAKE International Applied Research Project in Ontario, Canada, Raymond Obomsawin question its preservation, expansion and practical use which is urgent (IDRC Report,1993).

Indigenous knowledge can be lost in unpredictable ways. The oldman in the home may die before the young ones grow up. The fetish priest or priestess may hide the type of medicine to cure certain diseases and die, these may be lost forever. This type of behaviour can be found in African Traditional medicine research. Traditional maize is now getting lost because of new hybrid. "Almost absent from this potted history of genetic resources are past and present users and originators of genetic diversity: farming household all over the world, but especially rural people living in the more diverse and difficult environments of tropical and sub-tropical regions where great majority is to be found, says Mr Prian, modern crop varieties often bring with them novel practices and these combine to erode the communal memory"(IDRC Report,1993, p15).

"Indigenous knowledge, says IDRC"s Shahid Akhatar, provides the basis for grassroots or local decision-making, much of which takes place at the community level in rural areas where the majority still lives. Very little of this knowledge has been recorded, yet it represents an immensely valuable data base with insights on how numerous communities have interacted with their changing environment"(IDRC Report,1993,p).

Professor Reichel defines shamanism as a political and religious technique for managing societies through certain ritual performance, myths, and world views, such that a community aspects the natural environment and community life as a social common good. In the Miriparana area near the Columbian-Brazil border, says Pro. Reichel, shamans practice environmental "accounting": an awareness that action upon the environment always begets reaction. These indigenous societies can be said to be among the few ones left with a strong cultural tradition of indigenous sustainable development (IDRC Report,1993).

" The native people in Asia, Africa, Canada or Latin America have by far in common in terms of their conceptualisation of nature and its bearing on our life compared to the rest of the population", observes Kirit K. Patel of the centre of Management, in Ahmedabad. Names of plants and trees are known by their names and handed down through generations e.g the Akans in Ghana, and the time is reckoned by the position of the sun.

According to Christine Kabuye, the botanist in charge of the national museums of Kenya, East African Herbarium, many people realise one cannot talk of the values of natural resources in human terms without falling back to what people know about them and how to use them. And when it comes to sustainable development, incorporating indigenous knowledge is a must (IDRC Report,1993).

This local action is not triggered by direct concern to protect the environment. It has effect on the communities survival. The communities want to ensure their survival hence the protest. The local people are better able to assess the true cost and benefit of any action in their environment. Local knowledge has been accumulated over the centuries and the community is in the best position to assess any damage or benefit to the environment. The best chance of it is to form coalition with the international organisation for greater opposition. Success depends on the social and political structure. If the government is autocratic the action of the pressure group will be suppressed as happened in Nigeria in the 1980s (Adams,1990). They can use international pressure to diffuse this act of government. The community can also be mobilised to check the environment.

2:7 SOME RESEARCHERS VIEWS ON INDIGENOUS KNOWLEDGE

"More and more, researchers on sustainable development are taking a serious look at indigenous knowledge. They can hardly avoid doing so, "since indigenous knowledge is like a thread running through the human community, touching on biodiversity, climate and countless other activities", says Paul Incmina in the Philippines. He sites the Shamanism, as an example, he quotes Elizabeth Reichel as saying, "The origin of the Amerindian shamanism are Asiatic, possibly proceeding from millennia of Shamanistic religions in Northern Asia and South-east Asia" (IDRC Report, 1993, p14).

There has been increasing internationalisation of even local economies with increasing commercialisation and pressure and hostility from the industrial world. It cannot be assumed that traditional resource management systems can continue as before without the support and struggles of their participants. Such struggles based on the effort of the local people, maintain their level of living by stopping resource degradation which threatens their traditional livelihoods without giving them new benefit, are taking place in many part of the Third World Countries. The best known are the Chipko movement, which originated with localised effort to prevent destruction of the Indian forests by loggers and has developed into regional movement with wide range environmental concerns and the Brazilian forest dweller's rights to extract the forest product in a sustainable way and has resulted in the establishment of extractivist reserves, protected from logging(Bandyopadyay and Shiva, 1988; Schwatzman,1989 in Vivian, 1991).

Protest will not only take place where there is environmental destruction as happened in Nigeria, where the people resisted against the Bakori reservoir in the late 1980s (Adams,1990 in Vivian, 1991).It also can take place where there is an attempt to convert resources from one to another in a way which will render traditional way of life untenable without providing alternative economic opportunities to the communities affected (Lane, 1990 in Vivian, 1991).

environment. It can occur as happened in the Jabel Marra highlands of Sudan (Miehe, 1989 in Vivian 1991). According to Miehe, the population of this area has declined substantially (due in large to the pull of newly accessible cities), and the resource management of the area has become less rigorous, with the result that tree cover has actually declined. The only mature tree plantation were planted over 60 years ago, and the knowledge that provide the basis for sound plantation management has now largely been lost.

One cannot make a generalised judgement that tradition resource management systems is good for development. It will only be accepted as a better means for development if the management system is viable or will remain viable. Such community will not allow any environmental degradation if it is in their power to arrest it. If that occurs it will be a potential for protesting against a project which is considered as detrimental to their environment.

2:6 LOCAL ENVIRONMENTAL ACTION

The traditional resource management systems can provide the bases for local initiatives to protect the environment. This will be possible if the management system is still viable. It is envisaged that with the support of the local community the local resource will survive.

Tradition resource management systems have many imperfections. They should not be romanticised. For example, it is patriarchal, difficult to relate to scientific development In some places women are not permitted to the land. The exclusion of women from decision-making or the benefit of such systems is perhaps the most readily observable example of inequality although similar exclusion on class, caste and race are also common. (Watson,1989 in Vivian,1991).

Tradition is not static. To many in the development community, the question of the relative merit of different traditional systems is seen as uncertain. The common perception is that the sustainability of traditional ways of life is being threatened not only from outside pressures but also opposition from within the community including increased integration in the market economy, increased contact with Western cultures and population pressures. All these factors do inevitably bring changes to lifestyle, but tradition is not static and change is bound to occur without tradition being lost (Vivian, 1991).

No community is cut off from the outside world pressures. The way of life of most communities have been pressured. Some communities have their knowledge and some have retained their knowledge while other have mixed their knowledge with Western knowledge. It is believed that the increase population break down the resource manpower system but this does not matter. What matters is the careful management of resources through traditional system. We cannot generalised the effect of population growth on the

this is because the existing social structures allow those who control usufructuary rights to grant or withdraw these rights at will.

According to Vivian (1991,p9) private ownership, secure land tenure and sustainable resource use are not evitably or intrinsically inked. For instance, small owners who are obliged to go deeply in debt each season risk loosing their land after a bad harvest; large landowners often show no qualms about clearing rainforests for short term gains, even when it is clear that the resulting pasture land will become barren in only a few years. Bhandyopadyay,1988 in (Vivian, 1991) demonstrates that in certain communities in India common property resources are better safeguarded than private property resources. The short time preferences of the private owners, and their ability to abandon degraded lands once maximum resources had been extracted, this means that they do have the same incentives for environmental preservation that exist in the communities whose descendants will continue to inhabit it for generation to come.

2:5 CHANGES IN TRADITIONAL MANAGEMENT SYSTEMS AND SUSTAINABILITY

Within the community knowledge and expertise are not evenly spread. Men on the other hand as hunters tend to have knowledge on animal behaviour. There is division of knowledge by gender: Women tend to have the skill about making clay pots and mats and their knowledge should not be ignored.

capital investment, he will manage it sustainably to ensure high return out of it. This is said to be impossible without security of tenure offered by freehold or private ownership.

Jodha (1990 in Vivian,1991) argues against private ownership saying that the state interventions have been undertaken to privatise common property, even when such intervention have been developed with specific aim of helping the poor, have resulted in overall decline in the conditions of the poor household. Government and international agencies using the tragedy of the common scenario to help poor the have not but rather triggered environmental decline eg Botswana.

Adams (1990) also argues that the symptoms of environmental degradation in arid lands including the concentration of pastoralists are often mistaken for the cause. That is, when pastoralists are restricted to the utilization of only part of the lands they have traditionally grazed, they are prevented from managing the remaining land in a sustainable manner.

A key factor underlying the continued persuasive power of the tragedy of the commons metaphor is the believe that private land ownership gives individuals increased incentives for managing their resources sustainably. The argument is made that only people who have secure tenure over their landholding will have the motivation to investing long-term undertakings necessary to ensure the continued yields of fragile environment (Vivian,1991 p9). Many projects have failed because of lack of secure tenure,

away at the cornerstones of the rational-comprehensive approach". (Muller 1992: 141).

System approach took centre stage and enhanced theoretical scientific dimension, and hence increased authority to rational decision model. Catenese and Stein at the same period came out with a combined scientific technique and theoretical approach in the systemic planning theory. Their system planning process is primarily a combination of system analysis and comprehensive planning, in relation to which the authors state that, "Systems analysis is concerned with scientific methods, as such, and not with any p icular field of science. It is a matter of methodology r ner than content. Planning as an activity, also is basically concerned with a process. For this reason, a system view of planning should provide a more logical basis for the creation of a proper philosophy and methodology of planning which, in turn, should lead to far better performance in planning" (A.J.Catenese and A.W.Stein,1971).

System analysis has its own problems. It is still not solving citizen participation. In the same way as rational planning model occurred in the 1960s was accompanied by the emergence of a practical concern with citizen involvement in the planning process. An early example of participation methodology was provided by Kozlowski who presented four key points at which public involvement facilitates decision-making. These points are at the stage of goal formulation, the selection of alternatives, the choice of preferred alternative and sanction of the

Davidoff and Rein's planning process includes: value formulation, that is, responsibility, analysis and evaluation; means of identification (alternative, choice, weighing and effectuation which is directed and autocratic control. They were concerned with planning methods; the need is great for widespread attention to planning methods (Davidoff and Rein, 1962). It is planning procedure, they are concerned with not planning theories as Meyerson and Banfield. They still did not solve the problem of decision making being autocratic and repressive. There is no community participation.

In the decade that followed, more attention was accorded planning method. A refinement occurred and was accompanied by the broadening in the interpretation of the rationality concept. The first refinement to rationalist concept was the coupling of comprehensive with rationality. This broadened the base of planning methodology. It was first introduced by Charles Lindblom (Faludi, 1973: 154). This afterwards dominated the planning process. "Much of the 1950's and 1960's western planning thought became almost conterminous with rational comprehensive model ...which attempted to apply logical positivism to society" (Weaver et al 1985: 157-158).

After the Second World War, interests on operation research, cybernetics and system approach found their way into rational comprehensive planning process. They carried rationality and comprehensiveness methodology to a zenith - "while concurrently (and paradoxically perhaps) the radical-liberal critique chipped

1. The listing of all the alternative strategies;
2. The determination of all the consequences that follow upon each of those strategies;
3. The comparative evaluation of these sets of consequences". (Simon 1965:67.)

These three steps are in congruent with the three decision steps outlined by Meyerson and Banfield. Rational model has its weakness that it is geared to accommodate the interest of the person or organisation occupying a position of authority. Even though it portraits efficiency of decision-makers, it is an autocratic and dictatorial decision-making model. The community is excluded from political decisions.

The work of Meyerson and Banfield was carried forward by Davidoff and Reiner. They introduced choice theory in planning (Davidoff and Rein, 1962) They posited 'efficiency and rational action' as primary objective of planning. They measured efficiency in terms of the satisfaction of aggregated individual preferences, and describe rationality in two senses: Increasing reasonableness of decisions and involving full knowledge of the system in question. They see the latter as approaching Schoeffler's model of full rationality (identification of all alternatives relating to all ends) but inclined to an acceptance of Simon's more limited satisfying or bounded rationality concept of rationality (Muller, 1992).

rationally is most likely to maximize the attainment of the relevant ends and that therefore 'rational' planning are the same...". By a rational decision, we mean one made in the following manner:

1. The decision-maker considers all of the alternatives (course of action) open to him; i.e. he considers what courses of action are possible within the conditions of the situation and in the light of the ends he seeks to attain;
2. He identifies and evaluates all of the consequences which will follow from the adoption of each alternative; i.e. he predicts how the total situation would be changed by each course of action he might adopt; and
3. He selects that alternative through probable consequences of which would be preferable in terms of his most valued ends (Meyerson and E.G. Banfield, 1955)

Meyerson and Banfield draw their concept of rational planning from the writings of Simon and Parsons, not from rationalist philosophers, nor from the Plutonic, Cartesian or other classical rationality traditions. The behavioural scientist, Herbert Simon, who is accredited as the first to address the issue of rationality in decision making (Friedmann and Hudson,1974), states that "the task of decision involves three steps:

belongs to Empiricist/Positivist Epistemological Camp rather than that of the Plutonic or Cartesian Rationalist Tradition. The Geddessian process is nonetheless of considerable importance in two senses: firstly, it constitutes an early form of scientific method in planning (Ravetz 1986, Taylor 1986) and is thus part of the naturalist school of thought that postulates the application of the analytic methods of the natural science in human sciences; and secondly, its empiricist base is now an integral part of the structure of the rational planning paradigm (Muller,1992). There are two separate areas of knowledge here - empiricism and rationalism. These are the basis of making a decision. The tenet here is that the community was not taken into account.

In the mid 1950s Gaddes model was followed by Rational model by Meyerson and Banfield. The analysis by the two men of the work of the Chicago Housing Authority led to the promulgation of a new procedural approach in planning.

The model of rational planning presented by Meyerson and Banfield (1955) draws on the concept of public interest as the basis for goal definition (ends) and the decision making in planning. They describe their thinking in the following way:

"Since planning is designing a course of action to achieve ends, 'efficient' planning is that which under given conditions leads to the maximisation of the attainment of the relevant ends. We assume that a planned course of action which is selected

Forester (1980) has made Planners aware of how communication action can work . This is because communication acts of ordinary planning practice don't just happen. They do not grow automatically from natural conditions. They are not biological. He argues that planners can and should learn to reflect critically on their own discourse. This can be done by judging as quality against the universal yet pragmatic requirements implicit in the structure of speech itself, sincerity comprehensibility, legitimacy and truthfulness (Hoch 1984:89). We should not take these for granted, if violated our tradition or indigenous knowledge will be lost. Africans in general hand over their knowledge to generations. With the present foreign interference the indigenous knowledge is getting lost but tradition is not lost. Instead of preserving the land it is being disintegrated. There is the need for Development Planners to retrieve the indigenous knowledge that is lost through communicative act. By doing so they can develop them to maintain the use of these olden management act.

3:5 INTRODUCTION TO DECISION METHODOLOGY

Many planning theorists like Lindblom (1959), Etzion (1967), Dekker and Massop (1979) and Gans (1991), have adopted decision-making and planning processes.

The first person to adopt planning methodology is Gaddes in the early part of this century (Brehemy and Batey 1981). His method included survey before plan, or diagnosis before treatment. It

Planners can do this effectively when they warn against problems, suggest new ideas, comment upon ideas and proposals for action. Meeting the community and talking and discussing with them is the best way of acquiring knowledge in the community. This will help bring out the community's cultural values which can be used to plan effectively and acceptably to the people. The community needs to preserve their environment for the future generation. How they have been preserving the environment needs to be known and studied, and can be used to plan for Management and sustainability effectively.

The discussion should not be a one day business a continuous process, and conclusion will have to be reached by either accepting or rejecting. Habermas calls the theory of these speech act as " the theory of universal pragmatics". It is called 'universal' because all society communication seems to depend on the structure and possibility of such act and pragmatic because these acts are concretely practical - they make difference in our lives (Habermas 1972). This is important for the use of indigenous knowledge in resource management systems, because these elementary communication actions will be at heart of the ordinary people. They will be cooperative, like in Maphunwane where they like to listen and learn. It should be understood that one cannot impose something on ordinary people. What comes first is communication which is fundamental to practical life. Without communication, there is no understanding, no common sense, no shared basis even for disagreement or conflict.

not only transmit information, but they communicate political and moral meaning. They seek to support, consent, trust, sacrifice and so forth. The critical content of the theory is centred on the analysis of systematic but unnecessary distorted communications which shape the lives of citizens of advanced industrial societies. Habermas seeks to contrast these distorted communication with the ordinary common sense communication of mutual understanding and consensus which makes any shared Knowledge possible in the first place. Habermas argues that democratic politics or planning requires the consent that grows from process of collective criticism, not from silence or a party line.

