

SUSTAINABLE CHARCOAL PRODUCTION AND MARKETING IN HANDENI DISTRICT

- A PROPOSAL FOR SELLING AN IDEA -

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Whatever the contributions of the different people have been, the Consultant remains the sole responsible person for what has been written in this report.

EXECUTIVE SUMMARY

The present charcoal production and marketing system from what is currently called public land and unreserved village lands in Handeni District can be characterised as totally unplanned, virtually uncontrolled and largely illegal. The official Royalty figures from July 2000 to February 2001 for the whole of Handeni District show that permits were issued and payments made for a total of 11 bags of charcoal per day. However, based on reports, interviews and observations, actual production figures for the whole District are conservatively estimated at 1,000 bags of charcoal per day. Control and patrol carried out in the field managed to intercept an estimated additional 11 bags per day. In other words more than 97% of the charcoal produced and marketed in Handeni District is illegal. The fact that only 3% of the charcoal is legal does not mean to say that this legal production is planned or controlled. Rural people produce charcoal if and when required and wherever it is possible and convenient, irrespective of the long-term consequences.

Any production and marketing system has advantages and disadvantages and, in terms of stakeholders, knows winners and losers.

The big losers are:

- Producers (Rural People), who are getting a too low price for the bag of charcoal they produce;
- Forest and Beekeeping Division (FBD), which is loosing a potential gross Royalty revenue of approximately Tshs 140,000,000 per year at present;
- Handeni District Council, which is loosing the same potential amount of approximately Tshs 140,000,000 per year in Cess at the moment;
- Tanzania in general and Handeni District in particular, which is slowly but surely loosing its natural forest resource base.

The big winners are:

- Charcoal consumers in Dar Es Salaam, Tanga, Moshi/Arusha and Handeni town, who are enjoying an energy resource that is far too cheap;
- Traders, who by not paying Cess and Royalties, earn an extra profit
- Individual Civil Servants who collide with traders in their tax evasion efforts through illegal payments.

FBD and Handeni District do recognise the fact that the present charcoal production and marketing system is detrimental to them. Especially FBD is trying to change this system and introduce a new one that is the exact opposite of the current system. The new production and marketing system should be planned, controlled, legal and sustainable.

For this purpose a new Forest Policy was developed and a new Forest Law is being designed. Together with amongst others a new Land Act and the ongoing decentralisation process it is hoped that all these institutional and legal changes will create a much better environment or framework for the introduction of this new or sustainable charcoal production and marketing system.

But will for example the producers, traders, individual civil servants and consumers really be interested in such a new system? Will these people change their current behaviour and attitudes just because there is a new legal and institutional framework? After all, these stakeholders do not adhere to the present legal framework, so why should they adhere to a new one? And why did people themselves not change their behaviour and attitude if the current system is as detrimental as FBD, Handeni District Council and many others claim it is? What is needed, besides a new legal and institutional framework, to make people change their minds and adopt this idea about a new charcoal and production system?

All these and other questions can be answered if charcoal production and marketing is analyzed in terms of costs and benefits for the different stakeholder groups and the costs and benefits of the old system are compared with costs and benefits of the proposed new system.

As indicated earlier on the current charcoal production and marketing system knows a number of losers and winners. To be able to change the system one must make first and foremost sure that the losers stand to gain. This means that:

- Producers (rural people) have to get a better price for their product.
- FBD and Handeni District Council should earn more in net tax income than they earn right now.

Although many people claim that the introduction of sustainable charcoal production is a win-win situation, i.e. that everybody stands to gain, this is simply not true. As it is impossible to charge a higher price for Handeni charcoal in the big consumption areas like Dar Es Salaam or Tanga, the consumers do not loose nor win from changing the system. But it are the traders and those civil servants that through collusion with traders earn an extra income who will stand to lose from a change. It can therefore be expected that these two stakeholder groups will oppose the introduction of this new idea.

How does one ensure that the opposition from the potential losers to a change in the system is minimised and the support of the potential winners from such a change is maximised?

