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Developing Approaches for Improved Natural Woodland Resource Use and Management:

Lessons learnt in the communal areas of Bushbuckridge (Part 2)

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PREFACE

This report is prepared by the DANCED/DWAF Community Forestry Project in the Bushbuckridge Area (CFPB) to document its experiences and lessons learnt so that others working in similar fields may benefit from the work undertaken by the Project.

The overall objective of the CFPB is: *Improved sustainable natural woodland management and environmental reconstruction*, while the immediate objective is *Strengthened capacity of the Nelspruit section of DWAF, the extension wing of the Department of Agriculture and rural communities in the Bushbuckridge area to plan and implement community-based tree-planting activities and natural woodland management.*

The objective of the Directorate: Community Forestry (D:CF) is to contribute to the social and economic upliftment of people by promoting the sustainable utilisation of natural resources and encouraging tree-centred development.

In line with this, the outputs of the CFPB include developing strategies and implementing community forestry pilot projects for socio-economic development, urban/rural greening and woodland management. The focus of the CFPB is capacity development in the Department of Water Affairs and Forestry (DWAF) and among the residents of Bushbuckridge towards an enhanced system of sustainable woodland management.

The document, *Developing Approaches for Improved Natural Woodland Resource Use and Management: Lessons learnt in the communal areas of Bushbuckridge,* consists of two reports - Part 1 and Part 2. This report (Part 2) describes work undertaken in the final years of the CFPB while Part 1 discusses strategies and approaches developed in earlier stages of project implementation. Part 2 is a continuation of Part 1 but can be read separately.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

DoA	Department of Agriculture
CBNRM	Community-based Natural Resource Management
CBO	Community-based organisations
CFPB	Community Forestry Project in the Bushbuckridge Area
DANCED	Danish Cooperation for Environment and Development
DFID	Department for International Development (UK)
DLA	Department of Land Affairs
DWAF	Department of Water Affairs and Forestry
D: CF	Directorate: Community Forestry
D: IFM	Directorate: Indigenous Forest Management
GPS	Global Positioning System
IDP	Integrated Development Planning
MDA	Mineworkers' Development Agency
MDC	Mhala Development Centre
NGO	Non-governmental Organisation
NRM	Natural Resource Management
PRA	Participatory Rural Appraisal
TA	Tribal Authority

1. INTRODUCTION

The forestry resource in the Bushbuckridge area can be described as open woodland that is under heavy pressure in the semi-urban areas in the west and in the near settlements in the east. Unsustainable land husbandry and natural resource use has resulted in the degradation of the natural woodlands.

Woodland resources make an important contribution to the livelihoods of most households and bridge the rural/urban divide. These resources supplement household incomes (through, for example, petty trading) and provide a source of 'free' products. Different resource users derive direct and indirect benefits from the resource base (grazing, fodder, fuelwood, medicine, food, construction materials, soil fertility, spiritual well-being, and so forth). With the low income levels for the majority of the population of the Bushbuckridge area, the natural resource base is crucial for the subsistence and cash economies. The increasing scarcity of wood and non-wood resources undermines rural livelihoods, particularly those of the poorest who are most dependent on natural resources for their daily survival.

The underlying problems and reasons for woodland degradation include the following: population pressure; competing resource use; limited income earning opportunities and a resultant high dependency on woodland resources; unclear and uncertain tenure; little clarity on the mandate of traditional authorities; competition between traditional authorities and local government; limited co-operation between the different government departments; weak civil society; and general low levels of awareness, knowledge, skills and financial and other resources.

To address these problems it is necessary to recognise that natural resource management (NRM) takes place within a socio-economic, political and ecological context/environment where NRM and local livelihoods are integrated, complex and locally specific. Knowledge of these relationships in the differing contexts is central to the design and implementation of initiatives that have to consider rural development, poverty alleviation and conservation.

This document was prepared by the Community Forestry Project in the Bushbuckridge Area and forms part of the reporting on the CFPB's work that aims to contribute to improved woodland management and socio-economic development through capacity building, urban/rural greening and sustainable utilisation of common property woodland resources. This report is Part 2 of the document *Developing Approaches for Improved Natural Woodland Resource Use and Management: Lessons learnt in the communal areas of Bushbuckridge* and focuses on the experience and findings of the CFPB's activities during the latter years of implementation, while Part 1 discusses strategies and approaches to community forestry developed in the earlier years of the Project.

The Introduction in Part 1, that discusses the Project context, the process of adaptive learning, and why a participatory approach is followed, is applicable to Part 2 as the different strategies are overlapping and interchangeable. The Project context and problem analysis is included as an annex in this report, but for the other issues Part 1 will have to be consulted.

This report is structured as follows: In Section 1.1 and Section 2 is a review of how strategies and approaches for improved woodland use and management were developed. An overview of the strategies discussed in Part 1 of the *Developing Approaches* documents is presented. Thereafter the area-based woodland management strategy, that is the focus of this report, is discussed. A process was formulated to guide the implementation of this strategy that aims to enable communities to manage their woodland resources sustainably.

Two area-based woodland management pilot projects have been initiated in Bushbuckridge. In Section 3 the Gottenburg case study is presented. Discussions include the criteria used and

the reason the Gottenburg area was selected, the phases of implementation, as well as the findings and outcomes of each phase. This is followed by an assessment of the pilot project and appropriate resource management interventions.

The second area-based pilot project that is discussed in Section 4 uses a different entry point to that of the Gottenburg project. Here the focus is on the marula resource that occurs across community/area boundaries and is being commercialised for both the formal and informal markets. The process is different to that in the Gottenburg case. Recommendations on how to strengthen community-based management of the marula resource are given.

The lessons learnt from the Gottenburg and marula pilot projects are discussed in Section 5 and some recommendations are provided. The main issues include how capacity is built, the need for collaboration between external agencies and with the community, as well as institutional development in community-based woodland management.

Some of the work discussed in this report is documented in more detail in the following: *Assessment of the Status and Potential of Woodland Resources in Gottenburg: Bushbuckridge* by Francois de Wet and Graham Deall (2000); *Potential for the Development of Marula Products in the Bushbuckridge Area* by Cyril Lombard, Benoit Allenic and Brancely Chilote (2000); *Socio-economic Assessment of the Gottenburg Pilot Area* by Marius du Toit (2002); and *Evaluation of the Marula Project in Bushbuckridge* by Felicia Chiloane and Jackson Phala (2002).

1.1 Planning and Implementation of CBNRM

When the Project ventured into community-based woodland management activities there was not much experience the CFPB could draw on, particularly with regard to land under communal tenure. The Project had gained experience in participatory approaches but other issues, such as the management measures, their implementation and institutionalisation on a larger scale, still had to be investigated. Therefore the Project developed its own process for planning and implementation of improved management systems in communal areas.

Management means planned actions by individuals or groups that will ensure the sustainable (and equitable) use of those resources and practices that encourage the desired products for the purposes intended. "All and any planned and deliberate activity which enhances the quantity and quality of woodland or makes its use more sustainable is defined as management" (FAO, 1999).

A successful management system is a set of practices by people that co-ordinate their activities and follow management rules.

What is a management practice?

Management of a tree and the resources in the space it occupies; swidden-fallowing for agriculture and livestock over short and long-term periods; crop rotation; the symbiotic relationship between livestock and crops (fodder and soil enrichment); parklands - preserving specific species with other values (soil enrichment, fodder, fruit) among crops; selective maintenance and promotion of tree species in the woodlands; tree management through lopping, pollarding and coppicing to produce specific end products, to diversify end products (e.g. poles, fodder, fuelwood) and so trees can grow again for future use; use of deadwood for fuel; cutting trees only for important purposes including clearing land for agriculture; agroforestry; use of fire as a management tool for specific use objectives (promoting or restricting different vegetation); similarly grazing and browsing for grass and woody vegetation management (adapted from FAO, 1999).

The management of woodlands have been regarded as separate to that of farmlands, but it is often difficult to say where farmland ends and woodlands begin. Land alternates between woodland and farmland (when it is left fallow) and, while cattle owners may have different management practices to crop growers, there is a continuum between the two.

Those who 'own' the resources follow management practices. Clear tenure and property rights are thus a requirement for successful NRM. Management will not occur unless resources have some value or scarcity.

Management is implemented in various ways: Management through customary practices, such as religious beliefs and taboos (restrictions on cutting certain species; sacred places, etc); gender practices; management by seasonal change (resources can only be harvested at certain times of the year); management of a defined area through the exclusion of outsiders (usually flexible as boundaries and access change for various reasons); management through regulations and decision-making at a local level through a legitimate and accepted authority or institution. Thus non-formal and formal rules determine who has access to resources and how these resources are managed through use and/or protection. These rules may be working or non-working; a working rule is one that affects the way people behave and is monitored and enforced (Thomson, 1997). Understanding the reasons for this is important for successful community-based woodland management.

The following measures could be considered to achieve sustainable woodland management and environmental rehabilitation.

a) Plant trees and other plant forms to stabilise threatened environments, improve soil fertility, meet rural consumptive needs, and generate market surpluses
b) Protect all species allowed to grow, primarily in fields, to enrich the soil or prevent erosion. Allow grazing in fields after harvesting to increase soil fertility
c) Limit livestock browsing for certain periods in selected areas to protect the natural regeneration of woodland species
d) Regulate harvest practices so that woodland resources are not degraded and destroyed through intensive use and unsustainable harvesting methods
e) Ensure property rights (tenure) in the woodlands and an equitable distribution of woodland products so that resource users feel it is reasonable to support management practices and rules.

(adapted from FAO, Community Forestry Note 10, 1992)

Successful implementation of any such initiatives will depend on the creation of ownership, responsibility and benefits. It will also depend on the ability for community members/resource users to enforce management systems and rules for the use of the resources in the area, but also in relation to non-community members and acknowledged resource users.

The process the Project developed outlined the steps that would eventually enable communities to decide on a resource management system and its implementation. This process is described in Section 2.3.1. This framework is backed up by work published by FAO (1999) and Shackleton (2000).

Deciding on what type of resource management activities to implement is determined by the extent of the common property resources and land use. The table below suggests that the appropriate strategy to be followed falls on a continuum from low settlement density, low pressure on resources and a corresponding low interest in planting activities to a high settlement density, intensive land use and a corresponding high interest in tree planting. The indicators suggest the appropriate type of tree planting activity for the context.

Table 1: Indicators for four types of areas: When do you try what?

Area Type 1	Area Type 2	Area Type 3	Area Type 4
Extensive ← Type of land use → Intensive			
Pastoralism or Settled home and migrant animals Shifting cultivation and long fallows Labour key constraint	Settled agriculture on registered land and open land Shorter fallows Animals important and grazing pressure increasing – nearby on commons	More intensive agriculture; most land demarcated as permanent plots Fewer animals kept	Highly intensive agriculture, farms contiguous Landlessness Animals stall-fed or sold
Extent of Common Property Resources			
Common land plentiful Traditional management rules extant	Common land getting scarcer Management rules causing conflict	All common land gone except for small areas Common property rules no longer workable	Wasteland only exists Management forgotten Open access only
Likely Villager Interest and Promising Tree Planting Interventions			
Only homestead planting – shade, fruit, hedges Limited tree-related cash from woodlands Woodland management with villagers still worthwhile	Mostly homestead planting Animal damage to planted trees a problem Cash from on farm products and common-property resources in woodland	Interest in field-boundary planting for different uses Interest in all homestead options Cash sale of farm and homestead products	All tree needs are farm grown Markets for farm tree products Fodder for stallfed animals possibly Alley-cropping and mulching. Etc

(FAO, 1999)

From Table 1 it appears that it is only under area type one that CBNRM is still worth pursuing. However, these are not the only factors to consider and it is important that other issues are also taken into consideration when deciding what are the appropriate activities to implement.

Other requirements for community-based woodland management are incentives and benefits for all resource users/residents of the area. Management, ownership and benefits are intertwined. If there is no sense of ownership and benefits, time and effort will not be invested in resource management activities. Another key element is the participation of resource users/community members (either directly or indirectly through an accepted institution) in the decision-making process. These other conditions required for the successful sustainable management of common property resources are presented in the table below.

Table 2: Conditions for successful CBNRM

Requirements	Facilitated by:
Nature of Resource	
Resource boundaries are clear or understood Indicators of resource condition	Small boundaries are easier to manage and monitor Rapidly renewable resources easier to manage High dependency levels on the resource – acts as an incentive
Resource Users	
Clearly defined membership and conditions for eligibility Exclusion of non-members or access based on agreement with members	Small user groups – lower costs, greater cohesion and identity therefore social sanctions more effective Users reside close to resource Homogeneity and common interest favours co-operation Previous experience of collective action Local understanding of the resource, its condition and carrying/harvesting capacity Joint recognition of the need to manage the resource Trust – compliance through trusting others are also adhering to the regulations
Institutional Issues	
Ownership/tenure (able to exclude others) Representative local institution for control Authority systems for recourse Federated or nested institutions for large groups of different users or complex resource systems Mechanisms for conflict resolution	Presence of existing effective local organisation (prior experience) Adaptable institutions – able to change rules etc Respected leadership to direct and champion the cause Powerful groups benefit directly form commons and want to ensure their management, contributing to collective management
Nature of Rules, Regulations and Sanctions	
Rules and regulations that are local, flexible, realistic Clearly understood sanctions and punishment mechanisms Monitoring and enforcement of rules	Simple rules Graduated sanctions or penalties Combination of formal and informal monitoring Community responsibility for reporting infringement Build on indigenous practices and norms
Economic Issues	
Incentives that encourage compliance – benefits exceed costs In productive systems benefits accrued from common resources are equitably shared	Value of the common property resource – the higher the value and the more important it is for people's livelihoods the greater the incentive to manage and conserve it
Policy Issues	
State must devolve responsibility and recognise local community control and organisations (policies) State must recognise and protect people's rights (legal)	State should facilitate and support local management Provide mediation Deal with external threats and impacts Provide training and extension support

(Shackleton, 2000).