Forester goes on to argue that, "In practice any action works not only as a tool but also a promise, shaping expectations. Planners may be effective not because they put words on paper, but because they may alter expectations by doing so".
(Forester, 1980, p277). Communication counts well in rural areas, without it rural development would not be possible and the use of indigenous knowledge in management systems will not be a reality and will not be effective. There will be co-operation in research into the indigenous knowledge in the community. This will make planning easier and accepted by the people. In order to develop indigenous knowledge in management systems, interest and audience are required. Without audience indigenous knowledge in management will fall on deaf ears. With audience there will be interest and intentionality set up to plan for resource management and a community will be a reality.

4. The state seeks to restrict public argument and participation. It uses communication to maintain its power through media sensor.

If these are true then Communication theory becomes an effective tool to legitimize indigenous knowledge in resource management in Maphunwane District. Of concern here is using distorted communication to disempower the community in the decision-making process. This means that in planning we need to understand the power of communication.

Habermas (1972) attempts to overcome the dilemma posed by Marxist instrumentalism by assimilating instrumental action with a broader conception of social evolution. Instead of linking theory and human emancipation with revolutionary destiny of the working class, Habermas argues that this link is already present in the logic of human communication. Habermas argues that "...a critical social theory based on this theory of universal pragmatics will illuminate the difference between what we should agree to, theoretically and practically, in an unconstrained situation, and what we now settle for" (Hemmens and Stiftel 1980, p343 in Hoch 1984,p89).

John Forester(1980) adapting Habermas' idea of planning argues that Habermas communication theory of society in effect treats social, political, and economic structures as operative communication structures. These relations of power and production

needs to be recognised. It does not provide a way to confront ideology that the community as well as the decision-maker share. It also does not allow a place for basic conflicts in power and interests. Critical Theory will solve these problems should they arise. It will help to confront the ideology which both decision-makers and communities share. This is because critical theory regards conflict and change as normal in aspect of practice.

3:4 CRITICAL THEORY AND THE USE OF INDIGENOUS KNOWLEDGE

Habermas developed communicative theory of a society and this was adopted by planners. The theory gave planning a new way of understanding what they do and what they should do. It is concerned with communicative action rather than relating means to an end.

Communicative action is necessary because it is based on four arguments discussed below:

1. The state seeks to legitimatize and perpetuate itself;

2. The state seeks to exclude particular groups defined on economic, racial or sexual lines, from decision-making processes that affects their lives;

3. The state seeks to promote the political and moral illusion that science and technology through professional experts, can solve political problems;

advancement of the cause of the least privileged sector of a society. The major goal must therefore be the empowerment of this sector, with the associated objectives of decreasing dependency; of increasing social, economic and personal development; of promoting self determination, self-reliance and dignity; of dismantling discriminatory, oppressive and paternalistic structures and replacing these with developmental, democratic and liberating systems (Muller 1993). The essence of phenomenology is in the entering of a phenomenon into the consciousness of the participant. Conceptual considerations attaching to consciousness: reflection, perception and intentionality, thus offer support to the structure of phenomenology (Muller 1994).

The concept of intentionality is central to phenomenology. For each individual the essence of consciousness lies not in discovering reality, but in describing in personal terms what reality is intended to be in the minds of individual. The intellectual construction of phenomenon, whether it be a cataclysm or a comedy, derives from the participant's intention as it relates to a particular event or object. What a participant wishes for an object or a reality to be or what he interprets it as being, is drawn from personal perception of that object. "That perception is a function of the experience, values, beliefs, prejudices and attitudes held by the participant" (Muller, 1994 p14).

Phenomenological approach has much to offer as a model for many aspects of professional practice, but it has limitations and

of the community. "Because human behaviour can only be understood in terms of its meanings to the actors, beliefs themselves are a constitutive of facts. A meeting, a document, or a housing unit is defined in the terms of what it is believed to be". (De Neufville, 1987:88).

Indigenous Knowledge in management systems is the belief that people can manage their resources in their own locality. According to Professor Muller,(1992) "For disadvantaged communities, beliefs, like Knowledge, are acquired in the experience of life and are accordingly largely unstructured and intuitive". As a result, community knowledge has to be taken into account. We have to understand the community, their interest, background and their ethnic belief in relation to planning for them. We have to be aware that there are heterogenous groups, gender groups and their problems. Personal comprehension is important so that problems will not arise if there is any project proposal for a particular community.

3:2 EMPOWERMENT AND PHENOMENOLOGY

As numerous authors have indicated, community participation has a variety of aims: education, self-help, conflict resolution, project efficiency, staff-supplementation, co-production and co-operation (Burke 1968; Susskind & Elliot 1984; Yap 1990 in Muller 1994). In the final reckoning, and in the context of human and physical prerequisites for development, the cardinal consideration in all community-oriented projects must be the

in addition to the gardens of his family, has a large field cultivated by his people, though a chief with a small family may have less land than some of his wealthy polygamous subjects. Within the homestead, the largest field belongs to the headman and his mother, all the homestead inmates work on it.

Pasture land is more widely shared than garden lands. Rulers have recognised areas to which subjects do not take their cattle. Areas in each district are kept to be used by the cattle of that district. A headman also has the right to graze his own herds in land immediately surrounding his homestead and in his harvested fields. The Political overlords exercise special privileges over such natural resources as reeds, thatching grass and timber in his district. The king and his mother may call on any chief for a supply (Swaziland Annual Report, 1948).

The annual cycle for soil cultivation begins with the cultivation of small gardens on the river banks or near the homestead, for early ripening maize, sweet reed, pumpkins, groundnuts and melon. Every homestead, and in theory, every married woman, should have at least one large allotment for later crops. A field is cultivated until it fails to produce, when it is left fallowed to recuperate. Swazis can distinguish between clay and sandy soils, and judge partly from the vegetation which soils are suitable for particular crops. Abandoned homestead sites are highly appreciated as garden land. A stone-weighted digging stick and a broad-bladed hoe were the main implements (Kuper,1952)

4:4 INDIGENOUS LAND USE AND SUSTAINABILITY IN SWAZILAND

The traditional system of land use can be found in the land originally set aside for Swazis' use by the partition of Swaziland (Native Land Common Tenure). Traditionally, land is held by the rulers, and their power is wielded over their subjects. The land is usually referred back to the rights that the rulers exercise over its distribution.

When a man dies, his main heir inherits his land and can make this claim even after many years of absence, pointing out his father's grave as a beacon establishing his right to the area. The old sites of the homesteads are particularly fertile and valued. In theory, a man or a woman is entitled to as much land as he or she can cultivate. But with the curtailment of land this is impossible, and some subjects are driven to have a homestead in the area of one chief, and their garden lands in the area of another. Land dispute indicating land shortage dates mainly from the period since Partition was affected (1913), and take place between Whites and the Swazis; between the chiefs, between the chiefs and their subjects. Boundaries frequently remains vague until a dispute occurs (Kuper,1952)

In Swaziland, the scarcity of good arable land makes its distribution a major index of status. The garden of a ruler is more extensive than at of any subject, and throughout the country there are royal fields, cultivated by kinsmen and subjects, from which they receive the harvest. Within the district, the chief

Project falls into this category.

4:3.2 Swaziland Nation Land - Communal Land Tenure

This land is administered by chiefs under Swazi law and customs. It is only under this land tenure that every Swazi married man is entitled to a piece of land. It seems that much of this land cannot be referred to as communal because it has either been designated for specific agricultural projects or state farms as stated above.

According to Sonya M. Jones, (1963) land acquisition from the chiefs has no cost other than expenses for "Ukukhonta" payable to the chief for his administration duties. Communal land can neither be sold, leased or used as a security for bank loan. "The concept of commercialisation of the land is foreign to the Swazis, and methods and routine imposed by modern agriculture run counter to their attitude and inclination and resistance to new innovation is encountered" (S.M.Jones, 1963). Under the customary law, an individual's tenure is usually sufficiently protected; but cases of eviction by the chief falls into two categories: firstly, those persons who have aroused antagonism in the community, and those who have used their land in a way unfair to their traditional usage. This latter category includes the commercialisation of the land by cash crop production.

4:3 SWAZILAND NATIONAL LAND

Swaziland National Land is held by the King in trust of the Swazi Nation. By definition every Swazi married man is entitled to a piece of land on the Swazi National Land. The Swazi Nation Land is divided into two broad categories with different tenure systems: Communal land tenure on communal land administered by the chiefs under the King, and freehold land administered by the state under the King.

4:3.1 Swazi Nation land - Freehold Land

Entitlement does not apply in this category. The administration of this land can be divided into two categories. The land that was administered by the state before independence and referred to as crown land and some of the lands that were bought back, fell after independence under the administration of different Ministries. A certain portion of it is administered by the Ministry of Agriculture and Co-operatives and is used for state agricultural projects and referred to as state farms.

Concession land that was bought back through the use of various funds like 'Lifia Trust" falls under the administration of the Royal Conglomerate, "Tibiyo Takwagwane". It is used by Tibiyo for its own projects in the partnership with private companies (mostly international) or foreign governments which are interested in contributing to Swazi development efforts, and it is also leased out to private companies. The Taiwanese Rice

The next chapter will look into the indigenous knowledge in Swaziland. To find out whether they are parallel to other knowledge in resource management.

Private ownership of land has proven to be no cure for environmental degradation. A particular agriculturalist employed in Malkerns (1994) said, "A particular herbicide used on the pineapple plantation has such an effect on the soil that ,the soil cannot be used for production of any other product except pineapple". The Usutu Pulp Mill in Bunya is probably one of the highest air pollutants in Swaziland. The smell in this area shows that the Usutu river is highly polluted by the company's waste. It is likely that this has an effect on the plants and aquatic life. The rural people can no longer use the water near the industry for domestic purposes. All these elements have a negative effect on the lives and development of rural people in Swaziland.

Similarly some title deed farms owned by Swazis face the danger of being turned into townships and losing their agricultural potentials. These are good farmlands. The best example is Manzini peri-urban, which is in the most productive region in Swaziland. This is because the owners don't think about their future generations, their immediate needs are what they wanted. Some of the owners are also white farmers who are no longer in Swaziland and don't have any intention of returning to Swaziland. They then can sell the land to be used for any purpose which will not be beneficial to the Swazi people and their generations to come.

4:2 LAND TENURE SYSTEMS IN SWAZILAND

Land tenure in Swaziland, can be divided into two broad categories, Title Deed Land (TDL) and Swazi Nation Land (SNL). The Swazi Nation Land comprise 70% of the total land in Swaziland.

4:2.1 TDL

The Title Deed Land is freehold land which is privately owned by companies or individuals (Swazis and Non-Swazis). Productions on these lands are mostly profit-oriented and are mostly on large scale for commercial purposes. Farming is characterised by modernised management systems and modern technology. Owners have a choice either to farm the land themselves, or lease it out to professional farmers, and still earn a reasonable income out of being a farm owner, while the productivity of the land is not hampered.

Commercial farming in these lands is highly mechanised. This serves to reduce the positive impact of commercial farms on the lives of the rural people. The more mechanised they become, the more jobs are lost, especially unskilled labour in agricultural sector where employment is most needed. Modern technologies are mostly imported and this has a negative effect on the nation's economy.

CHAPTER FOUR

4:0 INDIGENOUS KNOWLEDGE AND MANAGEMENT SYSTEMS IN SWAZILAND

4:1 INTRODUCTION TO SWAZILAND

Swaziland is situated in the south-east of Africa. It is bounded on the north, west and south by South Africa, and on the east by Mozambique. (See map 1.) It is a landlocked country, with a population of about one million. Physically, it is divided into four geographical regions namely: The highveld, the middleveld, the lowveld and a plateau in the east. The vegetation consist of short trees and grass. It has the largest manmade forest in the world.

Swaziland is a kingdom, with a king and a queen mother. The King chooses the Prime Minister and the Prime Minister chooses the cabinet. Each constituency chooses its representative to parliament. Members of parliament are not allowed to campaign before they are chosen to parliament. The people of swaziland do not take part in decision-making so far as parliament is concerned. This chapter will look into how the people of Swaziland manage their land, their knowledge on their environment and their resistance to any project that does not affect their lives.

In summary, using these two models will make Planners get deeper into the indigenous knowledge of community and learn so that they can suggest better means of planning for resource management which will be accepted by the community. The community will participate in shaping their own environment which will affect their own lives. The methodologies will acknowledge the values, beliefs and perceptions of the people.

The next chapter is about Swaziland and their indigenous knowledge. This chapter will help to incorporate their indigenous knowledge into planning theories and decision making.

choice to say what they want and what they don't want in the decision-making.

To learn to use indigenous knowledge in resource management systems in planning, is a continuous process. Strategic choice concept offers some useful pointers, but it is too long a process. It can be shortened to make it more effective as a model to be used in rural planning. Strategic choice by Dekker and Mastop (1979) gives us a methodology based on the principles that planning is a continuous process of choice involving the evaluation of various alternatives in the light of desirable end state. "This process is cyclical... taking account of past as well as future decision.. and..allow decision-maker to get acquainted with problems through successive rounds of problem definition, comparisn etc". (Dekker and Mastop 1979:88). This model preoccupies the community for discussion and decision at each stage (scanning, shaping, designing, comparing, choosing and doing, facilitates a total involvement of community throughout the process.

The promotive process which is community-oriented decision-making model has the ingredients of both phenomenology and critical theory. Phenomenologically it shows the knowledge and experience of the community action and critically shows learning from the community. This is because this kind of process is a continuous one: there is perception, edification, conception, integration, resolution and realisation.

empowerment, asks what planning models are appropriate to community self empowerment. He suggests that, " his social mobilisation and social learning approaches might be appropriate since both require substantial departures from traditional planning practice, which is typically imposed from above rather than generated from within the communities of disempowered themselves" (1992:170). According to Friedman (1987) the social mobilisation/learning model, offers a useful intellectual framework for planning activity but, like transactive planning, does not provide a procedure or methodology built around actions geared to empower the affected community. The need is thus the formulation of a decision-making methodology that does not rest on the pillars of misplaced paternalism and autocratic conventions, nor on technicist preoccupation that is not tied to the rational paradigm and the naturalist tenets of scientific method".

CONCLUSION

Research and learning should move together, which means that phenomenology and critical theory cannot be separated. Promotive planning and strategic choice are among the approaches that have relevant attributes directly or indirectly, to the phenomenology and critical theory. If we want to use indigenous knowledge in resource management correctly, then promotive planning should be conceptualised and structured around the promotion of democratic ideals and associated prerequisite of community involvement in the decision-making. This will help the underprivileged to have

of rational model (Hugne, 1982, Cartenese, 1984). This means that the participatory procedures are still within the naturalist framework of scientific method in planning. This natural science in planning cannot be accepted in this modern world. The days of autocracy of decision-makers have passed. The time has come that human behavioral patterns should be used in planning methodology. Alternative approach should be sought for to decision making in planning to include community indigenous knowledge. Indigenous knowledge when used in planning methodology, will make planning to be 'Doing Good and Being Right'.