- The first thing is that FBD and Handeni District Council have to realise that they can not assert a right that they can not exert. Although they have the right to tax and control producers they will never be in a position to do so effectively and efficiently. Moreover taxing producers who can not afford to pay tax is counter productive and will only alienate producers. Sustainable production means in essence legal production but if legal production means taxed production, producers will never buy the idea of sustainable charcoal production. Although the trade could in principle absorb current tax levels, they have shown the ability to successfully resist or avoid the majority of the payments. Whereas the trade should pay a certain amount of tax (i.e. a combined Royalty and Cess) the tax level should not be set unilaterally by FBD and the Council alone. As the trade is a crucial stakeholder in the whole charcoal production and marketing process and as they are potential losers when changing the system, FBD and the Council have to involve them in the discussions about taxation in particular and the proposed changes in general. In essence it means FBD and the Council have to change

from a management based on control to a management based on consent. ***FBD and the District Council have to be prepared to genuinely discuss and negotiate with traders and producers what sustainable charcoal production should mean and how it can be introduced.***

- FBD and the Council are negotiating from a position of weakness vis-à-vis producers and traders. This weak position is further undermined by the current differences in opinion between the two public sector institutions about who has the right and duty to do what, where and when. The fact that some civil servants collude with traders (and producers) is eroding their position even further. It is a crucial precondition for the selling of the idea of sustainable charcoal production to the other stakeholders that the differences between FBD and the Council have to be settled and the collusion issue has to be tackled. If this does not happen, nothing can be changed.
- Sustainable production means managed production and managed production means additional cost in terms of labour, time and money. Somebody, somewhere and somehow has to pay for these costs. As producers will have to bear most of these costs, they need to be compensated for their efforts and investments. Sustainable production has to be financially rewarding and profitable. That sustainable charcoal production and marketing is better for the environment in the medium and long-term is a very weak selling argument for people whose first priority is poverty alleviation. The only right selling argument to producers is that they get a better price for their produce and should not be bothered by any tax liability towards the Council and FBD. Although this does not guarantee sustainable production, it is an essential precondition. That traders would voluntarily pay farmers a better price for their charcoal is highly unlikely, unless they themselves are being compensated through a tax "discount". But for somebody who hardly pays any tax, a tax "discount" is a meaningless proposition. Unless of course the costs of trading in illegal charcoal surpasses the cost of trading in legal charcoal. But the trader is also confronted with more than the cost of tax. There a number of in-built cost factors in the current Royalty Collection & Monitoring System that could be lowered or removed. All of these measures and options should be open to negotiations.
- The bottom line of the whole cost issue of sustainable management and hence the charcoal price issue however is more efficient and effective control on the level of the trade. If no efficient and effective control can be established, no sustainable production of charcoal can be introduced. Negotiations and control are not mutually exclusive. Once the main stakeholders agree on the technical and financial details of the new system control will become a more automatic and acceptable activity.
- The ability of FBD and Handeni District Council to handle the administrative and organisational matters of control of and tax collection on charcoal efficiently and effectively has proven to be extremely weak. It is therefore essential that that part of the new system is tendered out to a private company and that the foresters in the District and other District Officials should not engage themselves anymore in Royalty and Cess matters pertaining to charcoal. Foresters should do what they are supposed to do, advice and assist rural producers in forest management matters. The "privatisation" of the tax and control on charcoal, together with the introduction of a special "Handeni Charcoal Bag" and a number of complementary measures would create a more enabling environment for traders and producers to opt for changing the current system.

- One of the aspects that should enable rural people to produce sustainable charcoal is the development of forest management plans. It should be avoided that such plans become a hindrance rather than an aid to sustainable charcoal production. Management plans for charcoal production areas have to be simple, short, flexible, cheap and quick to make and not based on the notion that rural people should not or will not convert these areas into agricultural and grazing areas. That might seem to contradict the notion of "sustainability", but it is not. Selling the idea of sustainable charcoal production or changing the current system will be a long learning process and it is perfectly possible to produce sustainable charcoal in a forested area that ultimately is going to be used for growing agricultural crops. Management plans, control, efficient and effective taxation and legalising production are only means to achieve an end. This end is that through this process slowly but surely trees on village and public lands get a financial value of their own. At the moment a tree from natural woodlands has no financial value whatsoever. Prices for timber and charcoal basically reflect only labour and transportation cost and it is the land underneath the trees that is valuable for rural people, not the trees themselves. Only when trees become more valuable than the land underneath does it make sense to rural people to create a permanent forest estate. And only then will sustainable charcoal production and marketing be truly possible.