2. DEVELOPING STRATEGIES FOR WOODLAND MANAGEMENT

The CFPB has developed capacity in the field of community-based forestry through a combination of formal, but participatory, training and hands-on learning-by-doing experience gained during the implementation of field activities.

The CFPB has thus, through a process of adaptive learning to build both capacity and to develop CBNRM strategies based on a participatory approach and suitable to local contexts, gained a more sophisticated understanding of the issues involved in natural resource use. As understanding and capacity developed so the management strategy was adjusted. The best aspects of a strategy are adopted and taken forward to develop an improved CBNRM process. This cyclical learning process - based on Action, Reflection on action, Modification of action, and Implementation of modified action – is reflected in the various CBNRM strategies and entry points the CFPB has explored.

At the start of the CFPB the Community Forestry staff came out of a commercial forestry tradition and had little experience with, and understand of, working with communities, of participatory planning and implementation, of the value of natural resources to poor households, and of the wide-ranging issues that need to be taken into consideration for CBNRM implementation. While the agricultural extension officers had more experience with working with communities, they similarly did not use a participatory approach and the extension 'message' did not focus on an integrated farming system. Instead, the emphasis was on the cultivation of individual crops (and on cattle), ignoring the multi-purpose use of local species, the contribution of woodland products to livelihoods, and the integration of trees in an agro-forestry system.

Sections 2.1 and 2.2 summarise the strategies that were documented in Part 1 of the *Developing Approaches for Improved Natural Woodland Resource Use and Management* report.

2.1 Broad 'Community' Strategy

Given this background, the broad 'community' strategy was the CFPB's initial attempt at developing strategies for community forestry. The community forestry activities implemented in three communities were based on Participatory Rural Appraisals (PRA) and planning workshops to determine needs, priorities and activities to develop an implementation plan for each community. The purpose of this strategy was to ensure broad community participation, raise awareness of the CFPB (as understanding of community forestry and the Project was limited), address the needs and preferences of the community, and inform the CFPB of the general status of the community/area.

In this initial strategy, the CFPB worked with a 'community'(residents of a geographical area with distinct boundaries). In an attempt to meet the identified needs within the parameters of the CFPB mandate, the main community forestry activities initiated were community-based nurseries and gardens, as well as agro-forestry and other activities (live fencing, parklands, soil erosion control, indigenous fruit tree orchards and planting during Arbour Week).

Some of the problems encountered in the implementation of these initiatives were due to the fact that community-based forestry and woodland management was a new field and experience and skills levels were limited. The extension officers had attended PRA training prior to implementation of the broad 'community' pilot projects. Other training following this was more technical in nature and included agro-forestry, indigenous plant propagation and nursery management. From their experience with the broad 'community' strategy the DWAF staff identified the need not only for technical skills but also for social skills. Training in areas

such as facilitation, organisational development, conflict resolution, and communication skills was then organised. They also participated in workshops to more fully explore the concepts, issues and requirements for implementing a CBNRM system.

Other problems experienced were that community priorities differed from the CFPB/DWAF objectives; difficulties in trying to meet the needs of the whole 'community' and in identifying activities that would deliver tangible benefits; and difficulties in assessing levels of understanding, commitment and hidden agendas.

Among the main lessons learnt are the following:

- Greater benefits would be realised if there were an integrated approach from relevant government departments, particularly to ensure the 'message' and methods are not contradictory and to share resources.
- PRA follows no rigid formulae and practitioners need time to test, adopt and adapt techniques that they and community members are comfortable with.
- Through the process unrealistic expectations are raised and these need to be countered and balanced.
- The use of participatory methods does not guarantee participation: it requires a deeper understanding of issues, such as gender and other power imbalances, and long-term involvement and commitment.
- Continuous interaction with the community also builds trust and capacity.
- Other skills, such as facilitation, communication and conflict resolution, in addition to a range of technical skills, are required.
- Perhaps the most important outcome of the implementation of the broad 'community' strategy was an improved understanding of the concept of community. A community is not a single, united and undifferentiated entity. While a community may be located within a specific geographical area, it consists of different groupings, is stratified according to power and wealth, and that groups and individuals have different and (usually) competing interests. Within this are various resource user groups that have greater, or lesser, access to and control over land and natural resources.

2.2 Resource User-group Strategy

After assessing the initiatives based on the broad 'community' strategy and, given the CFPB's new understanding of 'community' and resource related issues, it developed the resource 'user-group' strategy. This involved a shift to working with smaller groups, specifically resource user groups – such as people involved in the medicinal plant trade, woodcarvers and beekeepers.

In comparison to the broad 'community' strategy, the benefit of the resource 'user-group' strategy is that it is demand drive; all members are, to a greater degree, able to participate in developing plans and in decision-making; the groups have clearer objectives; the groups are more organised; benefits related to natural resources are more obvious; and conflicts and difficult group dynamics are generally not critical and irresolvable. The drawback of this strategy is that the resource groups work separately yet they impact on one another.

The resource 'user-group' strategy has proved to be effective in its own right. This CFPB strategy builds on the recognition that if the objective of sustainable natural resource management and environmental restoration is to be relevant to people living in the area, they require tangible benefits from community forestry initiatives (pilot projects) aimed at achieving these objectives. Woodland resources are used for a range of purposes or products (medicine, food, fodder, fuelwood, fencing, building material, craft and household items).

These products are either consumed by the household – a cash savings – or are sold or traded (contributing to the household income). The CFPB has therefore made efforts to identify linkages between natural resource use and products and ways to strengthen the sustainable use of these products.

In the resource 'user-group' pilot projects the income-generating component is an important aspect contributing to their success. In addition to providing income and other tangible benefits (for example, access to medicine, food, improved soil etc), this strategy recognises different groupings with different interests, as well as takes into account individuality within the group.

Through the resource 'user-group' strategy there is an improved understanding of:

- The relationships between different resource user groups; the overlapping interests in and competition over the same natural resources; how using one natural resource in a particular way affects the status of another natural resource and
- The different institutions that have an impact on land and resource use; how these institutions relate to one another; competition between the institutions in relation to land and natural resource use; and how resource users relate to the different institutions.

Thus the benefit of such a strategy is that, through the various stages of implementing the pilot project, the members have recognised the need for natural resource management at a level much broader than their own more narrow interests. They have gained increased understanding of ecology, their own dependence on the natural environment and the impact of people's – and institutions – decisions and actions on the natural resource base. It was concluded that integrated planning and development is essential for improved management of resources – co-operation between government departments, with other resource users and between the institutions (local government and tribal authorities) regarding how land and resources are to be used.

With this improved understanding, the logical extension of pilot projects under the resource user-group strategy is to expand it to develop resource use/management agreements between the various resource user groups and with the institutions. This would dove-tail with the strategy described in Sections 2.3, 3 and 4.

2.3 The Area-based Strategy

Given that the Project had gained experience, skills and understanding, the Project felt it was able to facilitate woodland management by area. The Project decided to investigate the potential for developing participatory approaches that would result in more or less formal management plans for certain areas and, by reaching out to a larger number of resource users/community members, increase the impact on the physical environment. This activity has been the main Project focus for the past 2,5 years.

The Project needed to determine whether the degree of social cohesion in the community areas would be sufficient to establish agreements on community-based woodland management. It also needed to assess the degree of competition for resources (i.e. conflict, instead of agreements, would arise if competition were too high). The Project therefore developed a guiding process for establishing area-based management agreements.

The experienced gained in the broad 'community' and the resource user-group initiatives informed the development of the area-based strategy. The division between the strategies and activities is not a clear-cut one. The woodlands are an integrated part of the farming systems

and provide woodland resources for many more households in peri-urban areas (and in urban areas further away). The CFPB has, for clarification purposes, used the terms 'resource user-group strategy' and 'area-based strategy' that refer to the process rather than the resulting management of the resource/s. Thus the resource user-group and other community forestry activities, such as agro-forestry and soil erosion control, can be implemented within the area-based strategy. If the area-based strategy cannot be implemented (for reasons such as heightened conflict, a lack of social cohesion or intensified land use), then it is possible to revert to the resource user-group strategy.

Unlike the earlier initiatives, the area-based strategy aims to improve the management of woodland resources in a large area and recognises the different groupings and institutions, rather than treating the 'community' either as an organic whole or as distinct and separate resource user groups. The underlying assumption is that community-based woodland management is fundamentally concerned with socio-economic and political issues in relation to ecological processes and resource use patterns over time.

The strategy builds on the recognition that communities are complex, differentiated and stratified and include various, often competing resource users dependent on the woodland resource-base for their livelihoods, as well as hidden or marginalised people who have no voice and are seldom heard. It therefore recognises the diversity of communities and individuals and the inequitable access to power – and thus resources - which is influenced by a complex set of issues, including gender, identity, wealth and status.

The institutional arrangements and the role of various institutions, each with their own interest in relation to land and resources, are considered: how institutions act and interact to gain or retain access to, or control over, land and its resources – and how people respond to these institutional arrangements.

Through a participatory approach it aims to engage all resource users and institutions to plan and implement agreements for the management of the natural resources on a sustainable and equitable basis. It aims to build trust, develop capacity and help ensure ownership of and responsibility for the process and the agreements reached. It has broad application and is flexible to suit different contexts and to allow for change in environment.

The area-based woodland management strategy that is currently being developed would have been difficult to adopt in the early stages of the Project because capacity was limited and the complexities of natural resource use, particularly in an area like Bushbuckridge, had not been fully understood.

Sections 3 and 4 describe two projects that use different entry points to implement the area-based CBNRM strategy. The CFPB is in the early stages of implementing a CBNRM initiative in the Gottenburg area, referred to as the 'area-based/community' strategy. The second pilot project initially focuses on one resource that occurs across community boundaries and, for purposes of clarity, is called the 'area-based/one-resource' strategy.

2.3.1 Guideline Process

The Project initially outlined a process to be used as a guideline for the implementation of participatory activities that would result in the development of resource management plans for an area and, at the same time, increase the capacity of DWAF and community members to undertake such activities.

The process has a reflexive orientation. At every stage the process cycles back to the previous stages, building in flexibility to allow for changes in environment and to adjust decisions that are found to be inappropriate.

1. *Preparation*
A common understanding of CBNRM is developed with forestry and agriculture extension officers, field workers in other departments and NGOS, who may have little knowledge or experience of participatory approaches and natural resource management issues. Similar discussions/workshops are also held with resource users and community-based organisations (CBO).

2. *Entry points*
An initial/broad identification of opportunities and problems linked to natural resource use in common access areas is undertaken with interested and affected parties (resource users, CBOs, local government, traditional authorities, government departments and NGOs)

3. *Participatory resource assessment*
An assessment of the status of the resource base is undertaken with community forestry staff, other field workers and community members selected by the community (who should represent the broader community – resource users and institutions). Additional issues, problems and patterns of resource use are likely to be identified during this stage.

The findings are presented to the broader community for information and verification. The next stage is then discussed and a decision taken whether to proceed.

4. *Participatory socio-economic assessment*
Every attempt is being made to identify and involve all interested and affected parties, including resource user groups, households, age groups, gender groups, 'newcomers' and marginalised groups, associations, local government, traditional authorities and local institutions. Groups participate in discussions on (i) factors linked to current resource use patterns, and (ii) institutional arrangements linked to resource use. The former includes historical, social, political, gender and economic factors, population movement and growth, ethnic, language and religious groupings, values and beliefs, and how resource related conflicts are dealt with. The latter includes custom, practice, formal and informal rules, whether rules are followed or not, and why not, and which institutions govern land and resource use.

The participatory socio-economic assessment provides the opportunity to discuss resource-related issues, ranging from scarcity and competition to management and sustainable use, and raise awareness of the environment in its broad sense. Conferring informally and with small groups, views are more readily exchanged and marginalised groups included. In this process, problems are further clarified and needs are identified.

The socio-economic assessment helps to determine the level of social cohesion, which in turn determines the level of natural resource management to be implemented. If there is a lack of social cohesion, inclusive natural resource management agreements are unlikely to be reached. In this case alternative strategies may be considered, such as scaling down activities to a smaller area or single resource user group.

Again, the findings are reported to the wider community.

5. *Reflection*
Problems and opportunities are clarified and refined by cycling back to earlier stages. All parties are again involved, identified solutions are discussed and others explored. This stage is

critical as it determines what type and level of activities will occur in the planning and implementation stage.

6. *Planning and implementation*
This stage focuses developing and implementing natural resource management agreements based on management objectives. The interested and affected parties participate in drawing up agreements, taking care to incorporate the views of the less powerful and marginalised. Agreements also identify those responsible for implementing, monitoring and evaluating activities.

The process of developing NRM agreements includes building institutional capacity, training and awareness raising on environmental issues, as well as ensuring acceptance and support from local institutions and neighbouring communities.

The area-based strategy may not be appropriate, in which case it may be decided that the resource 'user-group' strategy and/or on-farm tree activities may be adopted - or a mix of strategies and activities.