Over the last decade the Western Countries have been preaching about democracy, participation, women empowerment and so forth. Community participation has variety of aims: Education, self-help, conflict resolution, project efficiency, staff-supplementation, co-production and co-operation(Burke 1968; Susskind and Elliot,1984; Yap 1968). It should also include the use of indigenous knowledge in resource management. In planning for a community their indigenous knowledge has to be exploited in order to make community participation more effective, but not to dismiss it as primitive and backward. The major goal for community participation and the use of indigenous knowledge should be empowerment. The community should be given power to decide for their own lives. The question is, 'If the community has no power, how can it decide for itself?'.

There should be a planning decision methodology that empowerment would be enshrined in it. Friedmann, in his work about

plan.(Fagence 1977).

Civil conflagration in the U.S.A. and social commitment in the U.K. facilitated engagement of the public in more egalitarian decision making processes. Many writers contributed to participatory method as formulated by Kozlowski. McConnel, in similar vein, sees the formulation of hypothesis, the testing/reduction/refinement of alternatives and the evaluation of the alternatives as phases in the plan design process that are particularly amenable to public input. Other contributors are found in Robert's procedure (which locates community involvement in five phases between goal establishment and monitoring) and McDonald's process that incorporates an interface between the public and the planners at the plan proposal, goal requirement, survey, hypothesis preparation, alternatives consideration and plan approval stages (M. Fagence 1977)

Leow, in his contribution to public participation came out with 'local planning process'. This model makes provision for participation at three stages: definition of goals, generation of objectives derived from the local situation survey, and choice of the best alternative (Loew, 1979).

According to Hugne and Catenese the inclusion of community opinion in planning process adds credibility to the judgement exercised by the decision-maker but the process has, correctly, been construed as no more than a variation of top-down routine

CHAPTER FIVE

5:0 USE OF INDIGENOUS KNOWLEDGE IN MANAGEMENT: CASE STUDY IN MAPHUNWANE DISTRICT

5:1 INTRODUCTION

The purpose of this case study is to substantiate the argument for the use of indigenous knowledge in management systems. This chapter will look at the historical background, physical characteristics, traditions, agriculture, diet, hunting, fishing, environmental control and building rights, in Maphunwane District, with special reference to the use of indigenous knowledge in management systems of the area.

5:2 DATA COLLECTION

Before expanding on data analysis, it is imperative to start by highlighting the method used for data collection. The first is my own observation for a period of four years. The second is a semi-structured survey questionnaire. Thirty adults, both men and women, were interviewed by the author and schoolchildren under the author's supervision. The questionnaires are included in the appendix. The purpose of the survey was to gather information

own to hunt small animals for the family pot.
(Kuper, 1952,).

CONCLUSION

It has been seen from chapter four that Swaziland has the knowledge of managing its own affairs without outside interference. Their system of land ownership is communal and controlled by the chiefs to ensure sustainability. They have numerous regulations with regard to the land and failure to abide by these regulations will be tantamount to banishment. Their system of institution helps to make management more effective. The "Libandla" system gives everyone a chance to speak out anything that will help to manage the affairs of Swaziland sustainably. Hunting is regulated and the Swazis have knowledge about storage of food for future use,especially, food preservation.

Present tension between the government, union members and political parties indicates that there is need for change in Swaziland. This came about as a result of the events taking place in South Africa. There is the need to introduce public participation in decision-making in Swaziland. Swazis have their knowledge and they need to use it to decide on any issue that affect them.
The next chapter will deal with Maphunwane as a district in Swaziland. It is to find out wether the district traditional knowledge is the same as Swaziland as a whole.

indigenous knowledge. Even though there is introduction of western style of government the traditional system of government and management still prevail.

4:9 INDIGENOUS KNOWLEDGE AND MANAGEMENT SYSTEMS IN HUNTING IN SWAZILAND

Chiefs control hunting lands in their areas and organise communal hunts in winter. The king can organise a hunt where he wishes. Big game - elephants, lion and leopard - are still occasionally hunted and bucks are common in the bushveld. Swazis hunt with spears and clubs and a few use firearms. Swazis do not use arrows or poison. There are two methods of communal hunting: one with fire (butimba) and one without (buhlwayi) (Markwick in Kuper,1952, p.29). The "butimba" is used in the more open grasslands, the "buhlwayi" in wooded country. Dogs are trained to help the hunters chase the animals, and weapons, hunters and dogs are given medicine to protect them, particularly where there are a lot of snakes. The medicine is also used to protect hunters from accidents. The hunters have special songs and may never wear ornaments while hunting. The chief receives part of each kill, the rest belongs to the man who first struck the animal. The "Ingwenyama" is entitled to the skin and fat of every lion, the tusks of the elephants, the horns of buffaloes, and the plums of one wing of every ostrich. His mother may demand the skin of a leopard - required by her in the "Incwala" ceremony. Throughout the year, but particularly in autumn when the crops are ripening, boys catch birds with bird lime, and men occasionally go on their

The king appoints a chief in each district and gives him charge of a territory of land to administer. Each chief appoints a number of "tindvuna" (The councillors of royal villages). There are always commoners and they exercise a strong influence. " They hear cases, announce court judgements, advise on the temper of the people, organise royal labour, arrange national ritual, interview strangers, report epidemics, accidents and any untoward event' (Kuper,1952). They are appointed for life and see to the management of the area.

The kingship functions through the "libandla"(national council). This body is composed of every male in the land, irrespective of age or status, and is the legislative body of the nation. It normally meets once a year, but extraordinary meetings can be called at any time to deal with urgent matters. The "libandla meets at the national capital inside the national cattle byre (Matsebula,1980).

The "libandla" is an unwieldy body; for this reason there is also a body that deals with the day-to-day matters of the state at each of the royal residences. This is known as the "liqoqo" or inner council (executive body). Membership of the "liqoqo" , unlike membership of the "libandla", is restricted to persons who have been selected on merit (Matsebula,1980).

These political bodies are there to ensure that the affairs of Swazi nation are managed sustainably, by using their own

together and they are responsible for maintaining law and order. There is a delicate balance of power between them. The king presides over the highest tribal court, and he alone could sanction the death sentence. A person condemned to death by the king's court can seek refuge at the queen's house and live there for the rest of his life.

Both residences have regiments stationed there and each have their own councils, adviser and "tindvuna' (governors). The king controls the entire army , and he alone can send the army to war. Sacred objects of the nation are in custody of the queen mother and the king sees to safety of these objects. The queen mother will rebuke the king if he fails in any of his duties or waste national wealth. They help each other in all activities. Both are addressed as "Inkosi". The balance between them depends on character and on the particular qualities demanded by the times. Conflict is recognised as a potential menace to national security, and certain rules, not always obeyed, have been formulated to guard against it (Kuper, 1952).

The king's clan is known as the Dlamini clan. Kingship links formed the basis upon which wealth and power were determined, and the various element of Swazi society were consolidated under the ruling, royal Dlamini clan. The Dlamini clan has control over the economic base of Swazi society and agricultural pastures. The rights to arable grazing lands fell into their hands. This is to ensure that the land is managed sustainably because Swaziland is a small country (Bonner M in Funnell,1991)

did not pose threats to the traditional structures and if the anticipation for the future was positive.

However, the blending of the state and the nation was not as complete as in the pre-colonial period. This was highlighted by the conflict between officers of the government and the authorities of the nation especially when addressing new developments, for example, when there is an anticipation of new developments on the SNL, chiefs must be consulted and approval thereof will depend on the chief and the kind of development.

4:8 INDIGENOUS INSTITUTION AND MANAGEMENT SYSTEMS OF SWAZILAND

In the Swaziland traditional system of government,there must always be two chief royal residences.Firstly, the "lilawu", where the king resides and carries and carries on his day-to-day duties. Secondly, the other residence is where the queen mother lives. This is the spiritual and ceremonial home of the nation and the national capital. "These headquarters are known in siSwati, as 'imiphakatsi'" (Matsebula, 1980 p9).

There is a reason for having two "impikasi", and it is based on the fact that Swazi society has a dual monarchy. The king rules with his mother. The king is the "father" of the land while the queen is regarded as the mother of the land. "The two rule over their nation as one in two" (Matsebula,1980 p9). The two rule

Swazi nation accompanied by the geographical separation of Swaziland (Funnell,1990). The British were in great favour of dismantling and transforming of the traditional system. It was assumed that no development would take place in traditional society until the tribal traditions and customs were replaced by the Western way of life. However, the Swazis have shown that the assumption of the British was invalid by continuing to stick to their traditional institutions and customs whilst adapting to modern conditions.

(ii) Post colonial period

During this period changes required to make traditional institutions responsive to modern needs had to be based on Swazi cultural heritage as a model. For the first few years it was difficult for an outsider to see where traditional authority and its responsibilities end, and where parliamentary authority and its responsibilities begin. Kuper, 1986, pointed out that the synthesis of blending and balancing cultural rationalism, traditional institutions, and Western style, brought conflict and tension as individuals sought to resist change or take advantage of new power relationships for personal gains.

The leaders of the nation were in an ideologically difficult position proclaiming their defence of Swazi citizens and cultural values, and at the same time ensuring the means of accumulating new developments by recourse to an alliance with outside capital. This implies that the new developments were only accepted if they

independence, development witnessed the progressive prioritisation of certain key social aspects.

(i) Pre-colonial period

During this period the Swazis were still an agrarian society in which the rights and responsibilities of the population were set out in relation to the king who exercised the power of the state. One could not draw a line between the Swazi nation and the Swazi state.

Important social innovations dating back to that time were age regiments and polygamy. Men from all subordinate clans were collectively organised to conduct tasks for the nation. Class distinction has always been a key feature and the emergence of White accentuated the condition. For instance, the kingship clan was a popular group having both the means and social sanctions to appropriate wealth from dependent groups.

Thus, this period is characterised by the Swazi striving to retain their own identity and conservative customs so that the political traditional rule was never subjected forcibly to White rule.

(ii) Colonial period

With the growth in the economy and the arrival of the British colonial system, there was a separation of the Swazi state and

4:7 LOCAL ENVIRONMENTAL ACTION IN SWAZILAND

Traditional resource management systems when deeply rooted in the minds of the indigenous people for survival and protection of the environment, will meet with resistance if it is threatened. Local environmental action can be seen in social-cultural development in Swaziland.

In general terms post war capital development has had little effective impact on the traditional daily lives of Swazi society. Swazis continued to place great emphasis on traditional conservative values and cultural customs.

Swazi culture can be seen to provide a highly developed and well established set of cultural norms and practices that include the ancestral cult, religious rituals, and an intricate system of "witchcraft" and magic. All of this notwithstanding, there are detectable signs signalling the desire for social change. Such a desire rests both on a sense of discontent with the status quo and an anticipation of future rewards. Thus while old customs have not been discarded, they nonetheless constantly undergo a process of revitalisation and adaptation in accordance with changing needs and demands.

Although Swazi culture places an emphasis on routinisation of cultural ceremonies, social leaders did not see Swazi culture as something fixed and static but rather as a matter of evolving and dynamic development. Thus, from pre-colonial period to

inequality among Swazi traditional systems.

Swazi tradition is not static. It has been threatened from within and without. With the advent of the whiteman into Swaziland and the early administration of the white people many traditions have been changed. Also, with the introduction of western education into the country people have got the chance to travel far and wide to study, bringing into Swaziland foreign ideas. Also with the introduction of market economy and population pressure, indigenous knowledge is being threatened. All the factors mentioned above have brought changes into the lifestyle of the Swazis. But tradition is not static, and change can occur without it being lost. There is still the king, the chiefs, and the rural people who still maintain the tradition of Swazis. There is also still indigenous knowledge being used to manage resources sustainably. There is still common land ownership entrusted to the chiefs by the king.

Swaziland is not cut off from the outside pressures. Their way of life has been pressured. Swazis have not forgotten their traditional systems of management. They still retain their indigenous knowledge in the rural areas. They have managed their resources carefully through their traditional knowledge, to change the traditional management systems in rural Swazi will meet a lot of resistance.

the centuries which guides the people to sustain resource management in Swaziland. The most striking example is that, Swazis have incredible knowledge of the soil of each environment and the type of crops to grow. In the Highveld, maize is the main crop, in the Middleveld, and particularly in the Lowveld, sorghum and corn are grown more extensively. Cattle are allowed to graze on farmlands in order to add manure and compensate the soil deficiencies.

4:6 CHANGES IN TRADITIONAL MANAGEMENT SYSTEMS IN SWAZILAND AND SUSTAINABILITY

It has been said in the second chapter that within the community, knowledge and experience are not evenly spread, that traditional management should not be romanticised, and that tradition is not static. There is bound to be changes in a society because of the above observations. These findings can also be found in Swaziland traditional systems. In Swaziland, women know how to make mats, clay pots and know how to roof huts while the men know how to build huts and understand animals and their behaviour. In other, words there is division of knowledge by gender. Women knowledge should therefore not be ignored.

There are many imperfections in Swazi traditional resource management systems. Women are not permitted to own land in the rural areas or on common lands. When the king summons the nation to Lobamba, women are excluded. Exclusion of women from decision-making is perhaps the most readily observable example of

4:5 TRADITIONAL LAND USE AND MANAGEMENT SYSTEMS IN SWAZILAND

Swazis have natural resources for their livelihood and have developed methods to secure that such traditional management systems remained not only viable, but also active and evolving. The systems have evolved elaborate social, technological and economic mechanisms to safeguard the resources. There are numerous descriptions, for instance, religion or religious significance attached to certain animals to protect the grass for their cattle. Swazis by tradition are pastoralists. They attach enormous importance to their herd of cattle. The more cattle a Swazi has, the more wealthier he is. In order to get food for the cattle, it is a taboo for some tribes not to eat either sheep or goat. The Matsanjwas do not eat goat, whilst the Dlaminis do not eat sheep.

Social controls have also been developed to regulate resource use, and to ensure that the environment is managed sustainably. The communities are not allowed to farm at the head of rivers. They do not fish widely to dry up the rivers because Swaziland is a dry country and water is precious especially in the lowveld. Different areas have been allocated for cattle grazing during summer and they can graze on the farmlands during winter.

They have also an institutional mechanism which increases the sustainability of traditional resource use. This has developed refined and transmitted environmental knowledge in rural communities. They have knowledge which has been instilled over

The use of water is controlled by the government through the chief. Strong warning has been issued by the government through the chief not to destroy the trees and animals in the area. As already said above the chief controls the hunting grounds and organises communal hunting during winter.

In order to check soil erosion, the people use contour ploughing instead of ploughing up and down the slope. They do not collect the weeds after weeding. They fill the pot holes with stones and plant trees. There are a lot of exotic trees in this area. These trees were planted as wind breaks to stop the wind from damaging their crops and at the same time to check erosion as a result of heavy rains.

The survey shows that people want change but not radical change which will destroy their culture. They want the land to be divided into grazing land and arable land. It is only the mountain tops that they are allowed to let their cattle graze during summer.

5:14 INDIGENOUS INSTITUTION AND ALLOCATION OF LAND

The chief and his councillors are responsible for allocation of land for housing. Maphunwane is being ruled by the chief and his council of Indvunas. These indvunas are appointed by the chief to be in charge of the various communities. Any outsider in need of a homestead will consult an Indvuna. The Indvuna will interview him and report the matter to the chief and the chief

clubs and dogs were used for hunting in the past, but now they use guns more often. Individuals can hunt around the chief's area, hunting for rabbits, monkeys, wild pigs and birds. If it is communal hunting, the chief receives parts of each kill, the rest belonging to the man who first struck the animal.
If it is individual hunt, the meat is eaten and the skin is made into traditional attire. The only animal you are not allowed to kill is a small animal which catches fowls. If you kill it, the punishment is banishment from the District. The reason is that this animal kills snakes.

Fish is not a traditional food of the Maphunwane people and fishing is rarely done. The few who fish in the rivers were using spears but now they use nylon gill nets.