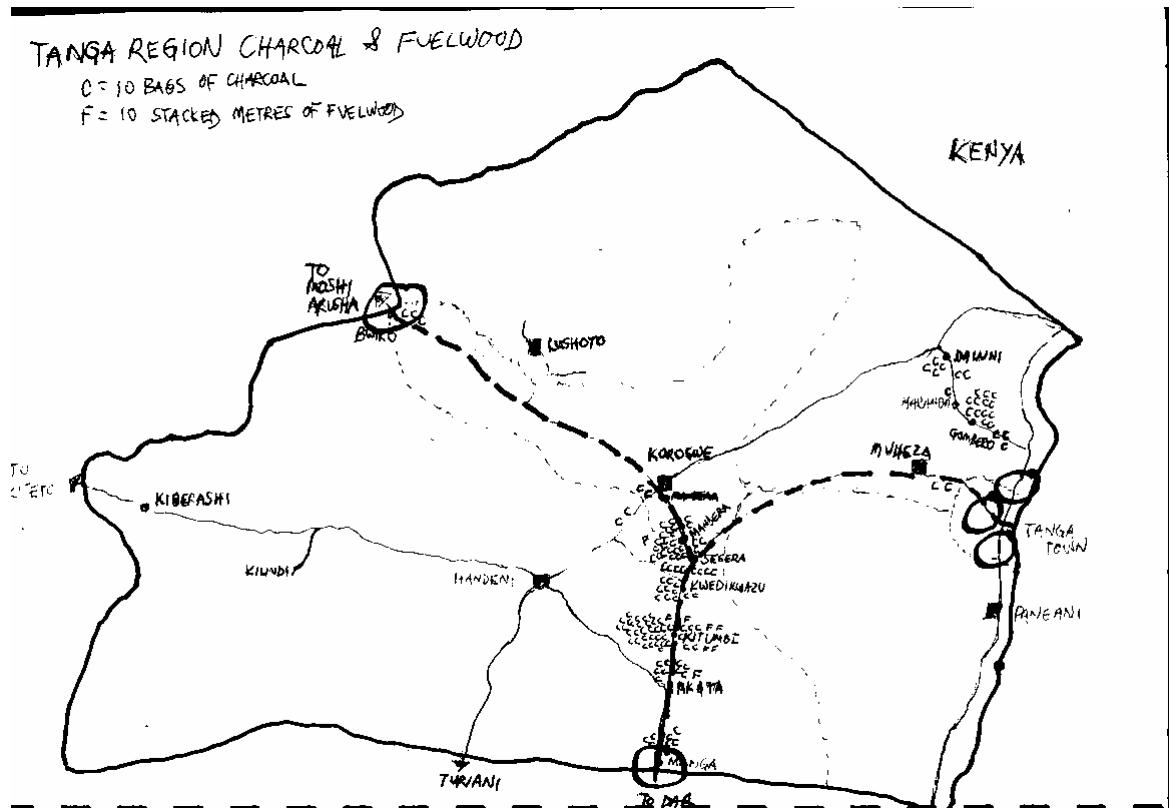
All these measures, put together in a comprehensive proposal to be discussed during the negotiation process, do not guarantee success. Although the introduction of sustainable charcoal production is technically feasible and at least in a number of villages financially viable, as with any proposal and with any negotiation process, parties might fail to reach an understanding or a workable compromise. A break down in the negotiation and discussion process is in the final analysis not a matter of disagreeing over some technical aspects. It depends on the degree of political willingness of the public sector partners, FBD and Handeni District Council, to want to make things work.

Sustainable charcoal production has less to do with tree planting, management plans or improved kilns and stoves but more to do with perceptions, attitudes, willingness and perseverance on the side of the Authorities to change the current system.

MAP Charcoal Production Handeni District

Although the following Map was drawn in 1998 it has not lost its validity. It clearly shows where the main charcoal producing and marketing areas in the District are located.