Reflection on any actions during the implementation stage is continuous to accommodate change and ensure appropriate actions/decisions.

3. THE 'AREA-BASED/COMMUNITY' STRATEGY: GOTTENBURG

The following section describes the process leading up to the implementation of the area-based pilot project in the Gottenburg community situated in the northern part of Bushbuckridge. The purpose of the work in Gottenburg is to develop a strategy and approach to community-based management of woodlands, build capacity in communities and in DWAF, and to assist community members/resource users to develop an improved management system for their woodland.

3.1 Criteria and Selection Process

The CFPB selected three potential sites in Bushbuckridge for implementing the 'area-based/community' strategy. The criteria used to select sites were:

- Geographical equity (Bushbuckridge had been divided vertically between two former homelands and then, after 1994, horizontally into Bushbuckridge North, Midlands and South. The need for equity was constantly expressed, including by the Community Forestry Project Steering Committee. Since the demarcation of municipal boundaries Bushbuckridge is now one municipality that forms part of the Bohlabela municipal district.)
- Population size (preference for working with a small number of people to help ensure participation)
- Degree of degradation of woodlands (preference for working with land that was not too degraded)
- Community interest (in participating in a CBNRM initiative)

The 'communities' selected in terms of geographical location were Gottenburg (north-east), Justicia (south-east) and Dumphries C (centre on the eastern side). The eastern side of Bushbuckridge is less densely populated and the woodlands are not as degraded as those on the western side.

Dumphries C was identified because the CFPB had already worked with the people of Dumphries C, who welcomed further involvement with the Project, and the population of the village is small (about 900 people).

Justicia was selected because there was community interest in participating in a project involving the collection and sale of marula berries (this initiative is discussed in detail in Section 4) and the induna had expressed interest in exploring other opportunities with the CFPB and Department of Agriculture.

Gottenburg was identified because people had expressed a need for community development. There is also an awareness of conservation issues because Gottenburg borders Manyeleti Game Reserve - some community members work there; others have had some training in conservation; and there is a general awareness of resource depletion in Gottenburg in contrast to the woodlands in Manyeleti. The populations of both Gottenburg and Justicia are larger than that of Dumphries C.

Community meetings were held to discuss woodland resource management and determine broad interest in participating in this endeavour.

Two community meetings took place in Justicia. At the first one an explanation of the CFPB was given, including its relationship to DWAF and DANCED, the objectives of the Project and the objectives of DWAF: Community Forestry. This was followed by a discussion on community-based natural woodland management – the purpose, the process of implementation and that a participatory approach would be followed. The questions asked by the community representatives reflected mistrust and fear: "Who sent the department to Justicia?" "Do you want our land?" "Would the researcher disappear after they had carried out their work?" "Who would select the people to work with the researchers?" "Do you think we don't manage our resources?" and "Who will make decisions about managing our resources?" These questions were answered and it was agreed that a second meeting be organised to discuss the strategy of implementation.

This meeting took place three weeks later. Two community members disrupted this discussion half way through the meeting. They refused to say who and what interests of the community they represented. The CFPB/DWAF was accused of trying to steal people's land as others had tried to do in the past. They also said Justicia belonged to the youth "as the old people would die off". Finally, it was stated that the CFPB was not welcome. During this time no other community members, including the induna, voiced their opinions.

It may have been possible for the CFPB to continue discussions at a later stage. However, any initiative in Justicia would have meant initiating a conflict resolution process before any CBNRM process could be implemented. In the light of the community conflict and lack of social cohesion, as well as the mistrust of outsiders (in this case the CFPB/DWAF), it was decided that it would not be possible to work in Justicia.

On further investigation the following information emerged. Private game lodges in the Sabie Sands Game Reserve had previously arranged to rent Justicia's land. It is not clear who was involved in these negotiations. However, certain community members were accused of being "sell-outs" because they had "sold" Justicia's land. Money had changed hands but only a few individuals in the community had benefited. Those accused of "selling" the land and benefiting from it were a local teacher, a person employed by Kruger National Park, and members of the Civic. The Civic was competing with the traditional authority (represented by the induna) for power: "The problem is because the newly elected people – the younger and civic members and local (government) councillors – and the older people – the induna and his councillors - are fighting for power. Everyone wants to be a leader." The disruption of the

meeting and the eviction of the CFPB from Justicia seemed to be an attempt to save face and regain control by over-riding the induna and his supporters decision to work with the Project.

The decision to rent the land to the private game lodges did not find favour with the older men because they would have lost the use of the woodlands and would therefore have had no grazing for their cattle. Access to other natural resources, mostly harvested by women, would also have been lost. Women, however, have no decision-making powers. Their inability to express their views was evident in the meetings where discussions were dominated by men, young and old and regardless of affiliation. Another reason for mistrust is that the government, the private sector and projects, are understood to have made promises to communities and these are not fulfilled. Researchers are seen to extract information from communities and people feel they do not benefit in any way.

The consultative community meetings in Gottenburg were well attended and a range of community organisations was represented and it appeared that there were no major community conflicts. After a number of such meetings the community decided that the first step in the process of implementing CBNRM using the 'area-based/community' strategy could be taken. It was also agreed that at the end of the first stage the community would decide whether to continue with the process.

By then it also became clear that the time needed to develop co-operation with just one community, the Project would not have the resources to engage itself in more than one area. As the CFPB was already involved in a number of community forestry projects around the Bushbuckridge midlands, it was decided that the Project would work in Gottenburg. Therefore no consultation meeting was held in Dumphries C. The area-based woodland management pilot project was initiated in Gottenburg in July 2000.

3.2 Background to Gottenburg

Gottenburg is situated in the north-eastern part of the Bushbuckridge area (24 deg. 37 min. East, 31 deg. 25 min. South). The Manyeleti Game Reserve forms the northern and eastern borders, while the communal lands of Clare and Seville are on the western and southern sides of Gottenburg. The Gottenburg area covers about 3 700ha of which 850ha (23%) is residential and 2 850ha (77%) is communal woodland (Deall and De Wet, 2000).

Gottenburg falls in the semi-arid savannahs. The dry season lasts about seven months and the area is prone to droughts that occur, on average, every nine years. The average rainfall is 526.3mm with 90% falling in summer in the form of storms. Summers are hot and winters are mild and frost-free (Deall and De Wet, 2000). The mean annual temperature is 22 degrees; the annual evaporation rate is 2200mm (Gander, 1997); the geology consists basically of Gneiss and Gabbro; the soils on the granitic crests are sandy and leached while on lower lying terrain the soils are clay with duplex soils near the rivers that are sensitive to disturbances and easily eroded. On a broad scale the main vegetation type is Mixed Lowveld Bushveld, coarsely differentiated into uplands and bottomlands supporting different vegetation types. 54% of the Gottenburg area is classified as degraded. (Deall and De Wet, 2000).

During the 1960s people – initially cattle owners - were relocated to Gottenburg from Manyeleti Game Reserve, Lydenburg (highveld), Scotia (escarpment) and the Hoedspruit area. Gottenburg was then incorporated into the Gazankulu homeland. In the 1970s the area was incorporated under the Mnisi Tribal Authority. The area experienced rapid population growth due to forced removals and the resettlement of people. Under 'Betterment' planning, people were restricted to settlements in designated areas while other areas were demarcated for cultivation and grazing. The population again expanded in the 1980s when refugees from Mozambique's civil war settled in the area. The total population of Gottenburg is 9 742 and is

clustered in three villages – Tlavekisa (4095); Thulani (4031) and Tlalakahle (1616) – according to Department of Health and Welfare statistics. This includes the settlements of Mozambican immigrants that are located on the fringes of the villages. Given an average household size of 6-7 people, there are about 1 600 households. Most households do not have electricity while other services – water, communication, roads, health, schools and shops – are basic. With a relatively high population density the domestic and agricultural water needs cannot currently be met (Shackleton, 1995).

The area is confined to small-scale, low-input agro-pastoral farming systems. Only about 54% of households have access to plots for cultivation due to the population density, and the fact that most of the land is suitable only for grazing. Previously, agricultural land was left fallow for vegetation to regenerate. Maize, often intercropped with groundnuts pumpkin, squash, beans, sweet potato, melon and cow-peas, are grown. The sizes of these plots have been reduced and are not economically viable (Shackleton, 1995). Cultivation also takes place in home gardens (0.25 to 0.75ha) and community gardens (2ha or about 100-200m^2 per individual) and is largely for the household's consumption. Winter cultivation of vegetables is dependent on water availability.

Cattle are used for milk, manure and draft purposes and have an important exchange value (for example, *lobola* - dowry payment). However, few households (10%) have sufficient number of cattle to provide them with a regular income – either through leasing out for draught purposes or the occasional sale of an animal. Stocking rates are high but so are mortality rates during droughts. Crop residues are low, grazing areas are not highly productive, partly as a result of tree clearing that reduces good grasses, and the area is limited (locked between Manyeleti Game Reserve and the veterinary control line). Other problems are boundary disputes with neighbouring communities, and water is a constant problem.

Household incomes are typically a combination of local wages, migrant remittances, old-age pensions and petty trading. Residents, however, report a decline in the number of migrant workers who mostly worked in the industrial sector since the mid-1990s due to retrenchments, restructuring, transformation and increased mechanisation. "All of a sudden our men returned home with no jobs and a small pension," according to women.

Given the poor socio-economic situation and lack of employment opportunities, subsistence farming and the natural woodland resources play a critical role in sustaining livelihoods. It contributes to household food security and nutrition, and provides a supplementary source of income, particularly for households who cannot rely on migrant remittances. The communal woodlands are used for grazing and harvesting fuelwood, fruit and other foods, medicine, building material and fencing. Areas are cleared for communal gardens and fields. The former Mozambicans are particularly dependent on woodland resources and agriculture.

Women, assisted by children, collect and store wild foods; cultivate and harvest crops; collect water and firewood, carry out household chores; fence construction and maintenance, and assist in household construction. Men are responsible for cattle and household construction. They are generally unwilling to work on their smallholdings, preferring wage employment – and it is the men who are the decision-makers within the household and in the 'community' despite the fact that women play an important role in the household and in the harvesting of natural woodland resources. Children were also a source of labour in the fields or as herd-boys. Those who attend school are no longer available to work. However, school attendance is affected by poverty levels within households. In addition, the effect of HIV-Aids is likely to result in children having to do more work and increasingly head households. This has potential disturbing consequences in terms of household food security, resource use and management practices, and the development of the children.

The current land tenure system largely stems from the apartheid era. Land and resources are degraded by artificial land pressures resulting from skewed land distribution – through the creation of homelands, forced removals and 'Betterment' planning (Rihoy et al, 1999). Land for cultivation and residential purposes are normally allocated to a family by the tribal authority. The right to land usually applies to men, but is sometimes extended to women. Those who obtain land receive a right to its permanent use, and can only transfer it to another family member with the permission of the traditional leaders. Land that is not allocated for cultivation or residential use is a common pool resource (Cousins, 1996).

The Gottenburg area is under communal tenure, controlled by the chief, Mnisi, who does not live in Gottenburg, and three village indunas (headmen). The indunas act on behalf of the chief. Responsibilities include allocating, upholding 'culture' and mediating in local disputes. This system, along with the rules and regulations, was introduced during apartheid as the principal form of local government. No consideration was given to current management systems and local knowledge. Support is drawn largely from the older generation.

The Civic is another local institution in Gottenburg. Members are mainly young men. This organisation has assumed the role as an additional local authority to administer justice and resolve disputes. The Civic acts as a branch of the ANC and support the recently elected local government councillors. (These civil associations established during the struggle against apartheid as a democratic alternative to traditional authorities.)

Local government, created after 1994, is charged with local development. Gottenburg forms part of Ward 16 and a Ward councillor represents six communities, including Gottenburg.

The most degraded areas in Gottenburg occur around the three villages. The demand on natural woodland resources is high as a result of a large and poor population that is highly dependent on these resources. In addition, neighbouring communities, as well as those further away and people living in urban settlements, utilise Gottenburg's natural resources because of limited availability in their own areas and for trade purposes.

3.3 Process of Implementation

1. Preparation

The CFPB held discussions to assess its work and the lessons learnt from the previous approaches and from the consultation meetings. The community forestry extension officers then participated in workshops on natural resource management and the 'area-based' strategy.

Meetings were then held with field workers from other government departments (Agriculture, Environment, Health and Welfare), a local NGO and eco-club members to develop a common understanding of the woodland resource management strategy and approach and ensure long-term support and collaboration in the process.

Meetings were held in each of the three villages in Gottenburg (Tlavekisa, Thulani and Tlalakahle), where the residents participated in discussions on the process of implementing a resource management pilot project, to verify whether people were interested in participating in such a process.

2. Entry points

Follow-up meetings were held in the three villages to discuss needs and problems around current natural resource use patterns. The indunas, CBOs and associations, and community residents/resource users attended these meetings. In addition, discussions were held with the Mnisi traditional authority (Chief Mnisi and his advisors).

The above process took place from February 2000 to May 2000.

3. Participatory Resource Assessment

In June 2000 three community forestry extension officers, an NGO representative, and six community members on a full-time basis carried out the resource assessment, with the assistance of two consultants. Community members were selected at the community meetings to participate in the resource assessment. They included traditional healers, cattle owners, wood collectors, a local Civic representative and youth (through the eco-club).

Unfortunately, field workers from the other government departments did not take part, despite continuous attempts to encourage collaboration for a multi-disciplinary, multi-sectoral approach.