5:13 ENVIRONMENTAL CONTROL IN MAPHUNWANE DISTRICT

Generally, environmental control is a great concern of the Swazi people. According to the survey , the chief as well as the Indvuna and the general community are responsible for the environmental control. The chief sees to it that the people use the land sustainably. The people are not allowed to destroy the vegetation and animals. Burning the grass for animals has now been stopped, even though it was an old tradition. Land use is being controlled by the chief. There are areas you are not allowed to graze and there are areas set aside for communal grazing. The community will report anyone who violates the orders and the person is brought to the chief's court for a fine.

There is also Mnganu (marula plum) beer which is a seasonal drink. The mnganu tree does not grow in this area but the people go and collect the fruits from the lowveld. They also eat other nutritious titbits like flying ants, certain type of caterpillars and grasshoppers and locusts. Traditionally, Maphunwane people do not eat fish, they abhor it. They are very interested in eating a lot of red meat because they have a lot of cattle.

There are a few people who have moved into the area recently from Mozambique. They did not bring any plants with them. Their diet are different, as they eat such things as tortoise and crab, which Swazis don't eat. There is not so much difference in their traditions. They are learning from the local people rather than introducing their customs to the locals.

The people have developed ways of managing their food over a long period by storage as the area has a problem of a long dry season. As food is vital for their survival, they have instituted a mechanism to manage their food sustainably. After the harvest of the maize it is graded, the best grain is stored and the rest is used first. They store the maize in grass basket, underground pits in the cattle byre or platforms in the open. Nowadays aluminium tanks are used to store the maize.

5:12 HUNTING AND FISHING IN MAPHUNWANE DISTRICT

The chief controls hunting lands in Maphunwane district and organises communal hunts in winter. Bows and arrows, spears,

grown exclusively in this area which is used for "Incwala" dance.

Medicine men or herbalist (tinyanga) work with ingredients from the trees, roots, the bark of the trees and the leaves. Such trees are very precious in this area and are taken care of. In order to protect these trees certain areas have been designated sacred or reserves, where no one is allowed to hunt or cut trees. One of these area is where the Maziyas first settled and it is now being used as a religious grove for praying to the ancestors.

5:11 INDIGENOUS DIET

The most useful crop in Maphuwane District is maize. This is the staple food for the people of the area. The most important vegetable is "ligusha". This is a green vegetable which is boiled using cooking soda which makes it slippery. It is collected as wild plant from the bush and is eaten with the maize.

A few cultivated plants, many wild fruits, vegetables and roots yield important additions to the diet. Cattle are rarely killed for food, and game is only available in winter. The children eat maize with sour milk. During the day the main food for the adults is beer from maize or millet. The local beer is mostly drank during winter when there is not much work. The people visit homestead to homestead where they can find beer. The homestead is where the people meet to chat and circulate information to other people.

weeding, so that after the crops have grown to a certain size, the weeds can germinate again to protect the soil.

Land

The land is controlled by the chief. If a new comer is in need of land to build a homestead, he first approaches the Indvuna who then informs the chief and the chief calls the council of Indvuna to consider the application. The chief has more fields than any ordinary subject, and no subject can own more than what the chief has apportioned him except a polygamous family.

Pasture Land

Pasture land is also shared and it is controlled by the chief. Areas have been allocated by the chief for communal grazing and no-one has the right to graze at any unspecified place for grazing. During winter after the harvesting of the maize there is a free grazing for all in the farm lands. Grazing is restricted to the specified communal grazing land during summer. Hunting land is also controlled by the chief.

5:10 INDIGENOUS TREES AND THEIR USES IN MAPHUNWANE DISTRICT

Trees grown in this area include: "manono", "umkhagu", "umsenge" and "umnyamatsi". The first three trees are good for building houses or huts and also for fencing. The last two are used for inducing vomiting to bring good luck. There is also "umboyi" tree

introduced in this District include: cassava, cabbage, spinach and beetroot. The problems with the new crops are that, they need a treated land, correct fertilizer and they are easily attacked by pest and diseases because of drought.

The farming practice is changing slowly, this is because of the government demonstrators in this area. The problem that the farmers face is that they sometimes lack new scientific methods of farming. There is no money to sink boreholes for when there is drought, and they cannot provide themselves with the required equip ts and inputs.

"The farmers in this area rear cattle, sheep, goats and dogs. These are traditional animals, but they are now also rearing donkeys, pigs and chicken which were introduced by the whites", says an interviewee.

Soil

There are two types of soils found in this area, they are clayey soil and loamy soils. The loamy soil is suitable for the new crops.

The soil is suitable for cultivation but has been greatly denuded because of the introduction of modern fertilizers which have made the soil loose and not fit to give good yield. The soil needs to be treated now and again wasting a lot of money. They practice contour ploughing to protect the soil but this practice is new. The old practice was to leave the weeds on the plots after

of introduction of Christianity into the area.

The tradition of men putting soap on their heads to show their high status is only practised by the chief. "Arranged marriages and paying the bride price (lobola) in a form of cattle is also becoming a lost tradition because Swazis have adopted Western style. These traditions should be preserved to a certain degree but democracy or freedom of speech must be allowed", says one respondent.

5:9 LAND USE AND CONTROL IN MAPHUNWANE DISTRICT

Agriculture is the main occupation in Maphunwane District of Swaziland. The people living there till the land and rear cattle. Every homestead is allotted with land to cultivate to feed the family. A field is cultivated until it fails to produce, when it is left to regain its fertility. All the land surrounding the homestead belongs to the homestead, so there is sufficient land to cultivate while the rest is left to fallow.

A stone-weighted digging stick and a broad-bladed hoe were used in the place of implements. They now use oxen and mules for ploughing, but still use the hoe for weeding. Maize is the most important crop grown in this district. They also grow certain amount of beans, sorghum, groundnuts, millet, sweet potatoes, pumpkins and melon. However, new variety of maize have been introduced, they include: CG4141 and PM2 95. Other new crops

In Maphunwane the men work as regiment (libutfo) for the chief. They build huts for the chief and plough for the chief's field using their own oxen during the planting season. Failure to do this will result in a fine of either a cattle or a goat. Some men have volunteered to be part of a permanent regiment for the chief. It parades every morning on the road singing to remind people of the chief's work. One or two men are chosen as the chief's runners who act as policemen of the area, arrest criminals and report any incidents to the chief.

Women, on the other hand, are called upon to weed the chief's field and do the harvesting. Failure to do this will carry a fine of a goat or a cow. Women also prepare local drinks for the men while they are weeding the chief's field or digging graves. The young girls are summoned by the chief to go to Lobamba to attend the Reed dance. Any young girl who fails to attend pays a fine of a cow to the chief. The young girls also meet to learn new songs and also learn how to dance. This is also the time for the young men to meet the young girls and propose love.

5:8.2 LOST TRADITIONS

The traditional practices which have been lost include "Lyado", which is traditional dancing. Clay pot making has been lost as well as making of mats, as a result of the introduction of modern plates and mats. Skin clothes and traditional huts are also at the verge of being lost. Ancestral worship and divining which is considered as a very important cultural practice, is lost because

walking-sticks and assegai shafts. The gorges of the rivers which pierce the Lubombo are frequently covered by a dense tree-growth. The "Mkolikoli", which has a reddish timber is used for furniture. "Bukunku", which has a very hard durable timber is also grown.

5:7 DEMOGRAPHY AND SETTLEMENT

There are no available population statistics , but I would estimate a population of approximately 90,000 people. Two-thirds of the population are women as most of the men are away working in South Africa. The settlement is the same pattern as found all over Swaziland.

5:8.1 TRADITIONS OF MAPHUNWANE

All those interviewed were born in Maphunwane District and have lived there ever since and are therefore familiar with local traditions.

The account that follows is combination of stories told by interviewees. "They have a great chief by the name of Maziya. All the people respect him and attend to his call without failure. Every year he accommodates the king's regiment which passes there to fetch the water from the sea at Mozambique. Tne water is for the national Incwala ceremony. He kills them a beast for their meals. As tradition requires, a beast is provided for their meals.

After Mphundle, Saphaza was the chief and the present chief is Loyiwe Maziya. Later, some tribes which were threatened by the Zulu tribe joined them from Kwazulu. One of these tribes is the Matsentjwas who migrated from Pongola in South Africa during the early part of this century.

5:6 PHYSICAL CHARACTERISTICS

5:6.1 Physical Environment

As mentioned above, Maphunwane District forms part of the Lubombo Plateau which covers only 500 square kilometres with an elevation of 600 metres. The Plateau is undulating and is incised by three large rivers, the Mbuluzi, the Usutu and the Ngwavuma.

Summer temperatures are often grater than 37,0 c and the winter temperatures are often less than 2,5 C. The steep slopes confine the land suitable for cultivation to the western margins of the plateau and the river valleys on the dip slope. The soils are moderately deep reddish of medium to heavy texture, but in certain parts the soils are shallow.

5:6.2 Vegetation

The slopes of the Lubombo mountain are covered with grass. Elsewhere there are bushes either scattered or in clumps. On the steep slopes grow acacia and ironwood with their straight branches of hard durable timber, which are so often used for

sees its origins as different from that of the other Swazi clans. They value their tradition more than the other communities, and have preserved it. The chieftainship system is still intact and the chief commands respect among his subjects. Instead of relying on the government there is a strong ethics of self-help.

5:5 HISTORICAL BACKGROUND

Maphunwane district is occupied by the Maziya clan. This clan came from Mozambique, east of Swaziland together with the Dlaminis. Collectively, the Maziyas and the Dlaminis are termed "Malangeni".

The "Malangani" started their journey from the east along the Lubombo mountains. The Maziyas were left on the Lubombo mountains by the Dlaminis who then journeyed south further into Swaziland. The Maziyas continued going forward and backwards and so they were named "Maziya Ngekugiyagiya".

The Maziyas had a king after the Dlaminis had left them. They settled at Maphunwane. They first settled near a forest which is even now regarded as Maziya forest where they pray to their ancestors.

The king at that time was called Maliwa. Maliwa was succeeded by Magidza. He was also succeeded by Nngubabe who was succeeded by his son Mphundle, the High School of the area is named after him. The kingdom was changed to Maziya chiefdom after the return of the Dlaminis.

pertaining to where the people were born, how long they have lived there, their traditions, their lost traditions, the plants they grow, animals they rear, the new crops, the implements they use, how they protect the soil, trees grown in the area, what they use the trees for, how they protect the trees, how hunting is regulated, fishing, changes and whether they want them.

I also interviewed some groups of people at the drinking places. To promote a friendly and cooperative atmosphere, I bought them drinks and we sat together both men and women to drink. There was conversation during the drinking time.
I got a permission to record the conversation and later played back to them. They were delighted to hear their own voices.

5:3 MAPHUNWANE IN REGIONAL CONTEXT

Maphunwane is located in the Lubombo district of Swaziland. The Lubombo District includes both a plateau and a lowland. Maphunwane is situated on the plateau. It is referred to as "Lubombo top". Maphunwane is bounded on the east by Mozambique, on the south by Big Bend District, on the north by Siteki District and on the west by Lukuba District.(see map 2.)

5:4 REASONS FOR THE CHOICE OF THE STUDY AREA

The reason for choosing this area for the study, is because of its unique social characteristics. I am familiar with the area having lived there for four years. The community is cohesive and

Respectful discussion within and between communities; implying recognising, valuing, listening and searching for translative possibilities between different discursive communities;
Self-reflection directed at the debate around specific actions being invented through the communicative process;
Mutual learning through mutual searching;
Learning about the interests and perceptions of the participants and with that knowledge revising what each participant thinks about each other and their own interests;
People to understand each other by means of respecting each other because of diversity of community while there is an argument. Other peoples knowledge should be taken into account:
Recognising the interweaving of rational-technical, moral and aesthetic dimensions of reasoning ad knowing and seeking to reason between or mediate conflicting ways of validating claims.There should be no force of one dimension of knowledge to dominate over another.

6:8 THE STRATEGIC ROLE OF THE PLANNER IN INDIGENOUS KNOWLEDGE MANAGEMENT SYSTEMS

A Planner should know "what is a community". A community can be defined as people with common interests, common background or common ethnic belief. In other words when planning one has to be aware of the community one is planning for (UNDESA,1977, p.2).

The planner has to know the area he is planning for, the geography of the area, the economic potentiality, their values, beliefs, perceptions and their problems. These should be known before he comes out with the planning process.

The Planner should also be aware that there is heterogeity eg. gender differences. The history of these group of people should be known, their values and their problems.

6:7 CRITICAL THEORY AND INDIGENOUS KNOWLEDGE

Critical theory can also provide a framework for understanding participation in indigenous knowledge management. In critical theory research and learning go hand in hand. In research, participation is an educative process.

Forester (1980) argues that the essential communicative acts of ordinary planning practice are social actions, and working through the languages we speak together. In other words when we speak, we participate in a structured form of social action and ordinary communicative action is already normative and structured. That is, if we want to be understood when we speak practically, we must follow the rules structuring ordinary language. These rules are not restrictions, they enable us to understand ourselves and others. According to Harbemas (1978) criteria, the rules are:

* **to speak comprehensively:** that is, planners have to speak so well that people can understand;
* **to speak sincerely:** planners should mean what they say so that people can trust them;
* **to speak legitimately:** planners should speak about planning and not medicine. Planning is for planners and biblical interpretation is for the clergy;
* **to speak the truth:** planners should foster this norm of truth so that the community can build trust in them.

(Forester,1980, p278).

The above criteria are strategies for the possibility of rational discourse, to be used by planners to uncover distortions in communication generated by those exercising instrumental power in the state bureaucracies.

Other strategies will include:

the dialogue of arguing ones case for mutual understanding;

The style of research and the process should be honest, balanced, and fair. That is, it should include opinions;

Values and problems must be clearly defined by clients to provide a basis for analysis;

Planners should develop more formal expertise in quantitative methods of research. They should be able to do such research well to justify its validity to sceptical policy makers;

A way should be found to combine indigenous knowledge into practice by planners;

Process should be explicitly viewed as the opportunity to resolve many problems of policy, and, therefore methods should be openly discussed and negotiated with policy makers and communities;

There should be public debate over data that will provide an acceptable way to decide how to handle ambiguity and risk;

The role of the planner should be to define problems, rationalize and make myth, and he should develop responsible ethics;

The research procedure to be followed will include the following:

- the adoption of a neutral position;
- the identification of the segment or power of the phenomena to be examined;
- the gathering of many perceptions of the isolated phenomena; - recording of data in the language of the informant;
- reflection, analysis, interpretation and conclusion from data. (Neufville, 1987).

inputs and services to members, education, training, experimentation and developing participatory research approaches.

The indigenous organisation should be united, strong and should persevere. The community should develop and maintain participatory structures within the organisation.

They should solicit for outside assistance to reinforce their capabilities and effectiveness. They should make sure that such outside assistance will recognise their customary rights and use of resources.

They should build development effort more explicitly on the basis of local knowledge, skills and technology.

There should be a participatory research and experimentation in marrying local and modern knowledge which will ensure secured promotion and satisfactory livelihood opportunities, as well as a healthy and sustainable environment (Arun Agrawal, 1995).

6:6 INCORPORATING INDIGENOUS KNOWLEDGE INTO PHENOMENOLOGICAL APPROACH TO PLANNING

Participation must be actualised in a fitting methodology, and that methodology must acknowledge the beliefs and perceptions of the participants. The philosophy of phenomenology provides an intellectual framework for participation. According to Neufville (1987) phenomenological conception of knowledge, focuses on: unique particular situations in the everyday world; subjective meanings of the problems of actors, the construction of knowledge in a community rather than having an independent existence; and, the acceptance that information is shaped by preconception. Therefore, the strategy to gather information for planning should include the following:

There should be an attention focused on different kinds of knowledge and different processes for deciding what is true;

cultural organisation of the local people. This means that the community's knowledge in agriculture should be utilised and used effectively. Their values, beliefs and perceptions should be known and incorporated into the planning processes.