Source: D. Kobb, Forestry Royalties in Tanga region, 1998



1. INTRODUCTION

This report deals with the theoretical as well as the practical aspects of trying to introduce sustainable production and marketing of charcoal from public and village lands in a pilot area in Handeni District. The wording “trying to” is a deliberate choice as the Author is not sure if it can be introduced in Handeni District. There exists no doubt, that from a technical point of view sustainable charcoal production and marketing can be successfully introduced in Handeni District. But when introducing a new idea or a change it is never the technical aspects that determine its acceptance or not. In the final analysis it are always the financial, socio-economic, cultural and political aspects or implications that decide if a new idea is acceptable or not.

It is for this important reason that the study and the report do not concentrate on technical aspects of charcoal production and marketing. They are really deemed to be of secondary importance. Instead the emphasis is on the financial, institutional, socio-economic and ultimately the political aspects of charcoal production and marketing. The whole trust of the argumentation is that if the Handeni District Council and the Forest and Beekeeping Division (FBD) wish to introduce this new idea or in other words wish to change the current system, they are forced to sit down with producers and traders and discuss and negotiate.

The word “forced” is used deliberately and in more than one sense. They are forced because there is, as argued in the report, no alternative than to negotiate. But it also means that if the District and FBD are really and genuinely interested in negotiating about sustainable charcoal production and marketing that they are forced to change from a management by control system to a management by consent system. It furthermore means that both institutions are forced to become much more transparent and accountable to producers and traders. Lastly it means they have to develop the political willingness to apply their given powers in a positive and constructive manner, to develop a common vision and to punish those individuals within their organisations displaying bad behaviour (corruption for example) and reward those showing good behaviour. Ultimately sustainable charcoal production and marketing is not a technical exercise but an exercise in democracy and good governance.

Within the framework of the Terms of Reference the study and the subsequent report are to be considered the starting point of this discussion and negotiation process that would hopefully result in the introduction of sustainable charcoal production and marketing in the District. For this purpose the report is divided into two separate but interlinked sections.

The first section is a background paper. It analyses charcoal in financial, socio-economic and political terms and discusses the necessity of introducing sustainable charcoal production and marketing through a negotiation and discussion process. It also elaborates items of importance for the discussion and negotiation process and presents an outline of the different steps in the process.

The second section contains a proposal that should serve as the basis for the envisaged discussion and negotiation process.

If it turns out that sustainable charcoal production and marketing can not be introduced in Handeni District this can only mean one of two things:

- The whole idea of sustainable charcoal production and marketing on public and village lands in Handeni District is financially not feasible and economically not viable at this point in time.
- The public sector does not have the political will to change the current system.

There are indications that at least in some areas in Handeni District it could be feasible and viable to introduce the idea of sustainable charcoal production and marketing if the political will exists.

Issues directly or indirectly related to charcoal production and marketing in Handeni District have been examined during the last few years. Amongst others Kobb & Mpelumbe, 1996 (Revenue Collection in Handeni District), Kobb, 1998 (Forestry Royalties in Tanga Region), MNRT – FBD/GTZ; NRBZ, 2000 (The role of incentives for the promotion of sustainable natural resources management on district level) have all highlighted existing problems. Recommendations were made on how these problems could be addressed. The major and most important recommendations have however not been implemented.

This study is meant as an addition to these aforesaid studies. It attempts to concretise all these recommendations by looking at the costs and benefits involved and by providing an approach that could facilitate the process of introducing sustainable charcoal production and marketing in a number of pilot villages.

Although GTZ NRBZ has financed the study, they should not, apart from financing two independent or rather two impartial facilitators, be involved financially or technically in the process of trying to introduce sustainable charcoal production and marketing in Handeni District. As the investments in the successful introduction of sustainable charcoal production are very small and hence can and should be financed by the Council and FBD themselves and techniques used simple and available, donor money and expertise is not required. Moreover a donor can not finance political willingness, which is the most important factor in the process, nor can offering technical and financial assistance compensate for the lack of political willingness.