The objective was to involve community members in the collection of data and evaluation of natural resources. The assessment focused on the geology, soils, grasses, bulbs, shrubs and trees in the different veld types and the potential and constraints of the resource base in relation to the community's resource needs. This would provide the basis on which to make management decisions at a later stage in the CBNRM process. The specific objectives were:

- Information sharing
- Determine the current status of resource use and the resource base
- Assess the potential of the woodland resource
- Develop the capacity of community members regarding resource use in relation to ecological processes and in conducting a resource assessment
- Make initial recommendations on woodland management systems.

Surveys on the geology and soils were carried out prior to the vegetation surveys. Ecological units were identified according to geology, soils and terrain morphology (crest, upper mid-slope, lower foot-slope and riverine). Twenty sites were then selected to represent the range of ecological units in Gottenburg – and four in Manyeleti Game Reserve for comparative purposes.

Soil and rock samples were taken at each site. Grass samples were taken randomly along the centre-line using a monitoring rod inserted at 1m intervals and a record taken of the number of times a grass species was encountered. Other information gathered as indications of disturbance, wet areas and degradation included the occurrence of forbs and sedges; bare ground; and plant cover – i.e. tuft distances, strikes, and phytomass/fuel load (the latter was measured using a disc meter).

Regarding the woody component, 19 transects were located in Gottenburg. All trees and shrubs were recorded on the basis of number, species and size. Chopped stumps were recorded to assess harvesting pressure, and wood litter collected to estimate gatherable deadwood available. Canopy cover was also estimated.

The different woodland types were superimposed on the veld types and the data were used to depict the following: proximity to villages; veld condition; species diversity; degree of wood chopping (harvesting); bush encroachment and fuel load. The frequency of canopy species was compared to species in the understorey.

A traditional healer and other community members compiled a list of species around each transect to assess resource use patterns in the community. Information gathered included local names of the species; species distribution across veld types; species use according to use (fuel, construction, medicine, craft and household implements and food); plant parts used; abundance/scarcity of species; and demand for each species.

The sites were marked to enable future vegetation monitoring (using GPS co-ordinates; reference points, route instructions; markers, maps and photographs). The sites were belt transects of 400m^2 (8m x 50m).

The resource assessment took two weeks. Thereafter a community meeting was arranged to present and discuss the findings of the assessment. However, residents and community representatives from two villages did not attend. Further report-back and discussion meetings were then arranged and held in all three villages. The two consultants compiled a report on the participatory resource assessment process, findings and recommendations (summarised below; De Wet & Deall 2000).

There are four landscapes in Gottenburg based on rock, soil and vegetation types. Two landscapes are on clay soils derived from Dolerite and Gabbro rock types. The other two landscapes are on sandy soils derived from Granite and one of these is associated with rivers. Thulani and Tlalakahle are in sandy areas while Tlavekisa is in a clay area.

- Community participants showed keen interest in the data collection process. Their ability to identify tree species is good.
- A distinction was made between 'pristine' and 'degraded' woodland. At Gottenburg 46% (1300ha) was regarded as pristine and 54% (1550ha) as degraded.
- Rangelands were generally overgrazed within 1km of the villages.
- Where tree harvesting is high and the canopy decreased, there is a decrease in the amount of preferred grazing grasses.
- Fewer young trees (<600 per ha) were found within 1km of villages than further away (>1200 trees per ha). However, although woodland structure was affected there was no apparent difference in local woody species diversity.
- Woodland 'degradation' near villages may be due to the intensity of wood harvesting. Other possible causes include browsing, cultivation, soil condition and veld burning.
- At least 121 plant species are used. Five of these have apparently disappeared and are presumed to be locally extinct; a further eight species, known to occur in the area, were not found during the survey; and 30 species, in high demand by resource users, are considered threatened.
- Assuming that demand for natural resources will increase, the limit of woodland degradation will probably advance outward from villages, unless management interventions are implemented.

The following initial recommendations were made:

- Assessments should be carried out on a regular basis. The data collected in the resource assessment is a suitable baseline for monitoring and management decisions.
- Boundaries of veld types should be defined and management units identified.
- Threatened resource species need to be conserved, perhaps through propagation and addressing unsustainable harvesting practices.
- All management actions must be co-ordinated.
- Livestock farmers need to become more involved in a CBNRM process to realise the benefit of management principles.
- Community participants can identify grass species and soil types but further training is needed.

On presenting these findings at the community meetings in the three villages, it was agreed that the project should continue to the next stage.

4. Participatory Socio-economic Assessment

Before activities aimed at natural resource management can be initiated information on the socio-economic, cultural, institutional and political issues in relation to natural resource use is required. The main aim of the participatory social assessment was to identify potential areas of competition for use of, and control over, resources with regard to the abovementioned issues. Emphasis was placed on the use and management of natural resources, primarily the vegetation. The specific objectives of the social assessment were to:

- Assess how woodland resources are used and the contribution they make to household livelihoods.
- Assess how different community groups value woodland resources and whether these values are shifting in relation to economic and ecological environmental changes.
- Assess the relationships between resource users at local level, in terms of areas of competition and conflict, and the level of community cohesion (co-operation)
- Assess the various institutions in terms of their roles and competition, conflicts, and co-operation.
- Develop initial recommendations for woodland management interventions.

Fieldwork was carried out by Community Forestry extension officers, the CFPB co-ordinator (DWAF), a local NGO member and community residents. A mix of qualitative and quantitative information was collected using participatory rural appraisal tools, interviews and household surveys.

Fieldwork consisted of 17 interviews and discussion sessions with a range of community groups and individuals and other stakeholders. These included: women's groups, cattle owners, traditional healers, mixed groups (different resource users, as well as men and women), youth, households, Mozambican immigrants, the chief and his advisors, indunas, local government (Ward, municipal and district level councillors), the Civic, Manyeleti Game Reserve, Land Affairs Department. More than 350 people participated in the social assessment. Several of the sessions were also used to crosscheck information.

Community residents who had taken part in the resource assessment assisted in identifying and facilitating the participation of groups and individuals in the social assessment. Formal channels, such as local government, the Civic and the traditional authority, were purposely avoided to ensure that as broad a selection as possible of individuals and groups, representing different interests, were reached.

Discussions with local government focused on its role and capacity regarding natural resource management, land management planning, and the integrated development planning (IDP) process. A researcher based at Wits Rural Facility also worked with the CFPB to collect information on the use of Gottenburg's resources by 'outsiders'/non-residents.

Emphasis was placed on ensuring the full involvement of all members of the CFPB team in the planning, review and evaluation of the fieldwork to optimise the learning experience. Four planning sessions and two evaluation sessions were held during fieldwork implementation and one evaluation session took place after the fieldwork was completed.

The participatory socio-economic assessment began at the end of October 2000 when community meetings were held to discuss this next stage. Thereafter the first discussions/interviews where held with two groups. After assessing their experience the community forestry extension officers identified the need for facilitation skills. In November 2000 they attended a 10-day course during which they developed a strategy for incorporating their learning into their work.

At the end of November and throughout December fieldwork in Gottenburg continued and resumed in April 2001. This three-month delay was caused by other work demands, in particular the marula project (as the fruiting season occurs from December to March) and an extensive evaluation of all CFPB activities.

The fieldwork was again delayed when the induna from one of the villages was murdered apparently because he was assisting with an investigation into animal poaching. The CFPB was advised to wait until the situation was calmer, particularly as the murder was a resource-use and institutional issue.

Fieldwork was completed in September 2001. Community meetings were later held in each of the three villages to discuss:

- The findings of the socio-economic assessment and to verify this information.
- The findings in relation to those of the resource assessment.
- Initial ideas on how Gottenburg wants to manage its resources.
- Whether the CBNRM process should continue.

The socio-economic assessment findings and recommendations were also presented to the tribal authority, local government and Manyeleti reserve. The findings are summarised as follows.

Local management systems:

- People have broad knowledge of the natural resources, their characteristics and use. However, knowledge of the ecology of the woodlands and how to manage the resources for different uses is limited.
- Given the high demand, resource use appears to be unsustainable – largely as a result of population pressure on land and resources. As one villager said: *"If pigs are kept in the sty, nothing will survive in there. This is Gottenburg – too many people."*
- The situation is exacerbated by current management practices that are no longer feasible or appropriate. Management systems face new socio-economic and political challenges – among them gender, new policies and legislation, competing interests between and lack of clarity on mandates of local authorities, polarisation of wealth and assets, increased population density and demand on the resource base.
- Tenure is insecure and commonage is becoming areas of open access. The increasing breakdown of management arrangements, the dysfunctional mix of institutions, and local and national political conflicts over land management roles creates a situation where people are uncertain about their rights.
- Resource users in Gottenburg, and outsiders, largely ignore management regulations and customs.
- Community residents are frustrated by their inability to control decisions over woodland rights and use. There is little institutional support for decisions taken by the induna and residents.
- Government departments lack capacity and/or do not prioritise land related issues. The focus of the Department of Agriculture is on cultivation and livestock, but the linkages between woodlands and farmlands and the role of trees in the farming system is ignored. The Department of Land Affairs (DLA) lacks capacity and resources to deal with the number and complexity of land issues referred to it. The one DLA official responsible for the Bushbuckridge area is based in Polokwane, 350km away. Tenure legislation has not yet been finalised. The three officers from the Department of Environmental Affairs focus on the management of Andover and Manyeleti reserves.

Local institutions and social cohesion:

- Democracy in 1994 has resulted in shifts in the political powerbase at the local level. These institutions have overlapping interests and compete for control, inhibiting local development and contributing to resource management problems. Traditional authorities are resentful of local government who challenge their authority. The local government councillors struggle to position themselves and define their roles, but appear willing to work with the traditional authorities.
- Accountability of local authorities (traditional, Civics and government) is low.
- The efficacy of local institutions is limited. Local authorities do not have the capacity, skills and understanding required for natural resource management.
- Support for the local institutions is weak with none being acknowledged as the structure able to represent the interests of the Gottenburg community. The following quotes express this dissatisfaction with both traditional authorities and the new government:
  "We are treated like animals in a cage. They decide when we will feed, sleep and walk. These animals are not natural anymore; just plastic." And *"We as the community of Gottenburg, are being robbed by politicians who had the opportunity to address all these critical outstanding issues, but never used it. Many are sitting in high positions. Their roots are from areas like Gottenburg – they know our struggle."*
- Local government does not prioritise natural resource management, focusing instead on housing, drinking water, health care and electricity. Development means new industries rather than resource based development.
- Gottenburg is made up of different groups distinguished by age, gender, origin (Mozambicans who fled the war), and socio-economic status. Wealth differentials are increasing and new political and economic systems to keep or gain control of resources are developing.
- While social cohesion is not particularly strong, no major conflicts exist between resource users and people share a common concern about the depletion and degradation of their woodland resources.
- There is competition between resource user groups residing in Gottenburg (e.g. traditional healers and cattle owners express their irritation with wood collectors harvesting high priority medicinal plants and reducing good grazing species that grow under trees).
- Population density coupled with reduced incomes results in a demand for land for agricultural purposes. The increasing number of farmers competes with different user-groups trying to make use of the same area.
- Some residents consider the Mozambican immigrants to be 'outsiders'. This is troubling in terms of equity and effecting improved NRM practices. The former Mozambicans are largely ignored in terms of service delivery and are generally highly dependent on natural resources for their daily survival. Their participation in developing a CBNRM strategy is needed if the new practices are to be followed.
- One of the major problems identified by Gottenburg residents is that of uncontrolled harvesting of resource by outsiders/non-residents. The induna tried to prevent largescale harvesting until one day *"when they held a firearm in my face. We are defenceless … but this is a very painful thing this situation we find ourselves in – and what about our resources, our future?"* Men from urban areas are predominantly involved in the trade. This competition for resources may result in conflict.
- Government departments share the common goal of sustainable development but cross-sectoral collaboration between departments concerned with land and resources does not occur.

The following recommendations were made:

- The management objectives should inform the improved management system, incorporating appropriate aspects of local knowledge and management practices.
- Systems and techniques for improved NRM need to be adapted to ecological necessities as well as the socio-economic needs.
- Training and raising awareness of woodlands ecology - the inter-relationship between the levels of resource use and the limitation/potential of the resource base - is required by resource users, government department officials, local government, traditional authorities.
- Effective and equitable institution at local/community level is required. The process of developing such an institution is critical, as issues of power between institutions and individuals are likely to emerge. Horizontal and vertical linkages between local organisations, government and other sectors should be established (i.e. institutional linkages at community and village level, local government, traditional authorities, and government departments). The co-operation of traditional authorities, in particular, is needed. Socially marginalised groups, who do not have decisions-making powers, must participate in the process of developing NRM rules or practices.
- Given the dysfunctional mixture of institutions ('traditional' authorities, civil organisations and 'democratic' government) and the consequent vacuum regarding rights and resource/land use practices the following issues need to be clarified:
    a) The issue of non-residents' access and use of resources needs clarification in terms of their rights of residents and non-residents (neighbouring communities in particular). However, this is a delicate issue as it could exacerbate conflict and violence.
    b) All local institutions, Gottenburg resource users and neighbouring communities need to understand of a range of legislation linked to community-based natural resource use and management.
- The improved management system must offer incentives and tangible benefits if people are to engage in the process of establishing such a system and thereafter follow the management decisions.
- Greater collaboration between government departments should be encouraged in an effort to establish improved management practices.

5. Reflection

Reflection on the process thus far, and on the findings of the resource and socio-economic assessments, revealed the need for various other activities to take place to prepare the way for the development of management plans. This process took place through discussions with Project staff and with community members/resource users in the three villages.