The indigenous community should be given power to control their land outside the state policies and market forces because it is where they dwell and it represents the resources on which they rely. They should have the right to decide on how to save their land using their knowledge (Neufville,1987).

6:5 PARTICIPATORY STRATEGY AND INDIGENOUS KNOWLEDGE

Certain conditions are generally conducive to the successful articulation of local environmental concerns through grassroots environmental movements, although these vary according to social and political context. For indigenous knowledge in management systems to be used, the key issue is the strength and perseverance of organisations representing marginalized groups, as well as the development and maintenance of participatory structures within such organisations. The following strategic objectives should guide participatory structures concerned with resource management.

The local communities should enjoy genuine autonomy, and have control over adequate resources management.

They should form an indigenous organisation of the marginalised people for environmentally sound development under a wide variety of conditions. They are to use such an organisation as a means of resistance to environmentally destructive practices. An organisation can be used for economic and sustainable development. They should strive for success of initiatives for environmental preservation, rehabilitation and amelioration.

The indigenous association should work for local empowerment, mobilising resources, providing mechanisms for the delivery of

6:3 THE LIMITATIONS OF INDIGENOUS KNOWLEDGE IN SWAZILAND

The limitations envisaged in Swaziland for the use of indigenous knowledge is the struggle for democracy in the country. This does not fit in with traditional knowledge which is not democratic.

There are participatory limitations in decision-making.

There is limitation due to partial loss of knowledge.

There is a methodological problem on how to blend the traditional knowledge with modern knowledge.

There is uncertainty about the appropriateness of traditional knowledge in the modern context.

There is problem with localised knowledge e.g. parochialism.

6:4 STRATEGIES FOR THE USE OF INDIGENOUS KNOWLEDGE IN PLANNING

If planners wish to save indigenous knowledge and incorporate it into planning, they must develop methods on how to conserve and incorporate it into models of procedural planning. When doing s: the following principles should be remembered.

The interests and needs of the Maphunwane community should be taken into consideration as the community is marginalised and oppressed. Their knowledge should be taken into consideration and research must be done on it.

They should be able to have a say on their knowledge. There should be no imposition. They should learn to use their own knowledge in decision making. This is possible by focusing on their knowledge so that they play an important role in development.

There should be protection of the aero-ecosystem and the socio-

wildlife, and water resource management. Indigenous knowledge forms the cornerstone of several convergent trends in social thinking and development administration practice. Since the theories of development and state-sponsored projects failed, the poor and the marginalized are now brought into the planning process. Indigenous knowledge has now become an acceptable alternative.

"Development from below" is for many reasons, a more productive approach than that from above, and an essential ingredient is indigenous knowledge. To incorporate into development planning indigenous knowledge represents: a courtesy to the people concerned; an essential first step to successful development; a recognition of human needs and resources, rather than material ones alone; an adaptation of technology to local needs; most efficient way of using western "Research and Development" in developing countries; the preservation of valuable local knowledge; the encouragement of community self-diagnoses and heightened awareness; a healthy local pride; the use of local skills in monitoring and early warning systems; and the use of feedback systems, for example in crop varieties.
These positive reasons - together with the negative reasons, such as the likelihood of failure without using the indigenous knowledge constitute a strong case for incorporating this knowledge into development programs (Brokensha et al, 1980:7-8 in Agrawal, 1995,).

Indigenous knowledge should find its way into the development planning just as scientific knowledge has been included. More case studies have to be undertaken to demonstrate the utility of indigenous knowledge and its relevance to development planning strategies.

Democracy goes hand in hand with planning approaches and methods that are democratic. Democracy also goes with participation, through which the voices of poor communities will be heard and heeded. Participation should also be built around phenomenology and critical theory, so that there will be mutual learning and understanding.

6:2 INDIGENOUS KNOWLEDGE AND DEVELOPMENT PLANNING

Indigenous knowledge can find its way into development planning. After the Second World War, according to Redcliff,1987 in Agrawal, 1995), the rhetoric of development has lumbered through several stages, focusing on economic growth, growth with equity, basic needs, participatory development, and now it is focusing on sustainable development.

Development projects in the rural areas tended to fail. This is because "Western" social science, technology and institutional models were used without reference to indigenous knowledge. Theories in the 1950s and 1960s saw indigenous knowledge as inefficient, inferior and an obstacle to development. Current formulations about indigenous knowledge, however, recognize that derogatory characterizations of the knowledge of the poor and the marginalized populations may be hasty and naive. In reaction to Modernization Theorists and Marxists, advocates of indigenous knowledge underscore the premise it holds for agricultural production systems and sustainable development (Arun Agrawal,1995).

According to Warren et al in Agrawal (1995), ten years ago most of the academic works in the area of indigenous knowledge concentrated on anthropology, development sociology, and geography. Today important contributions are also made in the fields of ecology, soil science, veterinary medicine, forestry, human health, aquatic science, management, botany, agronomy, agricultural economics, rural sociology, mathematics....fisheries, range management, information science,

CHAPTER SIX

6:0 INCORPORATING INDIGENOUS KNOWLEDGE INTO PLANNING THEORY

6:1 INTRODUCTION

The literature review has provided insight into how traditional communities use their local knowledge to manage their environment sustainably. There are several lessons to be learnt from the study. The first lesson is that communities will resist any project which they perceive as unbeneficial.

The second lesson is that the communities certainly know their environment better than the outsider and, they are better able to assess the cost benefit of any environmental action. The communities will therefore resist any developmental programme which could have a negative effect on the environment, and which will undermine their survival strategies.

The third lesson is that the communities can form themselves into societies. These societies move from negative to positive activity in a sense that they oppose the invasion of external projects while putting emphasis on self-initiated projects.

The case study of Maphunwane has revealed the cultural traditions, values and beliefs of the local people, as distinguished from western scientific knowledge. According to Dei in Agrawal (1995) such local knowledge is the product of indigenous people's direct experience of the working of nature and its relationship with the social world. It is a holistic and inclusive form of knowledge. A way has to be found to incorporate indigenous knowledge into developmental planning.

The people of Swaziland are now struggling for democracy. They argue that time has come for direct participation in decision-making instead of adhering to decisions handed down from the top.

also regulated. The government the non-governmental organisations have instituted other mechanisms to control the environment. But the long established traditional mechanisms remain the most effective. They don't necessarily reject the new mechanisms but sensitively combine them with the well-proven traditional mechanisms. There are no major changes in the traditional management of land and the location of houses are still decided by the chief and his councillors of Indvunas. There are no changes in places where houses are allocated, and individuals maintain the sites permanently.

Upon these findings, it is clear that any decision taken on Maphunwane district should take into account the indigenous knowledge of the area in order not to destroy its rich heritage of management. Their indigenous management has to be appreciated, cherished, improved and used for sustainable development of the District.

This chapter has given us insight into the indigenous knowledge of Maphunwane District. The next chapter will help to incorporate indigenous knowledge in Maphunwane into the planning process.

only change is that they are now turning to modern type of building. The inhabitants are now building with cement blocks, discarding the old traditional mud and sticks.

CONCLUSION

In conclusion, one can say that Maphunwane District has a unique indigenous knowledge which has to be built upon. There should be a study on their knowledge and it should be properly used future development of the area. They migrated to this present location from Mozambique bringing their traditional knowledge. Some of their traditional knowledge has been changed but other traditions have not all been lost. They have a reasonably good knowledge of tilling the land and rearing their cattle sustainably. They have introduced new varieties of crops but they still keep the old ones are aware of the problems introduced by the new ones. They know how to till the land with their hoes and hands. They know about the soil and which type of crops to grow and they know about the growing season. They also know how to protect the soil by not taking away the weeds.

They know about the trees and what they are used for and have instituted a rule to safeguard the exploitation of these trees. As a result of these institutions the trees are still well kept. The useful plants are known and preserved. People have moved from outside into the District but their traditions have not changed. They do not fish regularly, only few people do fish. They do hunt but the hunting is regulated and the types of animals to hunt are

will call the council of the Indvunas and examine the case of the applicant. The chief can accept or refuse the new comer. The new comer may be refused on the ground that he has a bad record from where he is coming from. The chief can accept him if he has no bad record or if he is sympathetic with what has been done to him in his former district. If accepted, the man usually thanks the chief with a present in cash or kind, but no fixed payment is demanded.

During the survey it was found out that non-Swazis were not admitted into the area unless they were accepted by the king. If a subject leaves Maphunwane he must bid farewell to the chief before he is accepted anywhere. Chief Loyiwe is known everywhere so a person has to make sure that he does not commit any offence in Maphunwane district. Criminals are not accepted in this district. The chief and his councillors allow his main heir to inherit the land when he dies.

The people have their own knowledge of building their houses. The houses are predominantly of the Nguni beehive shape with a low arched doorway. The framework is of saplings covered with several layers of thatching-grass kept down by a firm webbing of plaited roes attached to an ornamental and medicated pinnacle. Traditionary there is no furniture other than mats, rolled up when not in used. They also have the knowledge of keeping the floor tidy by smearing the floor of the rooms with cow dung.

There are no changes in places where houses are allocated. The

to drink local beer. These are the places where you can find them and talk to them. Sit down and share the drink with them, buy some for them and start conversing with them. Visit this places during the mid-day. During the weekends they are available on Sundays, not on Saturdays. Saturdays are for funeral services in the area. The time for the meeting should be early morning. This is because in the afternoon, they are either in the church or busy drinking their local beer. The chief should be informed before hand and will summon the people to his kraal, through the Indvunas.

7:6 P.R.A. APPROACH IN MAPHUNWANE DISTRICT

Planners or researchers have to learn about attitudes and behaviours of the people in Maphunwane. In order to know these one has to:

be sensitive and build trust in himself/herself and the people;

be curious and ask questions about what you see and hear. Make use of the informal time such as travelling. Ask about what you see and don't see. Ask about the obvious;it may not be so obvious

be humble;

be observant of the physical environment, of the process, of the peoples body language. Try to speak their language even if poorly as this will be appreciated;

be a facilitator, but do not manipulate the group to get the results you are looking for;

be aware of how you are acting,do not interrupt, do not control. Facilitate and observe. Ask for feedback;

approximation (building on what was done before).

Team composition is balanced in terms of gender, discipline and other dimensions. And team interactions are consciously managed;

Trade-offs are sought between quantity, accuracy, timelessness and relevance of information;

Biases are recognised and offset. For example, visiting communities along the roadside instead of more remote areas;

Critical self-awareness: practitioners are continuously examining their behaviour, and trying to do better;

Sharing of information and ideas between rural people; between them and practitioners, between different practitioners; while also sharing projects, training and experiences between different organisations;

Using one's own best judgement at all times, which means accepting personal responsibility, rather than vesting it on a manual or rigid set of rules;

Embracing errors, which means welcoming an error as an opportunity to learn relaxing and not rushing.Here we should exploit the paradox that taking plenty of time for PRA is often faster than and better than trying to be quick (PRA handout, 1995).

7:5 P.R.A. IMPLICATION FOR MAPHUNWANE

If we want to use the above principles in indigenous management systems in Maphunwane District, then much has to be known about the area and its people.

In approaching the community for PRA it is useful to understand their social habits.The people move from homestead to homestead

THE P.R.A.

The PRA is not used in research only, it is also used in planning, implementation, monitoring and evaluation of work with communities. PRA can be used at all stages of the project cycle, and is full of useful exercises for development. This technique or participatory method recognises empowerment and sustainability. This is useful technique for Maphunwane because the aim of the discourse is management and sustainability.

7:4 SOME PRA PRINCIPLES FOR USE IN MAPHUNWANE DISTRICT

There are some principles which will be important to the planner using the PRA technique in Maphunwane District. Some of these principles are:

Learning from,with, and of the local people. Eliciting and using their criteria, classifications and categories. Lastly, finding of and appreciating indigenous technical knowledge, viewpoints, skills and practices;

Accepting that learning is progressive and is subsequently building understanding through flexible, explanatory, interactive and inventive methods;

Handing over the stick: the practitioners facilitate while the community investigates, analyses and presents.In this way they own the outcome, which means that practitioners start the process and then sit back without interviewing or interrupting;

Finding out only what needs to be known (optimal ignorance) and not measuring it more accurately than is needed (appropriate impression). We are trained to make absolute measurement but then often trends, scores and ranking are all that is needed;

Adoption of triangulation by comparing information using different methods, source of information and disciplines, while cross checking to get closer to the truth through successive

Maximize devolution of powers in the community level.

Introduce mechanisms to ensure that the authorities consult the Maphunwane community about their plans.

Ensure that the authorities extend information to the community about the project and required information.

Include women of Maphunwane in decision-making processes. This is because women have stores of rich knowledge to offer in the community.
Make it mandatory requirement for planners to explore and incorporate indigenous knowledge into the planning process.

7:3 POLICY IMPLEMENTATION

The discourse considers the link between indigenous knowledge and development. It has incorporated indigenous knowledge with participation, empowerment and learning approaches. Strategies and proposals have been made. What is left is how to suggest to apply strategies in order to achieve our goal practically, using indigenous knowledge to manage development in Maphunwane.

The policy is to find a suitable technique to approach these proposals. The recommended technique will be "Participatory Rural Appraisal, better known as PRA. In PRA there is a shift away from extractive mode where the outsider sets agenda. Instead the outsider goes in as a learner, catalysts and facilitator in the process, leading to local ownership of the outcome. PRA draws on several traditions including Paulo Freire, participation research , development approaches and the work of the activist NGOs in many parts of the world. All have encouraged poor people to undertake their own analysis and action.

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making processes which affect their lives. This can be achieved through the planner learning their indigenous knowledge and management systems.

7:2 POLICIES

It is necessary that planners and other development workers adopt the following policies in order to use indigenous knowledge to develop the Maphunwane District:

The use of an appropriate planning methodology that incorporate indigenous knowledge into it. Here, it seems appropriate to use community decision-making model developed by Muller(1982). (See fig. 3.) An alternative will be strategic choice developed by J.K. Fried & A.Hickling (1987). (See fig.1 and 2.)

Promotion of community participation in the area, so that the people can take part in decision-making. It is necessary to find appropriate techniques to approach this policy of community participation.e.g PRA

The strengthening of community organization in the Maphunwane District.This will be done so that the community can be able to pressure the government not to go along with the proposed project of development if it is going to be detrimental to the environment.

Linkages with higher tier organisations outside the community. The community needs men and women who will work together.

The development of strong leadership which will command respect, and will be able to stop any project that will be threatening their environment.

Strengthening of the local financial base so that the community has resources to fight any legal or other battle for preservation of their environment.

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the reserves or areas that are regarded as sacred. It is proposed that these methods should be maintained.

Crop farming control

Large-scale commercial farming which is not allowed in this district should remain in force to allow small scale commercial faring to prevail. The present mode of farming should be maintained and indigenous crops and tools used extensively.

Grazing control

The mode of communal grazing should also be maintained. The mountains and the hills are to be used for grazing during summers and free grazing during winters as it is already practised in the area.

Hunting control

The chief should decide when communal hunting can take place during the year. The killing of animals which is important the area should continue to be controlled, and as these animals should be preserved.

Environmental control

The people of Maphunwane are concerned about their environment and report any case of environmental degradation to the Indvuna or the chief. This system should be encouraged to stop environmental degradation. As the people of Maphunwane are concerned about their environment, there should be citizen participation. There should be environmental education based on their traditional management systems and the schools should include this in their curriculum as environmental studies. Planners have to learn these management systems and incorporate them into environmental planning process for the area. It is proposed that the people should take active part in any decision-

CHAPTER SEVEN

7:0 INCORPORATING APPROPRIATE TECHNIQUES INTO PLANNING PROCEDURES

7:1 PROPOSALS

The use of indigenous knowledge in management systems incorporates ecological principles into the development process which contribute to the alleviation of environmental crisis. The community which is immediately affected by the environmental crisis often know better than the outsiders how to alleviate problems with their local knowledge. Communities are intrinsically aware that the environment need to be managed for future generation to come.