SECTION 1

THE “IDEA”

2. CHARCOAL PRODUCTION AND MARKETING

2.1 What is Sustainable Charcoal Production and Marketing?

Normally, sustainable charcoal production and marketing is presented as a technical forest issue. Without going into too much detail it can simply be defined as a system whereby the level of the harvesting of certain tree species for charcoal and other wood uses and the harvesting techniques used does not exceed nor harm the Mean Annual Increment (M.A.I.) of a particular forested area. If the harvesting exceeds and/or damages the M.A.I. the forest for sure will either be degraded or depleted. The difference between degradation and depletion is that with degradation only certain tree species disappear, with depletion the whole forest will disappear.

The comparison with a savings account that accrues interest makes this idea very clear. If you limit your bank withdrawals to the amount of interest you receive on your principal each year, you can withdraw money in perpetuity. Your “harvesting” of money is sustainable. If you spend more money than what you earn in interest or in other words eat into your principal, the next year your interest earnings go down. If you persist in this habit of spending more than you earn your savings account will get depleted and in the end nothing is left.

This definition is however too limited. There are other than only technical aspects to the definition of “sustainability”. One aspect is that there needs to be a market for charcoal. To produce something which nobody buys is obviously not sustainable. In that sense charcoal is a sustainable product for some time to come.

What is however less obvious and often underestimated or even misunderstood is that with the growing demand for charcoal and other forest products the production needs to be managed in order to be sustainable. In the past with few people around, a very small demand for forest products and an abundance of forests, simple extraction or exploitation was a good enough system. Nature took care of the rest. But with a growing number of people and a growing demand for forest products and the land underneath forests, exploitation becomes an inappropriate system and forests need management.

Management implies a number of things. Firstly that costs or investments have to be made (research, planning, patrol, control, fire prevention, enrichment planting, inventory, people, cars, etc.) to make sustainable production possible. Secondly, the benefits from management should be higher than the investment cost because if this is not the case management makes no sense. Thirdly, management is aimed at optimising the outputs from these forests. Foresters are people who are trained to squeeze the last bit out of forests without really damaging it.

Somebody somewhere and somehow has to pay for these investments or costs. This can be done in a number of ways. But whichever is the case, to undertake management requires inputs and these inputs have to come from somewhere and someone. It is like feeding a cow on zero grazing for milk production. You have to put time, labour and money into feeding the cow in order to get milk out of it and make money. If you do not

feed it enough the beast will produce less and less milk and in the end it will drop dead. It is the same with forests.

Lastly, the one who invests in the management should also receive an appropriate reward for the management efforts or return on the investments made. These rewards do not necessarily have to be monetary profits. A donor that invests money in the successful management of a forest in Tanzania will be rewarded in non-monetary terms like for example emotional satisfaction of their constituents at home. Another reward could be the satisfaction that they have contributed towards poverty alleviation in Tanzania or combating global warming. Emotional rewards are as important as financial rewards.

It is the whole cost and benefit issue that makes sustainable charcoal production and marketing so difficult to introduce. It is not only a matter of defining what these costs and benefits are and who should share how much, where and when, but more so a matter of comparing the costs and benefits of the current system with those of the new system.

The next Chapter tries to shed some light on this Cost-Benefit issue.

2.2 Charcoal production and marketing system in Handeni District

The current production and marketing system for charcoal from what is currently called public land and unreserved village lands in Handeni District can be characterised as totally unplanned, virtually uncontrolled and largely illegal. That it is virtually uncontrolled can be seen from the Royalty Collection Compliance rate.

The official Royalty figures from July 2000 to February 2001 for the whole of Handeni District show that permits were issued and payments made for a total of 11 bags of charcoal per day. However, based on reports, interviews and observations, actual production figures for the whole District are conservatively estimated at 1,000 bags of charcoal per day. Control and patrol carried out in the field was somehow able to narrow the gap between actual and potential revenue collection with an estimated another 11 bags per day. In other words out of every 100 trees cut for charcoal the Authorities managed to control one before felling and intercepted another one after it was felled.

The above mentioned problem is neither unique for Handeni nor a recent one as a report from a Consultancy Company (Silviculture) 1991 indicates:

There is little point arguing the toss about whether replacement costs or residual values are the most appropriate basis on which to price standing timber, if the methods of collecting the money is so inefficient that a significant proportion of wood harvested is acquired at no price at all, save that of the wood cutter to cut...It is widely recognized that evasion of royalties and other forestry fees is widespread and that little of the money that should be collected is collected." pages i-iii).