The CFPB has continuously and actively sought co-operation from other relevant government departments to participate in all its activities and pilot projects. Collaboration has, however, not been to the extent desired, and in the Gottenburg pilot project, was not forthcoming in the early phases of implementation. Co-operation was enhanced when staff from the DWAF, D:IFM and D:CF, Department of Agriculture (Bushbuckridge) and NGO took part in a study tour to Tanzania. The tour contributed to developing common and improved understanding of issues around developing systems for improved management and sustainable use of natural resources.

During the reflection stage there was an expressed need for:

- The establishment of natural resource management committees
- Training to develop skills and capacity
- The formation of a multi-disciplinary, multi-sectoral team
- An understanding of the policy and legislation associated with community-based natural resource management.

Meetings took place in each village where the purpose of community-based resource management and the need for all Gottenburg residents/resource users to work together for the initiative to be successful in terms of resource use and negotiations with other institutions. The multi-sectoral team that was formed after the trip to Tanzania facilitated these meetings.

The community members/resource users proposed that three village level NRM committees be formed and that an executive NRM committee for the Gottenburg area be established. This committee would be made up of representatives from the three village committees. It was decided that the various resource user groups and local institutions should be represented on the village and executive committees. The decision not to develop and expand an existing institution to deal with resource management was based on the view that the existing institutions were either ineffective or were involved in power struggles.

Community members elected the village and executive NRM committees. The Project facilitated meetings where the role and responsibilities of the committees were explored. Skills and capacity needs were also discussed.

Committee members said they needed assistance with developing the committees – for example, through drawing up a constitution as well as skills training for the members. Community and committee members also identified the need for a better understanding of ecological processes and the potential of the resource base. As a first step towards this a field course in soils was held. Course content included soils identification, potential for agricultural activities (crops and livestock grazing), indigenous plant species associated with different soils, erosion and soil improvement. Community members selected the participants from all three villages. It was agreed that everybody who would take part in the training would each train another person from the community. This was done to ensure that as many as possible would feel that they had benefited from the training. Other training identified included grass identification, fire management and broad principles in woodland management (concentrating on the tree component). Additional training needs will be identified as the 'area-based/community' strategy continues – particularly in the last stage 6 of planning and implementing resource management plans.

During the various stages of implementing the Gottenburg pilot project, community members/resource users identified a number of causes for the intensified degradation of the woodlands. These included unclear tenure systems, little clarity on the mandate of traditional authorities as well as competition between this institution and local government, and, since 1994 a new sense of freedom coupled with an increasing breakdown in prior systems of resource management. The transition to democracy has affected not only the roles of external and internal institutions but has also involved the introduction of new policies and legislation that has an impact on natural resource use - in particular community-based natural resource management which is currently mooted as an essential management and conservation approach in communal areas. Materials are available within and from sectors detailing their new policies and laws. However, these are not easily accessible or generally known across sectors or by local governance structures and the public. The CFPB is in the process of initiating work that will contribute to the development of a strategy for CBNRM through improved understanding of the multi-sectoral legislative framework within which resource management activities take place. A simple introductory reference material on policy for various sectors that has relevance for CBNRM will be produced and used in Gottenburg. Thereafter workshops will be held with, among others, local government, traditional authorities, and relevant government departments.

At the time of the reflection stage, the CFPB was shortly due to end. A request for extending the Project duration by a further seven months to September 2003 was granted and this enabled continued support for consolidation of the NRM committees, further training, the

development of the CBNRM policy and legislation reference material, and, to take the Gottenburg process forward to the extent possible.

6. Planning and implementing resource management plans

It is anticipated that the initial step of this stage – the formulation of resource management objectives – will be supported by the Project before it ends in September 2003. Thereafter work will be facilitated by DWAF and other government departments. The possible interventions are discussed below.

3.4 The Way Forward

Given the indicators and conditions for CBNRM, the process being followed in Gottenburg should determine whether the necessary conditions exist for a CBNRM initiative to be successful or whether to revert to activities at a smaller scale (such as those implemented under the resource user-group approach and on-farm/homestead agro-forestry type activities).

From the participatory socio-economic assessment it was evident that successful implementation of area-based CBNRM in Gottenburg will depend on:

- The ability to ensure ownership and
- Whether tenure will be acknowledged
- Adequate social cohesion
- Whether resource users – those within the community, recognised resource users from outside the community and outsiders with no rights - respect the management rules/agreements
- The ability to implement mechanisms for monitoring and enforcing the agreements, including penalties for breaking the management decisions
- Support for the initiative by other local institutions
- Legal and policy support for the CBNRM initiative, as well as extension support
- Whether the intervention leads to conflicts between competing resource users (insiders/recognised and outsiders) and between institutions competing for control over land and resources
- The delivery of tangible and other benefits that are shared by the community members and outweigh the costs

Other factors, explored during the participatory resource assessment, will also determine the management objectives, decisions and types of resource management activities. These include:

- The extent of the woodlands and of cultivated land
- The potential for agricultural activities (crops and livestock)
- The condition of the woodlands (degree of degradation)
- The degree of dependency on woodland resources and on agriculture

If one uses the conditions and indicators outlined in Table 1 and 2 (Section 1.1) as a guide to decide on the types of activities to implement in Gottenburg, then more modest interventions are more likely to succeed. Working with smaller user-groups and on-farm tree management may be a more feasible way to contribute to improved sustainable woodland management and environmental rehabilitation in the Gottenburg area.

However, community members/resource users have a strong interest in improving the way the resources are used and managed. Therefore it is, at this stage, recommended that a mix of strategies be implemented in Gottenburg – i.e. on-farm/homestead agro-forestry and resource

user-group activities, as well as the 'area-based/community' strategy to develop woodland resource management plans and agreements including such activities as listed as possible interventions in Section 1.1.

The Gottenburg initiative needs to be viewed against a backdrop of uncertainty caused by rapid and fundamental socio-political change, coupled with the collective pressure caused by dense human settlement and poverty. This "process of environmental transformation of significant dimensions" (Steenkamp, 1999) means that a flexible approach to planning and implementation is required to allow for changing socio-economic, political and ecological conditions. Broad and finer level monitoring is essential throughout the process of planning and implementation to accommodate changes and ensure activities and decisions aimed at environmental rehabilitation and improving resource management are appropriate.

Neighbouring communities, such as Seville, have expressed an interest in initiating a similar process for improved woodland resource management through participatory processes. As a living demonstration site, Gottenburg could serve as a learning centre for communities, as well as departments and others involved in community-based natural resource management. Similar to Tanzania, visitors could pay an appropriate for the service provided by Gottenburg residents. Gottenburg residents could act as community trainers in participatory resource and socio-economic assessments and other processes required to develop resource management agreements. In the long-term, a resource centre could be established.

4. THE 'AREA-BASED/ONE-RESOURCE' STRATEGY

Local communities have used marula resources for thousands of years. More recently an informal trade in marula products has developed and there have also been attempts to commercialise the resource for formal markets. One of the commercial initiatives occurs in the Bushbuckridge area and the CFPB realised the opportunity for developing a mutually beneficial collaborative partnership where the Project could initiate activities leading to the sustainable use and management of marula in the communal woodlands and in 'private' fields and home yards.

4.1 The Marula Resource

The following section summarises information compiled in an overview of current knowledge on Sclerocarya birrea (Shackleton, Sullivan, et al, 2001).

The marula (*Sclerocarya birrea* subsp. *caffra*) is widespread across southern and eastern Africa. Within South Africa it is common in KwaZulu-Natal, Mpumalanga, Limpopo and North-west provinces. The trees are deciduous and reach a height of 7-17m. Female trees bear fleshy fruit, and a few male trees bearing both male and female flowers. The fruit vary in size and flavour and different varieties of marula are recognised and given local names based on scent and flavour.

Research into the traditional uses of marula reveals that the properties of marula have been known and used by local populations for thousands of years.

The marula is an important source of food for rural communities. The fruit and kernels are high in Vitamin C, protein, phosphorus, potassium and other important nutritional trace elements and vitamins. The protein and oil content is higher than most other nuts. The oil is resistant to oxidative rancidity and is used to preserve meat. It is also used as a skin moisturiser. The bark contains tannins and alkaloids and thus acts as an astringent and

coagulant. Tannins and flavonoids are present in the leaves, while extracts from dry stembark shows antibacterial activity.

Fresh fruit is widely consumed, especially by children. The availability of the fruit is extended beyond the three-month fruiting season by processing it into juice, alcoholic beverages and jam. The kernels are eaten in a variety of ways and can be stored for months, making it an important source of food in the dry years and winter months. The shells of the nut are a good source of fuel.

In Bushbuckridge indigenous fruits make up a significant proportion of wild resources consumed by households (about US$30 per household per year; marula products harvested from home plots and fields contributes about US$116 per year and about 40% of households nurture marula trees on their land). Marula is consumed by 59-77% of households between four to five times per week in the fruiting season, making it one of the most commonly used wild fruit species.

Marula beer is brewed by most households and is used to build and maintain social networks. "… it is marula beer which has the most significant role at the confluence between the local community, the ancestor spirits and the *S. birrea* trees in the landscape. Two reasons are likely to account for the social significance of marula beer as a 'social glue' in maintaining community cohesiveness in areas of southern Africa. Firstly, because grain crop surpluses are low and infrequent on the low arable potential, drought prone soils where *S. birrea* occurs and secondly, the superabundance of fruit which can be fermented to make an alternative very tasty beer." Particularly men use marula beer in this way as the marula season coincides with the time of the year when most migrant workers go home. The brew may also be buried and kept until Easter when the men return home.

Marula wood is used for carving household implements and utensils. In the area bordering Kruger National Park the wood is used in the wood carving industry. The tree is also used for firewood.

Among the medicinal uses are the following: The bark is used to treat dysentery, diarrhoea, rheumatism, insect bites, burns, infections and malaria. The root is used to treat heavy menstruation, bilharzias, coughs, heart pains and as an antiemetic. Leaves are used as a sedative and to treat abscesses, burns and spider bites.

The marula has an important cultural and ritual role. This is not surprising given the biological features of the tree (male and female trees, high fruit production of female trees, the pink and red colours of the bark and wood) and that it is valued for its different uses, especially as it occurs in arid and semi-arid areas. The brew sediment and the kernels are said to have aphrodisiac properties and are used by men to enhance their libido. It is used in fertility, protection and purification rituals and is also used to communicate with the ancestors.

The tree is also important in the ecology of other plants and animals. Its large canopy creates a cool sub-canopy with higher moisture and nutrient levels than open areas. A variety of species occur in the sub-canopy. The crown provides a habitat for small vertebrates and invertebrates as well as parasitic plants, such as woodroses that are harvested by rural curio traders. Foliage is browsed by domestic and wild animals and by butterfly and moth larvae. Some caterpillar species and wood-boring beetle larvae hosted by the tree are another source of food for people in rural areas.

4.1.1 Commercial Activities

Commercialisation of marula products occurs at a local level. It is informal, ad hoc and seasonal where people sell marula products to local markets in order to supplement other livelihood activities (Shackleton, Sullivan, et al, 2001). Customary norms were that the sale of marula products was taboo, but a combination of social, economic and political changes have led to the local trade in these products in southern Africa. In 1996 at least 2% of households in Bushbuckridge sold marula kernels and beer. However, there has been a growth in local trade of marula products because of the household need for disposable income. In 2000 about 15% of households surveyed were trading in indigenous fruits, contributing an average of US$87 and US$149 per year to household income). Women are mainly involved in the trade of marula products. The process of extracting the kernel is difficult and slow. This may be one reason why kernels fetch a higher price (US$3.71 per kg) than fruits on the local market (Shackleton, Sullivan, et al, 2001).

Another level of commercialisation is taking place; it is more formal and is driven by external players. Shackleton, Sullivan, et al, (2001) identify five main commercial enterprises in South Africa - two large corporations, a rural development project and two small-to-medium enterprises. Other community-based initiatives occur in Namibia, Botswana and Zimbabwe. As the focus of these initiatives is commercial little information on natural resource management or the impact of these commercial ventures on the resource base is available.

In South Africa, Distell processes 2000 tons of fruit collected by rural communities near Phalaborwa, Limpopo Province. Distell produces the alcoholic drink, Amarula. Northern Canners Limited – NORJAX based in Tzaneen, Limpopo Province, produce a small amount of marula oil and aims to buy nuts from local communities. Lisbon Estates in the south of Bushbuckridge produced jams, chutneys and marmalades but this enterprise no longer exists. Another small enterprise makes jams and jellies and, unlike the other initiatives, it harvests its fruit from private gardens and streets in the towns of Nylstroom and Naboomspruit, Limpopo Province.

The Mine Workers Development Agency's (MDA) marula project, piloted at the Mhala Development Centre (MDC) in Bushbuckridge, Limpopo Province, focuses on poverty alleviation and livelihoods enhancement. MDC's objective is to enable women, who live in a poor rural area with few employment opportunities, to earn an income through the marula project. The women collect the fruit during the marula season and sell the fruit to MDC. The fruit must be processed within a few days from having dropped from the trees, as the natural degradation is quick and will destroy the quality of the juice. The kernels are left to dry in the sun and thereafter transported back to the communities. The women then crack the nuts and sell the kernels to MDC. Other women and men earn additional income at MDC by extracting the pulp from the fruit and the oil from the kernels. The project has explored the potential for developing a marula beer aimed at the tourism market, a juice, and oil for export.