The question to be asked from the survey conducted is what are the local mechanisms of control which can be used as basis of management proposals for soil, energy, crop farming, grazing, hunting and environmental ethics. It is proposed that the following existing controls have to be used to manage the environment sustainably.

Soil control

The Maphunwane community control the soil by practising contour ploughing to protect the soil. The old practice was to leave the weeds on the plots after weeding, so that after the crops have grown to a certain size the weeds can grow again to protect the soil.

Energy control

Certain trees in this area are used for housing, medicine and for and for medicinal purposes (for example, vomiting in order to bring luck.No one is allowed to chop down the trees or hunt , in

their own decision-making model. There should also be citizen participation, where the people come together to elect their own representatives. These representatives will co-ordinate and get to know that every development activity is in line with the people of the community.

Maphunwane people live together and they have a sense of belonging, common interest and values. They should therefore participate in decision-making. The type of people living in this area, their history, values and problems, are mentioned in this research. There should be co-optation. Their leaders must be known. The knowledge of the people has to be tapped and learned. This can be done through participation. There should be thorough research into their knowledge and through inclusive discussions.

The next chapter will develop a systematic application of the theoretical framework outlined in this chapter, with reference to the Maphunwane district.

information about proposed projects and design possibilities;

Design skills to work with groups and conflict situation, rather than expecting progress to stem mainly from isolated technical work;

Emphasize to interested communities the importance of effective participation in informal processes of project review, and take steps to make sure such design-change and negotiation meetings are equitable to professionally unsophisticated groups;

Encourage independent community-based project reviews and investigations;

Anticipate external political and economic pressures shaping design decisions and compensate them soliciting "pressure we can use" (e.g. countering vested anti-public interest) rather than minimizing external pressure altogether (Forester,1980).

CONCLUSION

The strategies have given an insight into how to make proposals for the use of indigenous knowledge in management systems. The strategy has come out with how indigenous knowledge can fit into development planning. Limitations on indigenous knowledge in development planning were spelt out. Strategies for the use of indigenous knowledge have been outlined including participatory strategy for the use of indigenous knowledge. Indigenous knowledge has been incorporated into a phenomenological approach to planning as well as critical theory. The strategic roles of the planner in indigenous knowledge and management systems have been outlined.

Incorporating all what has been outlined above, it is concluded in this chapter that the voice of Maphunwane community should be heard. They have to be consulted and have to take their own decision as far as development is concerned. They have to choose

There should be co-option in the rural areas, this will make the work easier. The planner should also be aware of the leaders of the community and make use of them.

The planner should have a contract of accountability to the community at the back of his mind. He should keep minutes and circulate them to the various groups, so that he gets openness and record.

According to Forester (1980), complementing their technical work, planners can:

Cultivate community networks of liaisons and contacts, rather than depending on the power of documents, both to provide and disseminate information;

Listen carefully to gauge the concerns and interests of all participants in the planning process to anticipate likely political obstacles, struggles, and opportunities;

Notify less-organized interests early in any planning process affecting them (the more organized groups whose business it is to have such information won't need the same attention)

Educate citizens and community organizations about the planning process and the "rules of the game";

Supply technical and political information to citizens to enable informed and effective participation;

Work to see that the community, its neighbours, and non-professional organizations have access to public planning information, local codes, plans, and notices of relevant meetings, and consultations with agency contacts, "specialist" supplementing their own "in-house expertise;

Encourage community-based groups to press for openness and full

9:0 BIBLIOGRAPHY

Agrawal, A. (1995) Dismantling the divide between indigenous knowledge and social knowledge.

Adams, W.M. (1990) Green Development: environment and sustainability in the Third World, London: Routledge.

Amanor, K. (1990) "Land degradation, fallow management and local environmental knowledge in the Krobo district of Ghana", Geneva: UNRISD,mimeo.

Bandyopadhyay, J.(1990) "From natural resource conflicts to sustainable development in the Himalayas,, paper prepared for UNRISD workshop on sustainable development through people's participation in resource management", 9-11 May.

Beyer, J.J. (1980) World Systems of Traditional Resource Management. London: V. H. Winston and sons.

Breheny, M.J. (1989) In search of Survey-Analysis. The Planner.

Breheny,M.J. and Batey,P.W.J. (1981) The history of planning methodology:A Preliminary Sketch. Built environment.

Brundtland (1987) "Our Common Future"

Catanese,A.J.and Steiss,A.(1970) System Planning Theory and Application. Lexington. Lexington Books.

Cernea, M. (1985) Putting People First. Oxford University Press. Oxford.

Chambers, R. (1983) Rural Development: Putting the Last First. Harlow. Longman.

* That indigenous knowledge can be incorporated into planning theories.

* That ways of incorporating indigenous knowledge can be included within decision-making models.

* That researching and learning should not be done in isolation by the planner but with the community. By doing so the planner is empowering the community through its participation.

* That decisions should be taken by the planner with the community and not for the community.

* That a community leaders lip is key to development and leaders should be identified in any development and the planner should get time to stay with them, research and learn with them.

* That indigenous knowledge in management systems ensures participation and empowerment of the disadvantaged people.

The discourse has come out with the necessity to let the community take decision for itself. This can be done by using its indigenous knowledge to manage its own affairs. Even though it cannot be said the discourse has been able to address the use of indigenous knowledge problem completely, it provides an insight for the use of indigenous knowledge in management systems in the rural areas.

What will make indigenous knowledge to succeed in management systems is to integrate it with Western knowledge. This will ensure that the traditional knowledge does not loose its content and significance but will remain relevant within a context of change. Integrating both forms of knowledge will enable the rural people make choices about resource management systems.

implication here is that people are empowered through participation;

- speak sincerely, comprehensively. legitimately and truthfully to the people. This will ensure that the people are respected and have the power to be respected;

- help people to use their values, beliefs and perceptions to control themselves by allowing them to set their own goals and objectives;

- encourage the other field workers to change their style of working with the people. Different communities have different knowledge in managing their own affairs. encourage them to know the community they are working with so that there will not be any conflict;

- encourage themselves to learn languages that they are not familiar. To be able to greet and say goodbye when working with the people of unfamiliar language. This will help build trust in the planners and the people will be willing to answer any question without hiding;

- initiate illiteracy campaign but not imposed to prepare people for development in Maphunwane. If this can be achieved the people can write down some of their valuable knowledge for generation to come.

CONCLUSION

From Development Planning point of view, I have derived the following key points from this study. They are:

* That indigenous knowledge can be researched and learnt as a continuous process.

knowledge in planning process. They should encourage communities to use the valuable knowledge to manage their areas sustainably. This can be achieved through research and learning by the community and the development planners.

It further recommends that planners should develop more formal expertise in qualitative methods of research. This research should be valuable for the Maphunwane community in taking decision for themselves.

Planners should:

- use their methods where appropriate so that they can combine the knowledge they acquire from the community with practice. Whatever kind of knowledge is used, processes should be established to assure its credibility;

- embrace rather than deny ambiguity and uncertainty. this means that there should be public debate to solve misunderstandings amicably;

- motivate action through their information. They have to play the role of problem definers, rationalizer and myth makers;

- encourage partnership between the local communities, the NGOs and the government in any decision taken;

- planners should take decisions together with the community but not for the community. Women should be encouraged to take active part in decision making by not discriminating against them;

- "be educators" and help people to learn so that they can change through act and development.
- encourage people to participate and create an atmosphere for participation. This can be done by observing those who are not interested to give them another thing to do. The

Proposal and policies have been outlined for Maphunwane. It was found out that "Participatory Rural Appraisal" is a practical technique to be used. The technique incorporates indigenous knowledge into the planning process. This technique will help the planner to learn from the Maphunwane community rather than the community learning from him or her. It is thought to be an ideal technique for the area because knowledge has to be researched and learned. This is what the PRA will do for Maphunwane district. If empowerment and sustainability are to achieved in Maphunwane district, by the use of indigenous knowledge in management systems, then participatory methods including PRA have a central place. Since top-down approaches have problems attached to them, it is appropriate to give strong attention to PRA approach, which is an alternative approach.

The discourse has achieved the objective of using indigenous knowledge in Maphunwane district. The planner should allow the Maphunwane community to define what problems they are facing. If the Maphunwane community is allowed by the planner to participate in identifying problems, they will be able to provide useful assistance in supplying reliable and relevant data which is necessary for the use of indigenous knowledge in management systems. This should be achieved through the planners' initiative in stimulating the awareness of the need for the people to develop themselves. However, this should be established by the people themselves.

In order to make the objective work it is recommended that the planner should act as a facilitator, a catalyst and a advisor. The planner should play the role of an initiator at the early stage and should make people aware of the necessity of their participation. The planner as a facilitator and advisor should help the Maphunwane community to use its indigenous knowledge in managing its own affairs. As a catalyst either he or she should learn the people's values, beliefs and perceptions from them but should not dictate what they should do. Development planners should form the basis for the use of indigenous

about storage of food for future use, especially, food preservation. This is not to romanticise the system as at times there are tensions between the tradition and, for example, liberal democracy and the empowerment of women.

The case study reveals that Maphunwane District has a unique indigenous knowledge which has to be developed. Their ancestors migrated to this present location from Mozambique bringing along their traditional knowledge with them. Some of their traditional knowledge has been changed but other traditions have not been lost. They have good knowledge of tilling the land and rearing their cattle sustainably.They have introduced new varieties of crops, but they still keep the old ones. They know how to till the land with their hoes and hands. They know about the soil and which type of crops to grow and they know about the growing season. They also know how to protect the soil by not taking away the weeds. They know about the trees and what they are used for and have instituted a rule to safeguard the exploitation of these trees. They do hunt but the hunting is regulated, and the types of animals to hunt are regulated. The government, the NGOs and the community at large have instituted mechanisms to control the environment. There are no major changes in the traditional management of land and the locations of houses are still decided by the chief and his councillors. There are no changes in places where houses are allocated and individuals maintain the sites permanently.

The discourse has also come out with critical theory. The critical theory provides a framework for understanding participation in the management of Maphunwane district. In critical theory research and learning go hand in hand. If the people of Maphunwane are participating in research, they are also learning. The strategic role of the planner has been spelt out in the discourse. The planner should know about the Maphunwane community. Either he or she should know , their problems, aims,aspirations,values, beliefs and perceptions, and the geography of the area

resist collectively if the development shows a negative effect on the environment which will undermine their survival strategies.

In chapter three, phenomenology and critical theory were used to legitimize indigenous knowledge in resource management systems. These two theories were incorporated into decision-making models, namely strategic choice developed by Friend J.K. and Hickling, A. (1987), and promotive planning developed by Muller, J.(1982). Any one of the models can be used, but not the both at the same time. All the other decision making models were rejected because they all seemed to have traces of top down approaches without the community deciding for themselves.

The discourse has attempted to show that approach to participation must be actualised in a fitting methodology and that methodology must acknowledge the values, beliefs and perceptions of the participants. It is submitted that the philosophies of phenomenology and critical theory provide the intellectual frame of reference for the methodologies within which community values can be placed. The promotive and strategic choice processes as outlined have set out planning methods that can confront the inadequacies of the autocratic rational models, and can play meaningful role in the empowerment of the least advantaged and most vulnerable citizens of the country.e.g. Maphunwane community.

It has been seen from chapter four that Swaziland has the knowledge of managing its own affairs without outside interference. Its system of land ownership is communal and controlled by the chiefs to ensure sustainability. It has numerous regulations with regard to land, and failure to abide by these regulations will be tantamount to banishment. Their system of institution helps to make management more effective. The "libandla" system gives everyone a chance to speak out anything that will help to manage the affairs of Swaziland sustainably. Hunting is regulated and the Swazis have knowledge

Because of indigenous knowledge a great variety of medicines and crops has been preserved. It provides the basis for grassroots or local based decision-making. It provided an immensely valuable data base with insights on how numerous communities have reacted with their changing environment.

Indigenous knowledge is specific knowledge and practices of agriculture, natural resource management, human and animal health, education and many other subjects. It is a complex of knowledge, beliefs and practices. Preserving indigenous knowledge is vital for the survival of communities and local farmers who acquired and protected this knowledge over generations. Support for indigenous knowledge could also serve as one measure of success in addressing issues of sustainable development, applying time tested practices to establish an ecological balance with their environments.

Exchange between indigenous knowledge and Western knowledge systems can be mutually beneficial. Virtually every scientific and social discipline can find valuable insights in the old knowledge base of indigenous people. Similarly, indigenous people should be ready to identify what is useful in Western practice and adapt it to their needs. The two-way flow of knowledge can only strengthen our mutual capacities to achieve sustainable development in a more effective manner (Focus Vol.1 April 1993).

8:2 SUMMARY AND RECOMMENDATIONS

The second chapter demonstrated how communities use their indigenous knowledge to manage their environment sustainably. It also demonstrated how communities will resist any project where they do not perceive sufficient benefits. Communities know better than an outsider and they are intuitively better able to assess the cost benefit of any environmental action. They may well

CHAPTER EIGHT

8:0 CONCLUSION AND RECOMMENDATION

8:1 INTRODUCTION

The discourse attempted to demonstrate that the use of indigenous knowledge in management systems is a way of empowering people. This is done through participation. The community which is immediately affected by the environmental crisis often knows how to alleviate problems related to control of soil erosion, grazing, energy, depletion and loss of plants and animal diversity better than the outsider.

As we are now nearing the 21st century the attitude towards the Third World's traditional behaviour should be reconsidered so as to recognise its value. We must not only think about the Western countries' science and progress as the only model for all countries to follow. We must not forget about our traditional cultural knowledge, but should build upon it in order to make our resources sustainable.

Society evolves by learning from experience. We have to continue learning in order to accumulate and transmit our knowledge to generations to come, and to use it to acquire new knowledge to develop our areas. Development without participation is like sowing maize on rocks. Learning should be everybody's task. If human beings do not learn and progress, our traditional knowledge is going to be lost forever. The Third World Countries still suffer from poverty, malnutrition, child mortality and various forms of discrimination. International development agencies should try and correct these imbalances by safeguarding traditional knowledge and blending this with modern science.

be used for diagrams. The ground and the other local materials like beans, stones and sticks can be used. At Maphunwane, the men have the knowledge of using wood for carving, while the women have the knowledge of using grass for weaving. They can be asked to do these exercises at certain times of the visits.

All information that is shared should be recorded. The PRA team should make a copy of the days work which they can use in planning and generally as a record of what happened. Participants should keep the exercise they worked on. These exercises can be used for exhibition.

After the exercise there should be exchange of information if participants are working in a team. If there is no time, give a brief verbal feedback as a team. Compensation should be given cautiously as it may become a routine and may cause people to stop participating.

CONCLUSION

This chapter has come out with practical technique to incorporate indigenous knowledge into the planning process. From the proposals, policies were formulated and the PRA principles to operationalise these proposals and policies. The PRA has grown from research focus, and has become a rich resource for investigative work. It has developed beyond that and is used in planning,implementation, monitoring and evaluation of work with communities.

It is thought to be an ideal technique in the use of indigenous knowledge because knowledge has to be researched and learned. This is exactly what PRA is doing in this discourse. If empowerment and sustainability are to be achieved by using indigenous knowledge then participatory methods including PRA have a central place. Since the top down planning approaches has problems attached to it, it is appropriate to give strong attention to PRA approach, which is alternative approach.

of exercises according to the information and the needs that are arising. This will enable you to assign individuals exercises they are interested in. Plan for local materials to be used in the exercises. Give them time to play some indigenous games and time to sing some indigenous songs.