Using the sustainability aspects described in Chapter 1 in analysing this system one can only conclude that although there exists a management system on paper in the form of Laws, rules, regulations and foresters on the ground, in reality the system is not managed. It is based on old-fashioned exploitation that virtually completely disregards the rules, regulations, laws and foresters on the ground.

Even if the conversion of forested areas into agricultural land, which is the biggest single deforestation factor in Handeni District, would stop tomorrow, the exploitation system is not sustainable anymore. Being uncontrolled and unplanned the production areas closest to the demand centres are exploited first to point of depletion before moving away from these demand centres. This can be observed around Handeni town and in East Handeni, along the Segera – Chalinze Highway.

Some people argue that it is the level of charcoal production, in other words a technical aspect that is causing the system to be not sustainable anymore and hence production should be curbed or stopped altogether. Is this a correct assumption?

Handeni district is one of six districts constituting Tanga region but covers 48% or 1,411,051 Ha of the region's territory. 95.9% of Handeni District can be classified as forested area.

Handeni District has the following categories of forested areas:

Forest type	Area (Ha)	Cover (%)
Forest	34,427	2.4
Woodland	814,140	57.7
Bushland (woodland with scattered cultivation)	302,230	21.4
Grassland (10 – 20% tree cover)	202,866	14.4
Total	1,353,663	95.9

Source: The Role of Incentives for the promotion of Sustainable Natural Resources on District Level, Page 2 (Report No.: 00/005 GTZ-NRBZ-URT, Feb. 2000)

Of the total of 1,353,663 Ha of forested area, 333,000 Ha has a reserved status, i.e. either territorial or local government forest reserve or game controlled area. This leaves technically speaking a little bit more than 1,000,000 Ha of mainly woodland and bushland where technically speaking charcoal production could take place. However, from a commercial and sustainability point of view one can safely subtract another 600,000 ha, which are either not viable at the moment or where exploitative practises can not be changed anymore. This leaves around 400,000 ha that could be commercially exploited for charcoal production. Taking into consideration the variations in forest cover, preference for certain tree species and other demands for wood products, and as long as the production is managed and does not exceed a conservative M.A.I. of 0.3 M³/Ha/year, than it is in principle sustainable.

The above calculation would mean that if no more forested area would be converted into agricultural land, Handeni District would have 120,000 solid M³ of wood available for sustainable charcoal production or in other words would be able to produce around 600,000 bags per year without depleting the forest. The current production is estimated at between 350,000 to 400,000 bags per year.

Although the potential sustainable production figures are admittedly based on back of the envelope calculations they are not baseless and show that levels of charcoal production or the technical aspects of sustainability are not per definition the culprit. The fact that the current charcoal production levels are most probably sustainable on District level does not mean that current production levels in certain villages in Handeni District is sustainable. It is most likely that there are some villages along the Segera – Chalinze road where it is not. The reason for this is that uncontrolled production tends to concentrate in first instance in those areas most accessible to traders and hence where charcoal is cheapest to transport to the consumption areas.

On the whole, it is much more likely that the cost aspect or the lack of investments in the management system is the primary cause of the non-management and the subsequent non-sustainability of the current charcoal production and marketing system.

With the current Royalty Rate of Tshs 400/bag the production of 350,000 bags per year in Handeni should have netted a potential gross Revenue of Tshs 140,000,000, part of which is supposed to be reinvested in the same Handeni woodlands for management where the charcoal originated from. It is of course impossible, or rather uneconomical, to reach a 100% tax compliance rate but a 60% compliance rate or Tshs 84,000,000 should be attainable.

Although it is not known precisely how much is required to manage the forests on unreserved lands in a sustainable manner, it is highly doubtful whether that requires the full amount of Tshs 84,000,000 per year. But it is equally highly doubtful that this could be done for Tshs 9,000,000, which represents the aggregated Royalty Collection figure for charcoal in Handeni over a 12 months period during 2000/2001. In short sustainable charcoal production seems to be a profitable proposition.