The marula project was initiated about seven years ago. In 1997/8 the CFPB started working with MDC with the intention of ensuring sustainable use and management of the marula resource in the communal woodlands and promoting on-farm planting.

4.2 Facilitating the 'Area-based/ One-resource' Strategy (marula)

This second area-based NRM strategy uses a different entry point to that of the 'area-based/community' initiative in Gottenburg. Called the 'area-based/one-resource' strategy for purposes of clarity, it focuses on a specific woodland resource that occurs across community/area boundaries, is abundant, is valued by local communities for subsistence use and informal trade, and has potential for commercial trade in formal markets.

1. Entry points

MDC focuses on the development, marketing and sale of marula products. From the Project's experience and lessons learnt in implementing resource user-group pilot projects, product development and markets are critical components in developing enterprises linked to natural woodland resources. These resource user-group initiatives are discussed in Part 1 of this document and among the conclusions reached were that it is important to:

- Establish access to reliable markets (outlets)
- Ensure a reliable supply of good quality products in response to market demand
- Conduct research and development of appropriate technologies to improve the quality of products
- Ensure affordable transport so that products reach markets

The CFPB identified the marula project as an opportunity to develop capacity for the improved management of woodland resources, contributing to sustainable rural livelihoods. Other natural resources, such as species with high medicinal value, could have been selected for the 'one-resource/area-based' CBNRM strategy. However, marula was selected as it could build on an already existing initiative linked to a woodland resource and the objectives of the MDC and the CFPB were complementary.

2. Preparation

The Project made contact with MDC and meetings were held to discuss establishing a mutually beneficial partnership between the CFPB and MDC based on the overlapping and complementary objectives of the two projects. The strategy of 'conservation through production' was adopted; by adding value to the marula through product development people derive additional benefits and are thus more likely to be interested in improving the management and sustainable use of the resource.

It was agreed that CFPB was to focus on developing and implementing a community-based woodland resource management strategy while MDC would deal with the product development and marketing components.

The point where the work of the CFPB and MDC overlaps is the marula fruit and kernel harvesters who live in different communities (i.e. areas with recognised boundaries).

3. Resource and socio-economic assessment

Given the increased level of interest in improved utilisation of natural resources for income generation at household level, the CFPB undertook an assessment of the potential for, and impact of, increased commercialisation of marula (Lombard et al, 2000). The study focused on income generating opportunities to provide an incentive for natural resource management, conservation and sustainable utilisation. The focus of fieldwork in Bushbuckridge was on tenure and ownership; management practices; traditional uses; and the primary producers of marula products.

While a detailed study to quantify the scale of the marula resource was not undertaken at this stage, the initial findings were that community members perceive the marula resource is abundant, particularly in the eastern areas of Bushbuckridge, and represents an under-utilised resource.

It was also found that common property regimes in the woodlands are weak and that poor harvesting techniques (such as breaking branches and felling fruit trees) are practiced. Raising the value of the marula through commercialisation may, however, encourage the protection of existing stock and nurturing of natural recruitment in the common access woodlands. Planting

is likely to be successful at homesteads and in fields as these areas are tenured to households. This could be taken further through facilitating the introduction of CBNRM agreements.

The study concluded that the commercialisation of marula products would benefit local communities. However, over-commercialisation and intensified harvesting could result in competition between poor households and lead to conflict between communities. Some communities have less marula trees than others and people are already going to neighbouring areas to collect fruit.

It was recommended that:

- Ways to utilise both the fruit and kernel be developed
- Community members are made aware of the potential for commercialisation and the value of their resource as a large number of rural households could generate some additional cash income
- A realistic price for the marula kernel and fruit is established, beneficial to the community whilst remaining commercially viable
- Efforts are made to engage communities in developing systems for the improved management and use of the resource, especially in the common access woodlands
- Efforts should focus on engaging and organising women in the marula initiative

Following the assessment a report, titled *Potential for the Development of Marula Products in the Bushbuckridge Area* (Lombard et al, 2000), was produced.

An indepth study of marula in Bushbuckridge, funded by DFID, was undertaken in 2001 and 2002. The focus was on the use of marula for domestic and commercial purposes by households, the abundance and productivity of marula, phenotypic variation in fruit, nuts and kernels, and the potential impacts of commercialisation (Shackleton, S, & Shackleton, C, 2002; Shackleton, C, et al, 2002; Leakey et al, 2002; Shackleton, S, 2002; and Shackleton, S, et al, 2001). Among the findings of this study were:

- While the density of male and female marula trees is higher in protected areas than in communal woodlands, fields or homesteads, the trees in protected areas are smaller. Male tree density is lower than optimal in the communal areas, homesteads and fields. The density of fruit-bearing adult female trees was similar between protected areas and homestead plots, but lower in fields and communal woodlands. However, the fruit yield per tree is higher in villages than in protected areas. The suggested reason for this is historical selection of trees with desirable traits. Most households also plant marula trees and/or nurture seedlings at their homesteads or fields – with selection of truncheons, seedlings or seeds being from trees with good characteristics (Shackleton, C, et al, 2002).

- Commercialisation may lead to conflict if supply does not meet local demand. Households experience theft of fruit from their trees, while women complain that 'outsiders' chased them away from the communal woodlands and stole their fruit. Some degree of institutional conflict is evident – e.g. indunas prevent villagers from taking part in commercialisation activities. Felling trees for firewood increases the likelihood of conflict (Shackleton, C, et al, 2002).

- Mostly male trees are chopped down because they do not bear fruit. Low male tree density results in poor pollination success and thus low number of kernels (Leakey et al, 2002). Unfortunately extension officers promoted this practise, as they were probably unaware of the environmental benefits of trees in the agricultural system and the need for male trees to pollinate female trees (Shackleton, C, et al, 2002).

- Clearing of land for agriculture and residential development and use of marula trees for firewood is the biggest threat to fruit availability (Shackleton, S, 2002).

4. Implementation

Regular meetings are held between the CFPB and MDC to discuss the type of support required, to plan activities, and to monitor progress. At that stage collection was not structured or organised. The CFPB's initial support to the marula project was to provide transport for the collection of marula fruit from communities and delivery to MDC. At the same time the Project also implemented a system of recording the names of the collectors, the amounts each woman collected and the community/area in which the collectors live.

After jointly assessing the collection process it was decided that quantity and quality controls should be introduced and that communication with community members needed to be improved. It was agreed that a community forester be made available to work with the MDC community liaison officer on a fulltime basis during the marula season.

The DWAF community forester and MDC community liaison officer facilitated community workshops to discuss ways to improve the collection of marula products. The issues raised concerned collection points and dates for collection, the prices to be paid for the fruit and kernels, and the quality and quantity required. It was also decided that communication and collection would be improved by establishing village marula committees.

Another series of workshops were held to facilitate the formation of these village marula committees. The role and function of these committees has evolved over time and current responsibilities include communicating to the other village harvesters the dates of collection, the quantities required, ensuring quality, weighing recording the amounts delivered by each women, assisting with payment on site, and redistribution of nuts (once the fruit has been processed at MDC the nuts are returned to the individual collectors so that they can extract the kernels).

Awareness of the need to sustainably use and improve the management of the trees was raised during workshops, by working through the village marula committees, and because community members are deriving additional income from the marula resource. Resource management issues were linked to, for example, the tendency to remove male trees; collectors broke branches; and extension officers advised people to remove all trees from the land when clearing for agricultural purposes. The CFPB also provided support for on-farm activities, such as tree planting on tenured land (homesteads, fields and around MDC), and with training workshops on plant propagation and cultivation.

5. Evaluation

In July 2002, about three and a half years after the CFPB became involved in the marula initiative, the CFPB community forestry extension officer and MDC community liaison officer facilitated a participatory evaluation of the marula project with about 20 communities involved in the collection and supply of marula fruit and kernels (Chiloane & Phala, 2002). The following is a summary of the findings.

- Committees: Marula committees have not been established in all villages that are supplying kernels and fruit to MDC. Existing committees are not functioning as effectively as they could. Women feel disadvantaged in terms of authority and decision-making, as well as basic skills. The understanding of ecological systems and ways to manage resources is limited.

- Gender: Women fear men will take control of the marula resource. They also complain that men take the money they have earned. Men, particularly the unemployed, feel threatened because women are earning an income. Some men argue that because of the marula project, women will not make traditional beer for them.

- Competition and conflict: There is unacknowledged competition between users of the marula resource for different purposes, as well as between individual marula collectors and communities linked to the marula project.

- Pricing and processing: MDC is unable to process fruit fast enough. This results in wastage of fruit and women not being paid for fruit they have collected. The price paid for kernels is considered too little in relation to the time and labour spent to extract the kernels.

- Local governance and NRM: The issuing of harvesting permits and fines by the Tribal Authorities is done in an ad hoc manner and is not linked to a management system. Other community structures have limited control over how resources are used and managed. The lack of clarity on the role of TAs and the fact that local government does not prioritise resource management has contributed to increased degradation of the resource base. People use the democratic elections and their freedom to justify their rights when they ignore resource management and tenure agreements.

- Capacity and co-operation: Local institutions and organisations, the marula committees, local government and departments have limited capacity and resources for improved NRM. New policies and legislation have been formulated but is not effectively implemented and are not generally known. An integrated and collaborative approach involving other government departments has not been achieved. Establishing integrated and collaborative partnerships, such as that between MDC and the CFPB, is a complex process as each institution has its own set of priorities, interests and internal dynamics. CFPB/MDC communication with the marula committees tends to be limited to the marula season and emphasis is placed on collection issues rather than resource management.

- Benefits: The marula project makes an important contribution to household incomes. For example, during the 2001/02 about 2500 women have benefited from supplying fruit and kernels to MDC. An additional four men and 34-68 women were employed at the centre to extract pulp from the fruit and oil from the kernels. The marula project has, in total, disbursed about R500 000 to local communities. The average earnings from sales to MDC are between 38 and R335 per household per season from fruit, and between R119 and R325 for kernels. However, earnings by individual sellers range between R8 and R900 for fruit and R11 and R1900 for kernels (Shackleton S et al, 2002). The additional cash injected into poor households is used to pay for schooling, groceries and HP debts. This contribution to household incomes has increased the awareness of the need for sustainable use/management of the marula resource.

About 40 women and men, as well as MDC staff members, received training in propagation and cultivation of trees.

The value of commercialisation is not limited to economic opportunities. It has also increased people's awareness of the value of marula and the need for the resource to be protected (through restrictions on tree harvesting and by planting), and that rules on the rights of access need to be established to reduce the potential for conflict and ensure equity. Commercialisation has also raised awareness of the role marula plays in community life (the 'social glue') where social capital is created through maintaining reciprocal relationships. For example, an induna expressed concerns that commercialisation would lead to increased individualism and erode the social organisation. However, women explained that they kept

beer aside for sharing with family and neighbours and only sold beer outside their own villages.

4.3 The Way Forward

The process of implementing a community-based marula resource management initiative has, up till now, not follow the same route to that in the Gottenburg pilot project. The main reasons for this are that in the early years of implementation the CFPB had not yet built adequate capacity for initiating an area-based strategy and, secondly, the implementation process is influenced by the priorities of the partner organisation.

While activities that contribute to sustainable use and improved management of marula trees have been undertaken, the focus of the marula project has, understandably, been on the collection and processing of marula fruits and kernels, product development, a marketing strategy and sale of products. The long-term sustainability of the marula project also depends on securing the resource base. The following recommendations aim to address concerns raised in the evaluation process and to strengthen the implementation of the 'area-based/one resource' CBNRM strategy.

Strengthening/establishing Marula committees
Marula committees should be established in all villages that trade in fruit and kernels. Existing village marula committees need to be strengthened. This could be achieved by:

a) Clarifying the role of the committees.
b) Expanding the role of the committees to include developing a community-based management plan for marula.
c) Developing members' capacity and skills to make the committees more effective. Since most are women, and thus socially disadvantaged, capacity development would contribute to their empowerment. (Training needs mentioned by the women included literacy and business management)
d) Assessing whether community organisations should be represented on the marula committees. The advantages and disadvantages of this should be weighed up and consideration also be given to gender composition.

A Bushbuckridge executive committee, made up of representatives from the village marula committees, could be established. Decisions and activities would be better co-ordinated and communication enhanced. Such a committee would be able to negotiate with higher-level institutions (such as Tribal Authorities and local government) as well as with the buyers.

Establishing a multi-sectoral team
A multi-disciplinary/sectoral team, including MDC, Community Forestry (DWAF), DoA, Environment and other relevant government departments, should be established. Communication between these stakeholders would be improved, reducing confusion at community level. An integrated approach would also prevent duplication and the implementation of counter-productive activities.

This team should meet regularly with the marula committees and not just during the marula season. Discussions and activities should be expanded beyond the collection of, and payment for, nuts and fruit to incorporate the planning and implementation of activities that aim to achieve sustainable use and management of marula trees.

Regular meetings and workshops between the marula committees and the team would also improve communication and understanding between community members and the external organisations.

Raise awareness and build capacity
Activities to raise awareness on the value of marula trees (and other woodland resources) and why these need to be managed and used in a sustainable way are required. The target audience is community members/resource users, marula committees, CBOs, Tribal Authorities, local government, and government departments, in particular the Department of Agriculture. A starting point for this campaign could be the Bushbuckridge Municipality management forum that meets monthly and is attended by representatives from all departments, the police, and local government.