At your first visit, introduction is important. It is important to give full account of who you are, where you are from, why you are there and what you plan to do while you are there. The community should know what organization you work for, and how your organisation is involved with the community. Emphasise that in you organisation your are involved in the use of indigenous knowledge in management systems. You have come there to learn how they use their local knowledge to manage their resources sustainably. Expect them to bring out all their knowledge both existing and no longer existing. They can learn and build on them, and if there is a need for change they can do that for their own well-being.

Try and be aware of protocol, customs and traditions: eg. starting with prayer. If you are not aware of their customs, allow them to lead in the introductions, to help ensure that their way of doing things is followed. After the introduction, let the leader or the chief tell the history of the place, their expectations, problems, needs and draw the map of the place. After the meeting go out to do some village task like filling dongas with stones and filling pot holes. On the second visit, get feedback from the participants,remember them as to what occurred during the previous visit.

In preparing the PRA team,ideally, there should be at least three people for each exercise: a content recorder, process recorder and facilitator, sometimes also a translator. There should be general observation by all team members. The team should discuss questions and share answers and develop a brief team.

If local materials are not readily available,paper and pen can

let the people do the work and observe and learn from them;

discipline yourself and do not involve yourself all the time even when you think things are not going well as this will interrupt the process.

be simple and don't show off;

relax and don't be afraid to watch; have fun;

welcome errors as an opportunity to learn rather than worry about "getting it right";

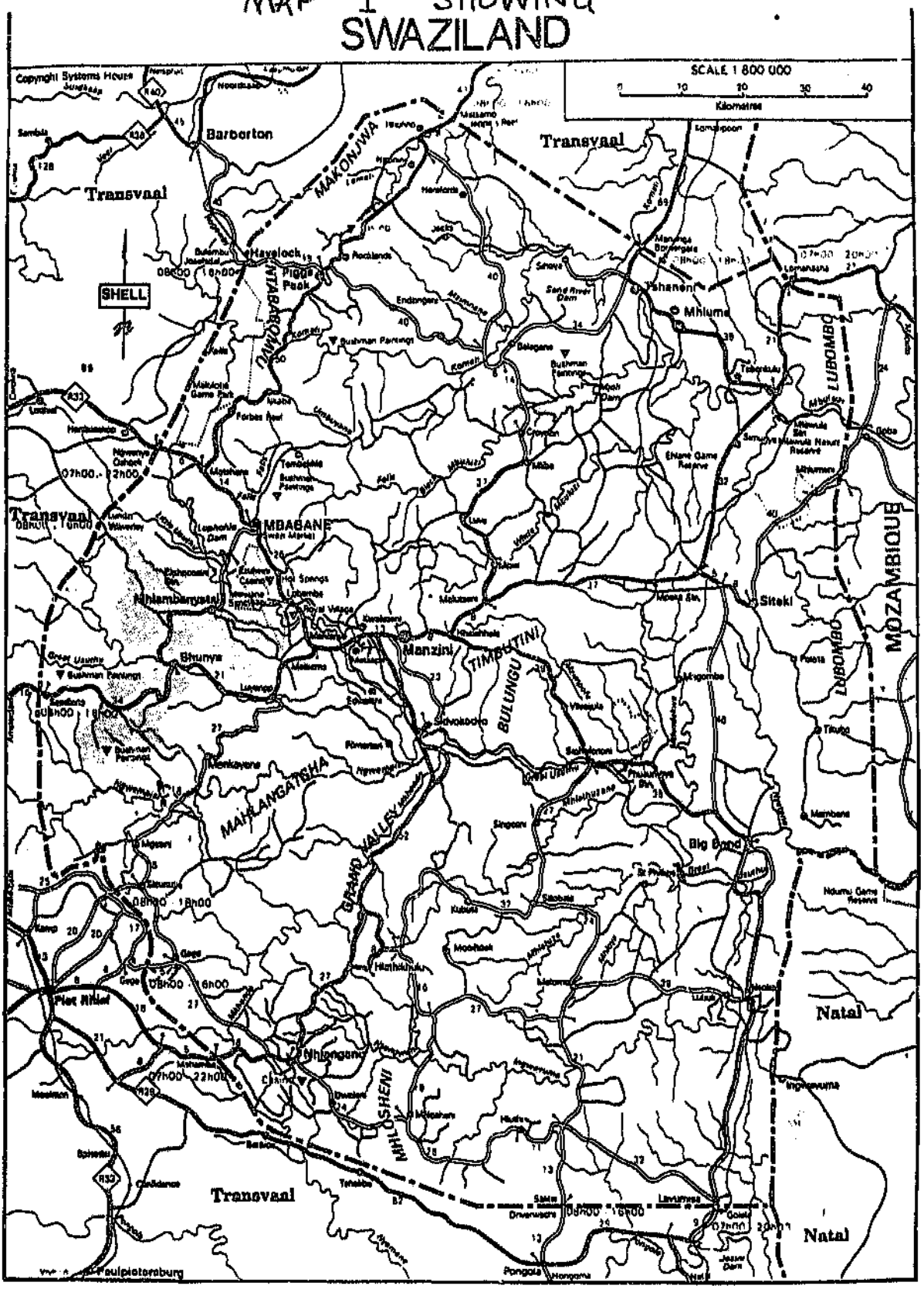
Leave the results of the exercises with the participants - make copies to take with you;

there is the need to plan well, but not too well. Prepare and plan but keep flexible, relaxed and creative.

When you are preparing the field, first contact the chief and the elected development committee (if there is one). Make them know the purpose of the PRA. Tell them that you have come to learn from their indigenous knowledge, and to learn how best they can use it for their own development. Discuss with the committee what issues you would like to explore, the meeting place, time for the meeting and the role that you are going to play. In Maphunwane, for example, the best meeting place will be the local school. The ideal time has already been stated above. Talk to people after the meetings and they will tell you more about the community problems. Talk to those people you feel they are marginalised, this will ensure interest in the community.

When planning we should know that it is for the use of indigenous knowledge in management systems. Therefore, it is the people's agenda, their knowledge and their values. We have to use their standards, framework and format. First identify their problems and needs. This will help us to plan as we go on. Plan many types

MAP 1 SHOWING SWAZILAND



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25.Are there changes in places where houses are located?

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17. Do you fish? If not why?
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18. Do you hunt? where do you hunt? Which animals do you hunt for?
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19. What do you do with the animals you kill? Which animals are you not allowed to kill?
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20 Has there been a change in hunting and fishing practices for the past 20 to 50 year.? What has changed and how has it changed?
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21 Are there any controls by government or the local chief or community on the use of either river or land or vegetation or animals? what are they?
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22 What is being done to protect the environment? (eg. soils, water, treres animals etc) by the government, NGOs? Do you agree with these actios?
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23.Do you want change in the traditonal management for land? What change?
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24.How are location of houses decided on?
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12. Does the community protect the trees or use them for other purposes?

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13. What is the most useful plant in this area?

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14. What food do you eat and why? How have diet changed?

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15. Are there people moved here recently from outside?

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16. Did they bring any plants with them here? Are their diet different? How are their traditions and farming practices different? Are they learning from you or you from them?

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5. What are the different traditional crops do you still grow?

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6. What new crops or varieties of maize do you grow?

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7. What are the problems with the new crops or maize?

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8 What implements do you use in ploughing?

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9.What are the soil conditions? Are the soils conditons best suited to change?

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10.What practices do you use to protect the soil? Are there new practices? Are the new practices better for the soil than the old practices?

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11. What trees grow in this area? How do you use these trees? Are the number of these threes declining?

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3. Traditional practices been lost? Are they changing? Do you think they should be preserved?

4. What do you plant? What livestock do you rear? How has your farming practices changed for the past 20 years?

QUESTIONAIRE FOR THE USE OF INDEGINOUS KNOWLEDGE IN RESOURCE MANAGEMENT SYSTEMS IN MAPHUNWANE DISTRICT

1. Where were you born? How long have you live here?

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2. Can you tell me some of your traditions that your parents or grandparents told you including most important traditional practices?

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10:0 APPPENDICES

Redclift,M. (1987) Sustainable Development. The New York Methuen.

Redclift, M. (1984) Development and environmental crisis: Red or Green alternative? London, Metheun.

World commission on environment and Development. (1987). Our Common Future. Oxford University Press. Oxford and New York.

Sonya M. J. (1963) Institute For Social Research. Univresity Of Natal.

Simon, H.A. (1965) Administrative behaviour (revised edition), New York: Macmillan.

Vivian, J. (1991) Foundation for Sustainable Development: Participation, Empowerment and Local Resource Management.

Press.

Matsebula, J.S. (1980) A history of Swaziland. Longman.

Manners, I.R. (1980) The Middle East in Klee, G.A (ed). World Systems of Traditional Resource Management. London.

Mayerson,M. and Banfield,E.C. (1955). Politics, Planning and Public interest: The case of Public Housing in Chicago. Glencoe.

Munro, D. (1988) Crying fo the Earth.

Muller, J.G. (1982) Promotive Planning: Towards an approach to Planning for the Disadvantaged (case study, Seweto) In Planning Theory, Prospects for the 1980's. Healey, MacDougall and Thomas:Pergamon Press.

Muller,J.G. (1990) Planning Methodology: Empiricism, Rationalism and the Practical Imperative, In Mouton Joubert eds. Knowledge and Method H.S.R.C. Pretoria.

..... (1992) "From Survey to Strategy - Twentieth Century Developments in Western Planning Methods", Planning Perspective, Vol. 7 No. 2 April.

..... (1993) "Democracy Imperative: Community Involvement in Decision-making", Proceedings, World Housing Congress,IAHS, Cape Town.

..... (1994) Community Development and decision making. Urban Forum.

Odum,H.T. (1971) Environmental Power and Society. Chichester Willey.

PRA (Handout,1995) Towards Partnership in Development.

Radwan , s. (1983) Agririan Policies and Rural Porverty.

Friedmann (1979) Territory and Function: The evolution of Regional Planning. London. Arnold.

Friedmann, J.and Huson,B.M. (1974). Knowledge and action: a guide in planning theories.Planning journal, 40.

Friedmann, J. (1992) Empowerment: The Politics of Alternative Development.

Gary, A. (1980) World Systems of Traditional Resource Management.

Ghai, D, and Vivian, J. (1992). Grassroots environmental action: People' participation unsustainable development.

Goldman, B.J. (1992) Community Right to know: Environmental Information for Citizen Participation in Evviro mental Impact assessment Review, Vol. 12 No. 3, Sep. 1992)

Hardin, G. (1968) "The tragedy of the commons".

Hecht, S. (1989) Indigenous soil management in the Amazon Basin: some implications for development", in Browder (ed).

Hoch C.J. (1984) Pragmatic connection in planning theory: Journal of planning education research, volume 4, 2.

Habermas, J. (1976) Systematically distorted communication in connection, p (ed).

IDRC Report. (1993) Indigenous and Traditional Knowledge.

Kuper, H. (1952) The Swazi. International African Institute.

Loew, S. (1979) Local Planning, London: Pembridge

Dasman, R.F. (1975) The conservation Alternative. Chrichester John Wiley.

Dewar, D. (1986) Is Conservation Compatible with Development?. A paper presented at a seminar organised by the Bureau of National Resources. Ulundi, Kwazulu. 14 May 1986.

Davidoff,P. and Reiner,T.A. (1962) A Choice theory in Planning, Journal of the American Institute of Planners, 28.

Dekker,F. & Mastop,H.(1979). Strategic choice: An Application in Dutch Planning practice. Planning outlook.

Devoton, D.M. (1937) Transaction and human Goegraphy of Swaziland. George Philip and sons Lt.

De Neufville (1987) Knowledge and action :making a link. Journal of planning and research.

Environment and Development in Africa (1981). A study prepared by Environmental Development Action for the United Nations Environmental Programme, UNEP Studies Vol. 2 New York: Pergamon Press.

Faludi, A. (1973) A Reader in Planning Theory. Pegamon, Oxford.

Fagence, M. (1977) Citizen Participation in Planning, Oxford: Pergamon Press.

Fair, T. J.D. (1969) Development in Swaziland. A regional analysis.

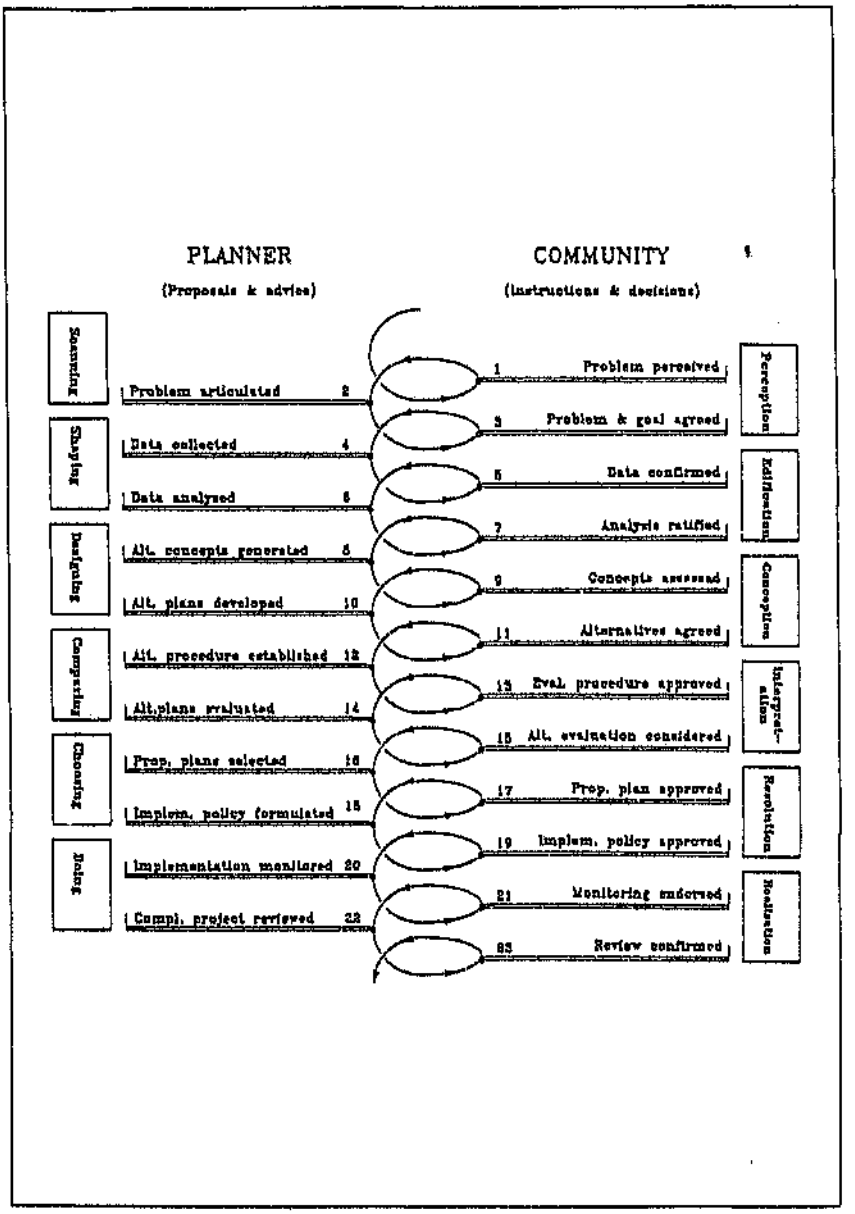
Mudoch, G.
Jones H.M.

Forester, J. (1980) Critical theory and planning

Fried,J.K. and Hickling,A. (1987). Planning Under Pressure. The strategic Choice (2nd edition),Oxford: Pergamon Press.

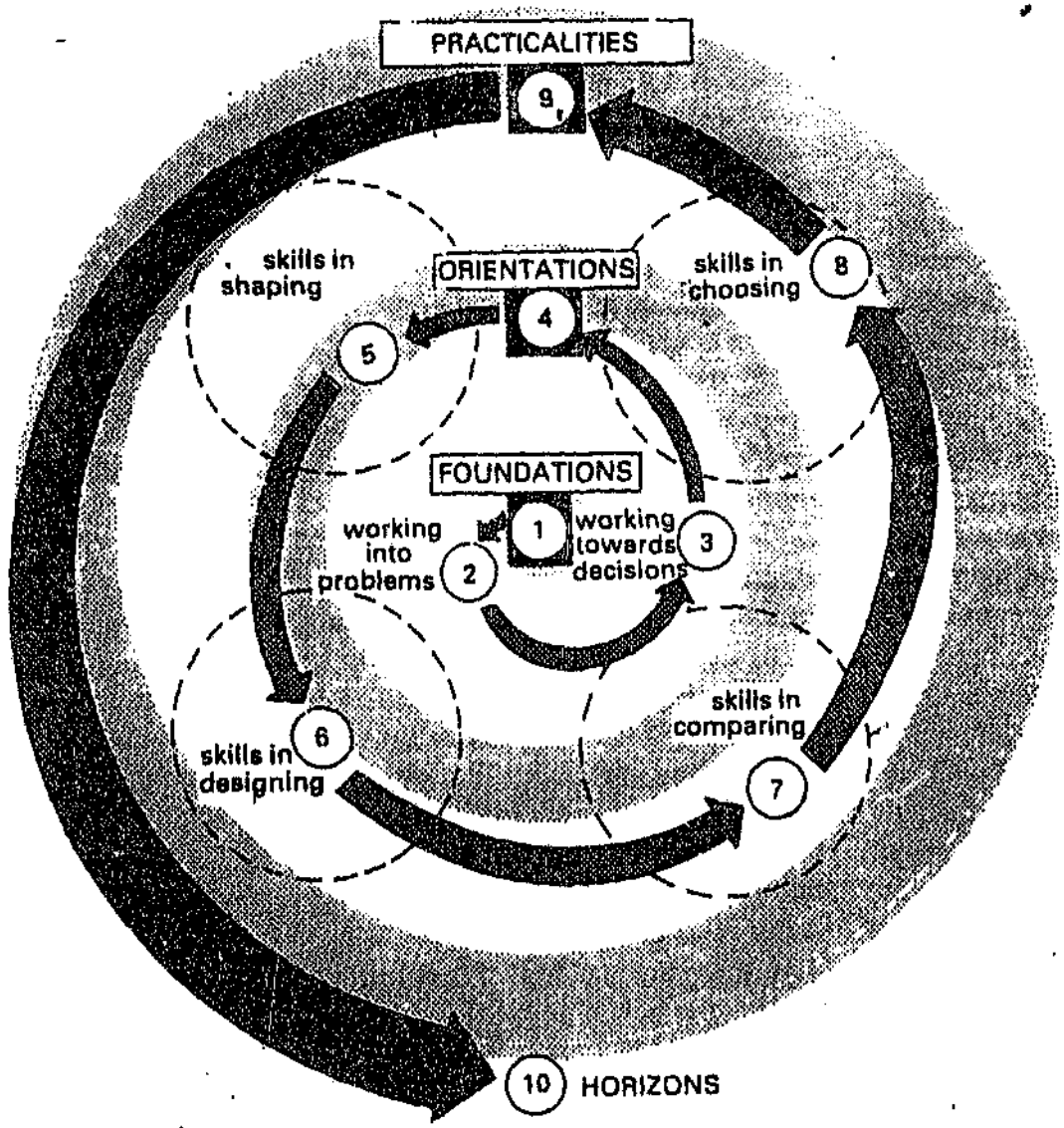
FIG. 3

Community Decision Model



SOURCE: MULLER (1982)

Fig. 2

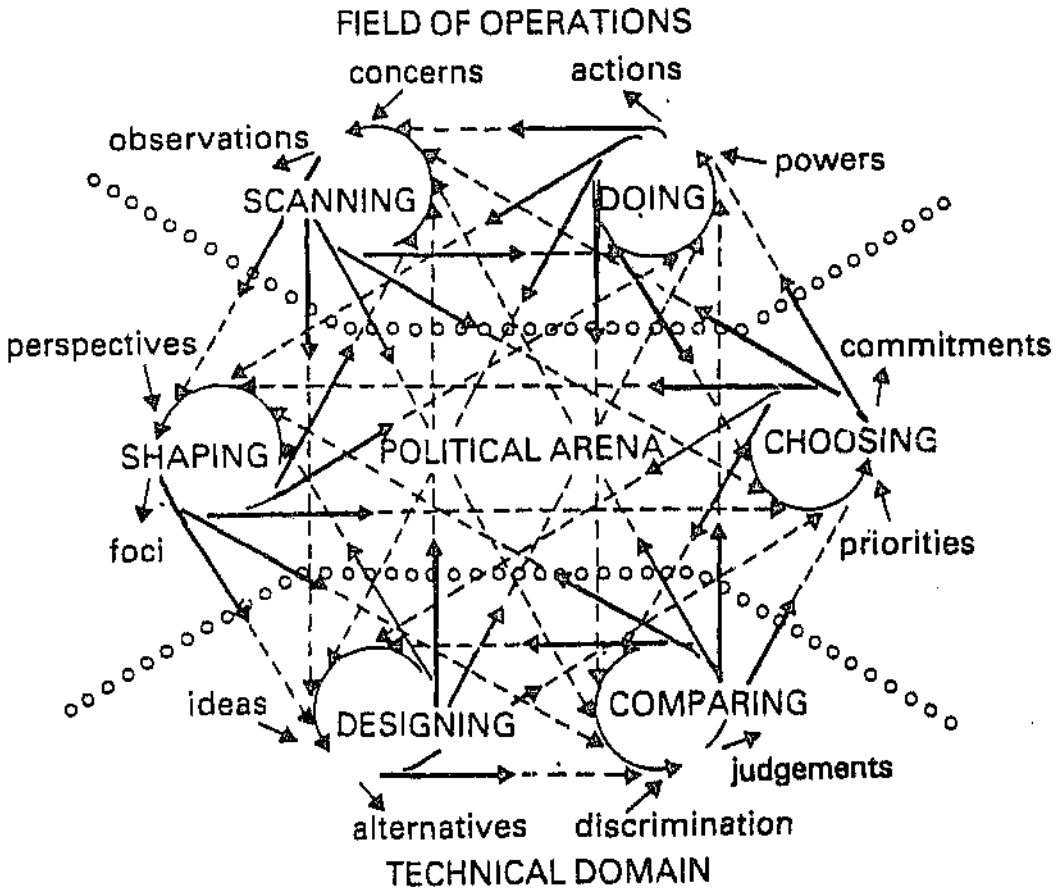


STRUCTURE

SOURCE: SAME AS ABOVE

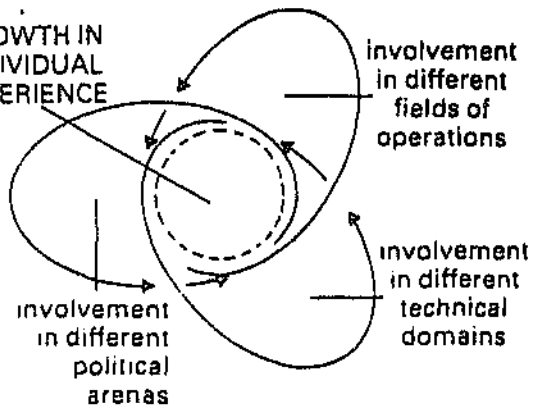
FIG 1

Strategic Choice as a Continuous Process



PROCESSES OF STRATEGIC CHOICE CAN IN PRACTICE BRING TOGETHER PEOPLE WHO ARE INVOLVED IN
- MANY FIELDS OF OPERATIONS
- MANY POLITICAL ARENAS
- MANY TECHNICAL DOMAINS

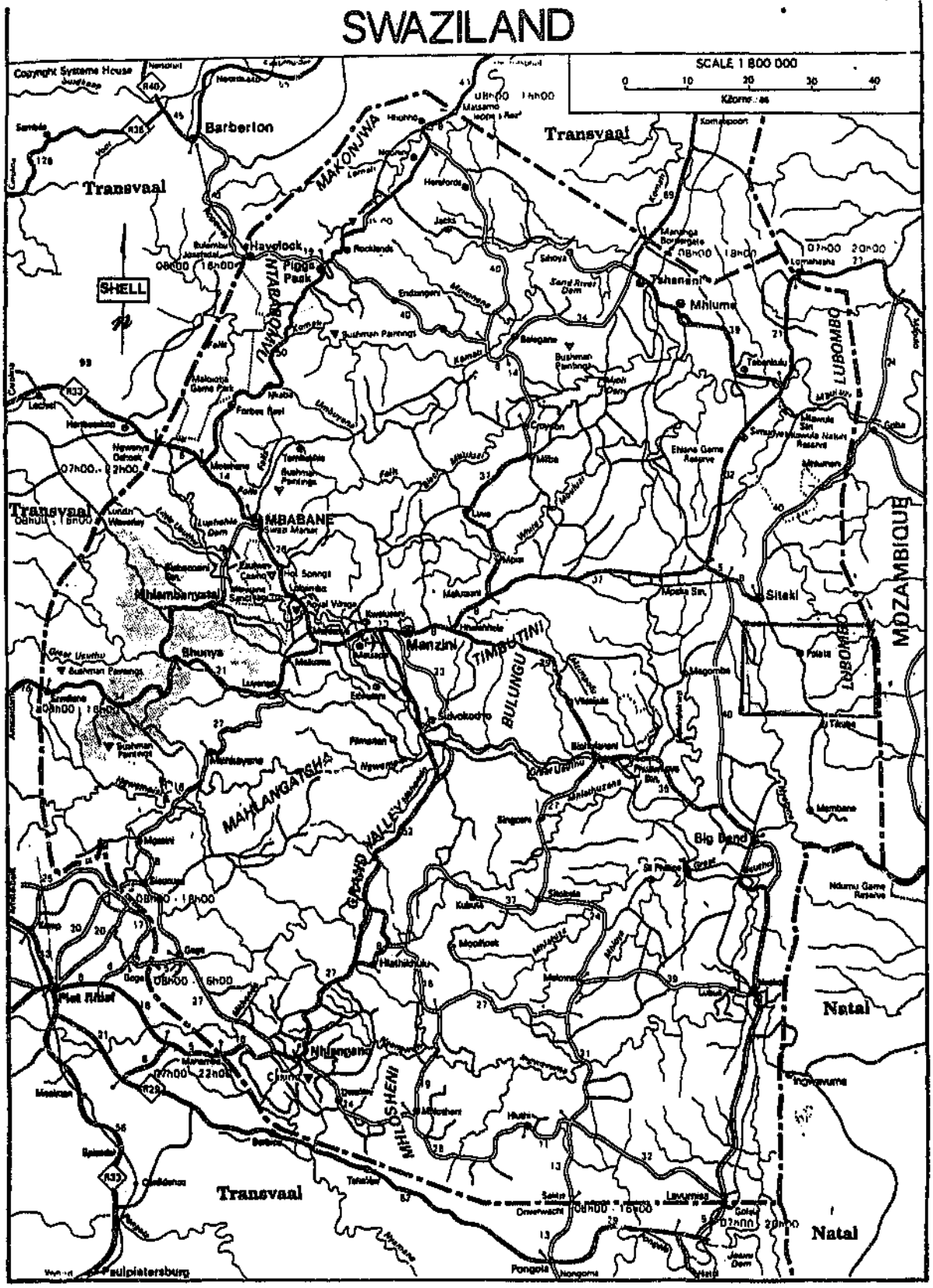
LEADING TO CONTINUOUS GROWTH OF INDIVIDUAL EXPERIENCE AND CAPABILITIES . . .



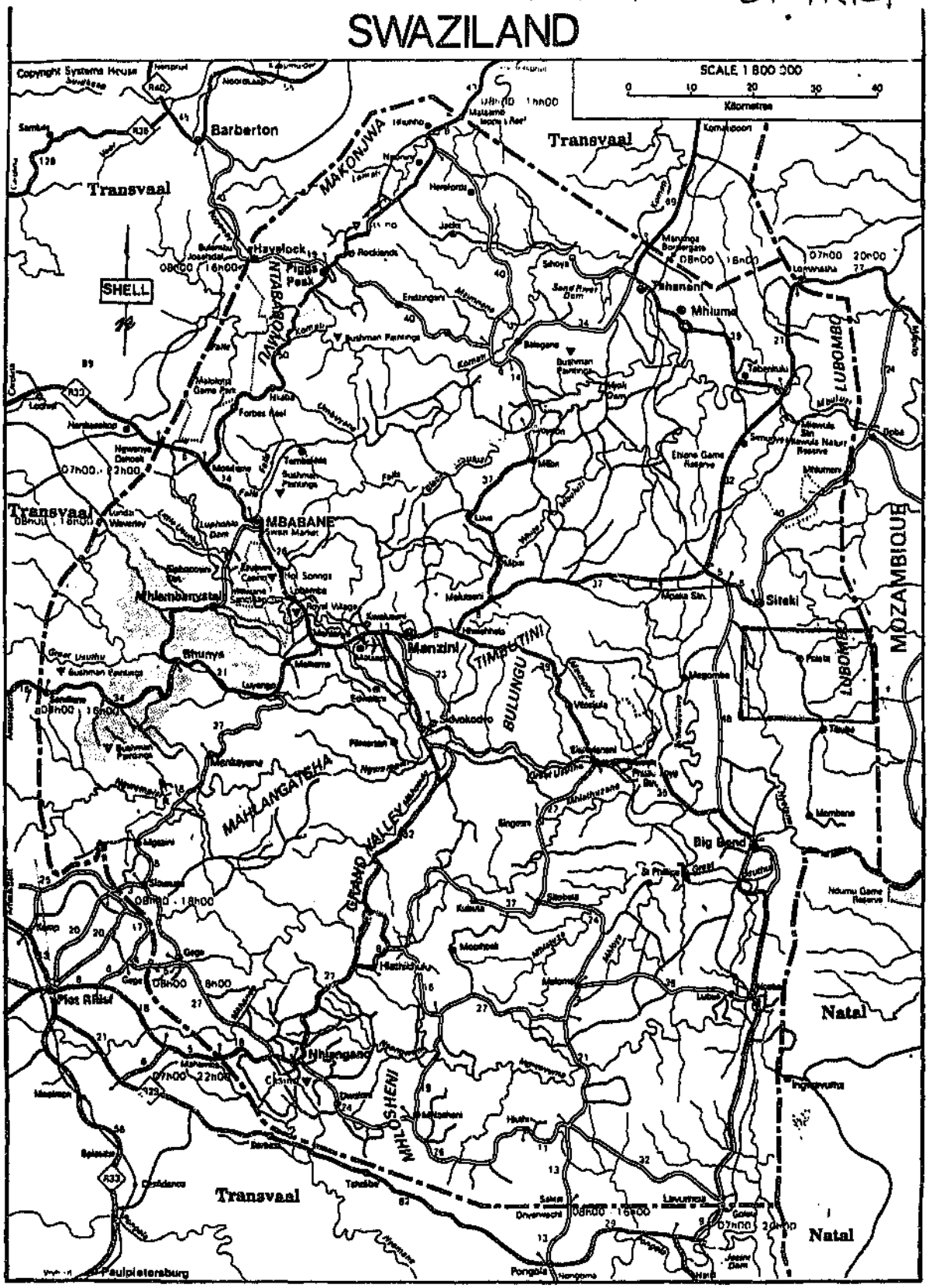
PRACTICALITIES

SOURCE - FRIEND, J K + HICKLING, A (1987)

MAP 2 SHOWING MAPHUNWANE DISTRICT



MAP 2 SHOWING MAPHUNWANE DISTRICT



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