The awareness raising activities could be developed into a training programme that includes agro-forestry technologies, sustainable harvesting methods, ecological systems, and legislation and policy linked to CBNRM, as well as the marula committees' training needs.

Activities to improve management and sustainable use
There is a tendency to look at farmlands and woodlands separately. However, rural livelihoods are dependent on resources from the woodlands for farming and other uses. The activities and spaces are intertwined (FAO, Note 11). For example, fencing comes from the woodlands; woodlands are cleared for crops and then lie fallow for shorter or longer periods; and grazing occurs in both fields and woodlands. Thus, it is not possible to divide these spaces and see them as distinct. The marula is one of the resources occurring in both farmlands and woodlands that people use and manage (for example, the selective propagation and protection of trees with desirable traits in the past and currently).

It is recommended that activities to improve the use, management and regeneration of the marula resource be undertaken in 'private' fields and homesteads (on-farm) and in the communal woodlands (management by area). These initiatives are not discrete; instead they are interlinked, as is the use of these spaces.

Area-based management of marula trees in the woodlands requires determining the boundaries of the communal woodlands neighbouring the villages; clarifying who has rights of access to marula in these woodlands (the legitimate insiders and outsiders); establishing rules, agreements and a system of enforcement; and gaining the support from the Tribal Authorities and other institutions for community involvement in NRM. However, should the necessary conditions (as outlined in Section 1.1) for an area-based strategy for management of marula trees not exist or if it is not possible to develop these, then on-farm agro-forestry activities may be a more appropriate intervention. These conditions include clear boundaries, defined and accepted insider and outsider users and ability to exclude non-members, ownership, support from higher institutions, incentives that encourage compliance with the locally determined rules for resource use and management (Shackleton, 2000).

The current permit system for harvesting trees and clearing land for agriculture is erratic and impractical and needs revising. The issuing of tree harvesting permit should be based on the condition of the resource base determined through assessments, the community resource management decisions, and take into account provincial and national laws. Permits and fines could be issued at community level and a portion of the money could be used to, for example, pay community members who monitor the harvesting of resources.

Resource management rules should include measures to limit the removal of male trees the communal woodlands, as well as from homesteads and fields.

The marula wood is used for purposes other than fruit, such as firewood, household utensils and woodcarvings for craft, while the bark is used for medicine. Drawing on local and other knowledge the best management practices of the individual tree should be implemented. For example, traditional healers have practices for removing bark that ensure the tree won't die. It

should also be investigated which or any of the following harvesting practices are appropriate in the case of marula trees - lopping and pruning, pollarding and coppicing practices. The impact of grazing, and fire could also be investigated.

Agro-forestry practices should be implemented in woodlands, fields and homesteads. The agro-forestry techniques selected should be based on what is appropriate for communal land and for 'private' fields and homestead plots. For example, people will probably be more prepared to invest time and effort planting and caring for trees at homestead and fields because it is difficult to protect trees in the woodlands. Most trees on 'private' land are mature and little regeneration is taking place. Planting will increase the number of marula trees in or around fields and homesteads.

Agro-forestry techniques, such as parklands, should be introduced to DoA and farmers so that trees are retained in the farming system and the benefits of this practice for crops and soils made known. Planting would also create ecological niches above and below ground (Leakey et al, 2002).

Building on past and current practices and local knowledge, a participatory tree domestication programme (Leakey et al, 2002) could be developed. Women supplying fruit to MDC could select trees with desirable traits and be trained to develop cultivars that produce more juice and kernel oil.

The protection and domestication of trees will not yield benefits in terms of poverty alleviation unless there are parallel efforts to promote the commercialisation of marula products. Departments and other organisations promoting agro-forestry (Leakey et al, 2002) and CBNRM interventions need to work closely with MDC and other commercial enterprises.

Opportunities for value adding at household level by developing new marula products to be sold locally should be explored. This is supported by a study of the informal trade in traditional marula beer that has low barrier levels of entry and provides a source of income for about 200 of the poorest households in Bushbuckridge (Shackleton, S, 2002). Products with a longer shelf life would offer households an additional source of income beyond the marula season. The market for these products could be expanded to areas outside of Bushbuckridge should the local market become saturated (as in the case of the informal beer trade). This would require support – such as facilitating the organisation of traders in various products so that they could, for example, access new markets and share costs of transport.

5. LESSONS LEARNT AND RECOMMENDATIONS

The social transformation processes taking place in South Africa affect every sphere of life and create a state of flux and uncertainty. Planning and implementation processes need to be flexible to accommodate the constant changes taking place.

Implementing a project during departmental policy reformulation and ongoing restructuring causes uncertainty and slows down implementation as goals and responsibilities are constantly shifting.

Flexibility and flexible timeframes are required because most policy/legislation may be in place but the implementation, and understanding, of it is a slower process. Furthermore, some important policy/legislation is not yet in place – e.g. traditional authorities' role and mandates and tenure issues in communal areas – and has a direct impact on initiatives aimed at improved use and management of the natural woodlands.

Successful implementation of initiatives that aim to improve conservation and livelihoods depend on recognising competing resource uses and users. Sector specific initiatives that do not consider interactions with other sectors or activities result in initiatives that are not sustainable and likely to exacerbate natural resource problems and intensify competition, generating conflict. For example, the departments of Agriculture and Forestry tend to ignore the linkages between woodland resources and livestock/crop farming. Yet there is mutual dependency on the woodland resources and competition between the resource users. This suggests that interventions should adopt an integrated and multi-disciplinary approach.

Development initiatives that aim to achieve improved sustainable woodland management and environmental rehabilitation also need to ensure that ownership, responsibility and benefits are created. Ownership and responsibility refers not only to the process of planning and implementing of the natural resource management initiative but also to ownership or tenure of the resources by all resource users/community members and an accepted joint responsibility to ensure sustainable use/management. Management and ownership go together; people will not invest time and effort if they do not own the resource/s. The benefits of the NRM initiative should go to all resource users/community members (Benefits may range from improved soil for improved crop production to rehabilitated woodlands for a sustainable supply of resources for fodder, food, medicine, etc). It is unwise – and not logical – for government to see community-based management as a cheap solution since people will only act or comply if the benefits of the NRM initiative outweigh the costs. The added benefit of income generation enhances the likelihood of sustainable use and compliance with NRM decisions.

The generic requirements for successful CBNRM can be summarised as follows:

- People have a voice in natural resource management decision-making
- Self-governing institutions exist. Support is required to strengthen local institutions
- Community-based institutions have an acknowledged capacity to control access and membership - based on agreements and rights
- Incentives for users to manage resources sustainable
- An enabling policy and institutional environment at all levels
- Management of natural resources is a blend of scientific and local knowledge.
- Interdisciplinary understanding and a multidisciplinary approach
- Local level, fair mechanisms for conflict resolution as institutional and resource management/use changes may lead to conflict caused by exclusion and jealousy.
- Flexible and adaptive implementation process
- Community ownership of the process of establishing an improved woodland management system. Participation must be meaningful and real
- Incentives and benefits

Where these requirements do not exist, initiatives to establish, or improve, community-based management of trees and woodland resources will need to include actions that target these issues so that a more enabling environment is created. If it is not possible to be proactive and work to improve the situation, serious consideration should be given to a) whether one should engage in area management activities and b) how to limit the negative impacts on project implementation, progress and success.

The full understanding of the complexities and difficulties involve in working with communities and capacity development can only be gained through hands-on experience. This emphasises the importance of considering and incorporating field level experience into DWAF's overall policy development and planning. Two-way communication between field level and policy level should be strengthened.

The Project had the necessary freedom to try out new ideas and approaches to build capacity in DWAF and in communities and to develop strategies for community-based woodland management. Through this process of experiential learning through implementation a range of lessons were learnt.

In Part 1 of this document the lessons learnt from the initial broad community approach and the resource user-group strategy were identified and discussed:

- Benefits
- Costs, Inputs
- Participation
- Group Dynamics
- Capacity Development
- Co-operation and
- Technical Issues

Most of these findings also apply to the area-based management activities discussed in this report and will not be repeated here. The importance of several of the findings in Part 1 have, however, been confirmed during the implementation of the area-based activities and some of the below lessons learnt and recommendations may overlap with those in Part 1.

The following lessons learnt drawn specifically from the area-based activities in Gottenburg and the marula project are discussed and some recommendations provided. The issues focused on are:

- Capacity building
- Collaboration: Inter and intra-departmental, governance, NGOs
- Collaboration: Communities
- Institutions and Community-based Woodland Management

5.1 Capacity Building

The experience from the Gottenburg and marula projects is that department staff and community members require a variety of skills, knowledge and understanding for community-based natural woodland management activities. Extension staff and communities have new functions; the role of DWAF is to facilitate and enable rather than control and deliver, while that of community members is to take action instead of be passive recipients of information and instruction.

Learning is a process that takes place over time. The Project built capacity through 'on-the-job' learning through doing, backed up in response to need by formal training. It was found that experiential learning, rather than relying only on once-off courses that are removed from the context of implementation, yielded greatest results for capacity building. Training was needs driven and identified by the participants during the implementation of the community forestry pilot projects. In Gottenburg, for example, following the resource and socio-economic assessments and the formation of the village NRM committees, community members and extension staff identified their need for training in soil classification, the relationship between soils and vegetation, potential of soils, and soil improvement. Participation and linking training to activities and context ensures timely and relevant training. Assessing training needs is an ongoing activity undertaken with all participants (community and department/s) and not just at the start of an initiative.

Visiting other community-based natural resource management initiatives also enhances understanding of CBNRM and builds capacity. The lessons learnt from the study tour to Tanzania, for example, accelerated the process of implementation in Gottenburg. It provided suggestions for how to establish an improved woodland management system, such as the formation of village NRM committees; the kinds rules and agreements that can be reached and ways to ensure these rules are followed. While sending extension officers abroad on study tours may be beyond DWAF's financial framework, such inspiration and exchange of knowledge and experience could be sought by exchange visits between regions in South Africa where extension officers visit extension officers.

Local knowledge and 'traditional' systems should be considered in the development of improved management areas. There is also a need for knowledge and understanding of socio-economic, political and ecological dynamics. However, it was evident from the assessments in Gottenburg that aspects of former management systems are inappropriate – for example, because of a much larger population that live in dense settlements and because of changes in the political landscape, such as the introduction of local government and the lack of clarity on the role of the tribal authorities. It was also found that there was limited knowledge of the ecology of woodlands, as well as the potential and limitations of woodland ecology in relation to the long-term impact of resource use. The participatory resource and socio-economic assessments undertaken in Gottenburg ensure interactive building of knowledge of socio-economic and woodland ecosystems. This forms the basis of developing capacity for the implementation of an improved management system based on a blend of local and other knowledge systems.

Including a mix of participants (community members, NGOs, directorates and departments) in training activities also results in greater learning through exchange of ideas and experience.

In order to build capacity the emphasis during the implementation of forestry activities was on process, rather than product. It takes time to develop this conceptual understanding of community-based woodland management and the accompanying capacity to develop resource management plans and agreements. The exploratory and participative approach adopted by the Project provided DWAF and community participants with an opportunity to be creative and try out alternative approaches, methods and strategies, determine the pace of implementation and make the decisions. This contributed to the growth and development of the participants, as well as promoted ownership and responsibility (and thus sustainability).

5.2 Collaboration: Inter and Intra-departmental, Governance, NGOs

The value of collaborative partnerships and integrated processes include (1) improved delivery through pooling limited resources (money, time, skills, staff, etc), (2) reduced confusion among community members caused by conflicting messages from different external agencies, and (3) reduced demand on community members' time.

A multi-disciplinary and inter-sectoral approach is required to address issues of land use and resource competition. Horizontal and vertical linkages need to be developed between local organisations, government and other sectors to ensure local organisational development and its further institutionalisation. Initiatives that include income generation from woodland resources, such as the marula project, need to consider such issues as product development, reliable supply and quality; transport; markets/outlets; marketing; business and management skills, along with sustainable use and management of the resource base. Collaboration with other sectors could strengthen these components.

The Project experience is that it is a challenging process to achieve an integrated approach and develop co-operative partnerships for a number of reasons. There is limited capacity;

mechanisms for ensuring co-operation are either not in place or not well developed; collaboration requires people to change the way they work; partnership work is seen as additional work and thus resisted; and organisations compete, protect their territory and fear that a partner organisation will hijack their initiative.

The role of local government is to drive development based on an integrated and participative approach. Legislation and mechanisms to achieve this do exist (for example, through the Integrated Development Planning process that applies to municipal areas) but capacity and resources are limited. Local government prioritises infrastructural development, such as housing and water, and there is a lack of understanding of the value of the woodlands and its contribution not only to households but also to the local economy.

In other instances, policy that has direct implications for achieving an improved management system is not in place. For example, the mandates and role of traditional authorities are still being negotiated. Like local government the TAs are currently charged with socio-economic development, but they also lack capacity and resources to carry out this mandate and, as an unelected structure, they cannot be held accountable. Co-operation between local government and traditional authorities is limited or non-existent. The relationship between the two is problematic as they compete for power, resulting in negative impacts on natural resource use/management and on the resource users. This situation is likely to become more problematic as the Communal Land Rights Bill threatens to take away TAs' powers to allocate, administer and determine the use of land in rural areas.

Poor communication within and between institutions, as well as bureaucratic processes and hierarchical structures, contributes to slow decision-making and implementation. The compartmentalisation of activities within and between departments enables staff/departments to avoid responsibilities and is counterproductive to successful implementation of NRM initiatives.

The support of senior levels in departments and organisations is required. While they may, in principle, agree with establishing a partnership, this must be actively supported and facilitated. Devolving responsibilities and decision-making to lower levels also contributes to improved co-operation. In other instances, individual members of an organisation develop understanding and the need for collaboration for developing improved community-based woodland management systems, but this does not extend to the institution.

Training and capacity development activities attended by staff from different structures promotes co-operation. Understanding of the different sectors enhanced and this enables the identification of common objectives. Through the process participants built relationships, creating a local support base for themselves. The Tanzania study tour, for example, resulted in the formation of the multi-sectoral team working in Gottenburg. The inclusion of senior level staff from DoA on the study tour also facilitated collaboration through developing understanding of D:CF objectives.

It, however, takes time to build trust with other organisations in order to develop a mutually beneficial relationship, as illustrated by the marula project and the time it took to establish a multi-sectoral team in the Gottenburg project. In brief, capacity building facilitates common understanding, common understanding facilitates the identification of common objectives, which in turn facilitates trust and partnerships, and enables implementation of on-ground activities.

5.3 Collaboration: Communities

The approach to initiating and implementing community-based woodland management activities is for the Project to enter into a collaborative partnership with communities. Thus the foundation for developing a community-based activity initiated by any external agency, such as DWAF, is trust between the parties. To build such relationships with communities needs continued interaction to reach a common understanding of each other's needs and objectives.

It is a time-consuming and lengthy process of community meetings, workshops, awareness raising (perhaps including training) that may not, in the early stages, show promising results. Continuous contact with the community – even if little or no action is taking place – is necessary. However, when understanding and trust in each other has been established the process of reaching community agreements becomes easier and the risk of conflict diminishes. Ownership by the community of the CBNRM initiative is essential. It has to be clear from the beginning that responsibility for decision-making is with the communities. DWAF's role is to guide and facilitate the process and provide information. The process cannot be rushed, as it is the participants who determine the pace of implementation.

The process undertaken in Gottenburg has given the community time to build trust through interacting with the Project. Learning and understanding took place through a transparent process based on community participation in the assessments, Project reporting to communities and community decision-making. After three years the main benefits to the community are increased knowledge and skills and empowerment of individual community members and the community as a whole. There is still community interest in developing an improved woodland management system despite the fact that the benefits have not been tangible (income etc). While project implementation is slow, the continuous, sustained involvement by DWAF contributes to the sustainability of the initiative.

There are no short cuts to community-based resource management. It is necessary to undertake full participatory socio-economic and resource assessments because learning and capacity (of external agencies and community) is built through experience or doing and because people, institutions, resources and the way people use them differs from area to area. Time is needed to invest in establishing an understanding of the community dynamics and the potential of the resource base. A community is not necessary a like-minded group working together towards a common goal. One has to be realistic about what a community can achieve and to acknowledge that individuals can play a successful role in resource management initiatives. It is also important to accept that people are individualistic and to allow for individualism.

While there are generic criteria and indicators in community-based woodland management initiatives, each context is unique. Attention to local needs and circumstances (the socio-economic, political and ecological environment) is critical in planning and implementation. It is thus not possible to develop a blanket strategy and a 'how to' manual, for example: how to gain the interest of a community, how to mobilise a community, how to manage and use the resources, how to institutionalise management systems, and how to develop income-generating activities. The degree of social cohesion in a community is an important indicator for what kind of management measures and systems will succeed. However, the experience in Gottenburg indicates that the participatory processes applied in relation to the resource assessment and the socio-economic assessment may have increased the general interest for improving the management of the resource base and environmental rehabilitation.

What kind of management measures and systems to suggest in a specific area will depend on factors such as the social cohesion, the land use, the status of the woodland resources, and the competition for resources. A high level of internal disagreement and low community cohesion

will not provide good opportunity for agreements on resource management rules. In these circumstances smaller resource user-groups and tree management on 'private' land (homesteads and fields) may be a more feasible option. However, if community members express an interest in improving their environment and realise that the community has (or will encounter) problems in supplying themselves with basic necessities, the possibility of strengthening community capacity - in terms of increased understanding of environmental problems and impacts, open discussions on needs of the different segments of the community, and better organisational skills - to a degree where agreements on management measures on larger scale is improved.

Should the above and other conditions for management of a range of resources in an area not exist to the degree required, then working with smaller user-groups and with on-farm tree management may be a more feasible way to contribute to improved sustainable woodland management and environmental rehabilitation. Similarly, the decision on the level, scope and types of management activities to employ is influenced by increased settlement and intensification of land use.

Such smaller resource user-groups and on-farm tree-based activities were initiated through the CFPB in the first few years of Project implementation. The pilot projects focused on:

- Small groups that use resources for specific purposes – for example, wood carving, beekeeping, traditional medicine and homestead woodlots
- On-farm activities including live fencing, soil improvement and erosion control, community-based gardens and nurseries
- Rural/'urban' greening activities such as indigenous fruit tree orchards and Arbour Week tree planting linked to other projects and initiatives

Different entry points are used to implement the area-based and resource user-group strategies for sustainable use and management of natural woodland resources and environmental rehabilitation, contributing to improved livelihoods. These entry points are determined by the differing contexts as well as challenges/problems and opportunities that exist. Since environment is dynamic planning and implementation of activities needs to be open, creative and flexible.

The marula project with MDC and the Gottenburg project with DoA and D:IFM suggest some ways on how to promote collaborative partnerships. The first step in strengthening collaboration is to determine common objectives and understand the ways in which the organisations can collaborate. Roles and responsibilities also need to be clarified, with the understanding that these are likely to change over time as the project is implemented. Thereafter channels of communication need to be developed and maintained to ensure clarity on purpose and responsibilities, planning and implementation of activities, and to resolve problems between the organisations.

5.4 Institutions and Community-based Woodland Management

The development of institutional arrangements (rules and institutions) on natural resource management is critical. It must be done in a participatory way where the more powerful groups, individuals and other community structures do not dominate the process.

A community-level resource management decision-making body needs to be established. Several issues arise in relation to local institutional development. First, a decision needs to be made whether to develop the capacity of an existing community-based institution or create a new institution with regard to natural resource management. Issues to be considered are:

would people use a new structure to gain access to power and would it compete with existing institution(s) for power over land and resource use? On the other hand, an existing institution may be perceived to be exclusive, have vested interests and be unwilling to relinquish its power by adopting a participatory and inclusive approach to natural resource management. Unless dealt with, these issues might put agreements in jeopardy and could lead to conflict. Local circumstances and community opinion will determine whether it is better to develop existing local level institutions or to build new institutions. Communities are not uniform. They are made up of people with different levels of power (determined by wealth, gender, etc) and this affects their ability to access resources and to participate in activities and decision-making. Including marginalised groups, such as women who are responsible for harvesting and former Mozambicans, who settled there in the 1980s and are among the poorest residents and most dependent on the resource base for daily survival, in the decision-making process is critical if resource use and management rules and agreements are to be adhered to.

The support of existing institutions, such as the traditional authorities, is necessary if the community NRM organisation is to be able to make and enforce resource management decisions. The legal rights of people in communal areas to manage their resources, particularly with regard to the TAs, needs to be explored.

The community NRM organisation must also be recognised and accepted by other community members/resource users. In Gottenburg the residents chose to elect three village NRM committees and, from these, elected an executive NRM committee. It is too soon to know the impact of these committees and whether their authority will be recognised by other local level institutions and by resource users.

The issues of who are legitimate resource users, 'outsiders' and rights of access are complex. Insider/outsider status can change. Rights of access are determined by legal, formal means and informal practice. Boundaries shift and are permeable. 'Outsiders' may have rights of access but the 'insiders' usually try to exclude them. This is illustrated in Gottenburg where former Mozambicans are blamed for resource depletion. The 'insider' becomes the 'outsider' and their rights of access are threatened. The Project has, however, been able to facilitate a process where the former Mozambicans participated in the assessments and are represented on the village NRM committees

Blame for resource depletion is also laid on people from neighbouring communities and on people from urban areas in Bushbuckridge and elsewhere. Pressure on the resource base alters management practices, increases pressure on resources and results in scarcity or degradation. 'Outsiders' are using resources because of depletion in their areas or demand in urban and semi-urban areas. As urban areas grow, so the resource base shrinks. At the same time the biomass is extracted and traded to meet urban needs and to supplement rural and urban households' incomes. It is important to recognise the urban/rural continuum; that there is no clear divide between urban and rural, and that people in urban areas are still dependent on the resource base.

The Project experience was that it is difficult to obtain information on the woodland resources harvested by 'outsiders' and on the views of the 'outsiders' because these people do not want to be identified.

The interest of government departments is to ensure the broader good in terms of both equity and legislation (such as rights to access, meeting the needs of present and future generations, biodiversity). The role of DWAF is to facilitate processes and provide advisory/technical support for natural resource management decisions. Community-based woodland management decisions should adhere to national policies and legislation and these regulations can be used to support people's rights to manage resources. It is still not clear who has rights

of access to woodland resources. The need for further information on legal rights and user rights in communal land is being addressed by the Project.

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ANNEX 1: Project Context and Problem Analysis

The CFPB area consists of 2 400km^2 in the communal savannas of Bushbuckridge lowveld in the Northern Province. Poor and unsustainable land husbandry and natural resource management has been identified as a core problem in the Bushbuckridge area. Among the contributing factors to this situation are: the area's historical inheritance, population pressure, low income levels, unclear tenure systems, weak local government structures, conflicting agendas of different service providers, lack of clarity on the mandate of traditional authorities, and low levels of awareness, knowledge and financial resources.

People living in the area were subjected to resettlement and forced removals prior to and throughout the former dispensation. 'Betterment' planning, and the creation of ethnically-based homelands (Lebowa and Gazankulu) resulted in increased population densities, a high degree of social disruption, and the unravelling of social organisation, leading to the breakdown of long-established relationships with the land. Consequently, there is currently little in the way of traditional systems of resource use and management. The democratisation of South Africa and the transformation process has brought new challenges. The creation of new local government structures in rural areas – questioning the role of the Traditional Authorities; changes to provincial and municipal district and local council boundaries; new legislation; restructuring of government departments; and land and tenure reform all contribute to a state of flux and change. The Bushbuckridge area is characterised as open woodland, and is under heavy pressure in the peri-urban areas in the west and near settlements in the eastern parts. Employment opportunities are limited and the local population is dependent on woodland resources to meet a range of needs. Demographic data for the area is notoriously inaccurate, but the population is estimated to be between 700 000 and one million with densities ranging between 150 (in the east) and 303 (in the west) people per km^2. Many Mozambicans have moved across the national border into the area, and, being among the poorest of the poor, are often heavily dependant on the natural resource base. The relationship between the people of Bushbuckridge and their natural resource base is thus shaped by historical, cultural, socio-economic and demographic factors.

Woodland resources, directly and indirectly, make an important contribution to the livelihoods of community members through supplementing household income, providing a source of free products, and enhancing nutrition and food security. With the low level of income of the majority of the population of the area, the natural resource base is crucial for both the subsistence and cash economies.

"Most households … draw on a range of activities and income sources that bridge the rural-urban divide. These include casual and permanent wage employment, remittances, welfare grants, crop production, animal husbandry, wild resource use, social network transfers and small enterprises." (Shackleton et al, 2000).

Research carried out in the Bushbuckridge area and in other communal lands in southern Africa (Shackleton et al, 2000) reveals the following:

- The value of livestock to rural households in communal areas includes their use for transport, draught, milk, meat, manure, gifts to bond kinship and community relations, cash (locally traded the price is lower and is thus a savings for the buyer), and as a store of wealth to act as a safety net in times of cash need. Regarding crop production, the staple crop is intermixed with a range of other crops, giving a total yield comparable with monoculture systems. Most of the yield is consumed by the household and crop contributions to total household income range from 7% to 24%.

- The value of natural resources is as much or more than other activities on the land and welfare grants. The direct use (not trading) values of wild resources alone is estimated US$194-US$1114 (R1936.12-R11117.72) per household per year. Most households use products from the natural woodland for, among other purposes, fuelwood, construction, food, medicine, craft, implements and fodder/grazing. This consumption of 'free' goods is a cash savings for households and critical for their survival. These resources are also sold, thus generating an income for households, or exchanged for other goods and services. The harvesting of resources has another value that forms part of the survival strategy – ensuring social networks through the exchange of 'gifts'.

Community-based forestry and woodland management is a new field for DWAF. In the past the Department focused its attention on plantation forestry, and on the preservation of indigenous forests on State land. DWAF staff were trained in silviculture, plantation management and harvesting, and were recruited from the commercial forestry plantations. No strong tradition of woodland management or the management of trees within farming systems existed. Consequently, when the CFPB started there was limited understanding of the wider socio-economic importance of natural woodland resources to the livelihoods of rural populations, and little experience with working with communities and of participatory approaches in extension work for the planning and management of natural resources and tree-centred development.

The Department has, since 1996, developed policy and legislation promoting conservation and development through participatory, community-based processes that ensure equity and socio-economic and ecological benefits. Three principles underpin this: social development (ensuring services are delivered to those in most need); economic development (income generation through the use of forest and woodland products for enterprise development); and environmental sustainability (ensuring that meeting the needs of the present generation does not compromise the ability of future generations to meet their needs).

Given that the high level of resource utilisation and ineffective management strategies are resulting in local depletion, the CFPB focus is thus on the integration of forestry and tree growing within a wider rural development agenda, including capacity building around participatory management of natural resources.