Apart from making foresters available for management purposes, it is not known how much money for example the central Government is providing the foresters in Handeni to enable them to undertake their jobs in the most efficient and effective manner possible. What is known though that a Donor, NORAD, is contributing towards the management costs through the catchment forest project and that the foresters on the ground rightfully complain about the lack of means to carry out their tasks.

This seems a bit odd. If the management of these forests is such a profitable proposition and current system so destructive, as everybody says it is, and the above calculations seem to support this notion, then why has the Government not chosen to invest enough in this management? And why does it need a donor to financially assist the Government?

Management costs are not only monetary and the Central Government is not the only stakeholder that could have invested in a more controlled and better planned charcoal production system. Why did not for instance the producers invest labour and time in a more sustainable charcoal production system? After all, they would surely suffer when their source of income would dry up if they deplete the forest resource.

The same goes for the District Authorities. Also they would suffer when the forest would disappear, as it would deprive them from their Cess income (currently Tshs 400/bag or 100% of the Royalty Rate) And what about the traders? To haul the charcoal from ever-greater distances to the consumption areas surely is adding an additional cost which due to competition from other producing areas they can not fully pass on to consumers.

There can be only but one explanation for this seemingly contradictory situation of continuing with an exploitative production and marketing system that is less profitable than a system based on sustainable utilisation. The current system must be more profitable at least to some stakeholder groups than it looks like at face value. There must exist a number of valid reasons why the cost-benefit analysis of different stakeholders decides in favour of the current system. Because if not, they would have collectively chosen to change the system already long time ago.

2.2.1 Why producers never invested in sustainable charcoal production

The study found only a few “professional” charcoal producers, the vast majority of producers are subsistence farmers who produce charcoal if and when possible and required. This means that during the rainy season less charcoal is produced than in the dry season, as labour is required on the farms.

After a good harvest they are less inclined to produce charcoal during the dry season than after a bad harvest. Due to the labour fluctuations and other seasonal influences (road and weather conditions) and differences in production location producer prices fluctuate as well. They can be as low as Tshs 700 (bad harvest, dry season and hence many charcoal producers in a relative small demand area) to Tshs 1,500 (rain season and hence a few charcoal producers in a large demand area). An average producer price of Tshs 1,250/bag can be assumed (2000/2001 figures)

For subsistence farmers charcoal production is an integral part of their survival and poverty alleviation strategy. Although the numbers fluctuate and not everybody has to engage in charcoal production in a village it is for the vast majority of the subsistence farmers their only means of cash income. Figures varied but in those villages where charcoal production is commercially viable, after a bad year up to between 50% and 75% of the adult male population is engaged in charcoal production. Also a few women were said to be engaged in actual charcoal production.

Generally disliked, heavy and unhealthy work that brings them very little in monetary terms, it is nevertheless relatively risk free (constant demand for charcoal and known prices) and carries very few uncertainties. In months when labour is relatively available a farmer can produce between 15 and 18 bags/month or earn about Tshs 18,000, if no taxes are paid.

There exist a number of very good reasons as to why farmers have not invested in changing their current production system:

- Sustainable production is legal production. If they have to pay the Tshs 400 Royalty and Tshs 400 Cess it would push them even further into poverty. Although they know

that these duties have to be paid and that at the moment they are producing illegally, they are obliged to avoid them. (sometimes they are not lucky)

- In some cases it would mean that production has to be limited, which is not in line with poverty alleviation as far as the farmer is concerned
- They do not trust the Government, as it seems to them that government officials are only there to extract money from them rather than to help them. District Foresters, Ward Officers, Village Governments, Catchment Officers and Police, all could and sometimes are asking for money, legally or illegally. To pay tax and to get something back from the Government like schools, roads, security, etc. is one thing but to pay tax and get virtually nothing in return is quite another one.
- The number of officials, i.e. Catchment Forest Officers, District Foresters, Ward Officers, that seem to have an authoritative say in forest matters confuses them. There is no clear message. Moreover who says that the Government might not change its mind tomorrow and reverse certain policies? The credibility of the Government is rather low at the moment.
- Tree tenure is highly risky and very uncertain. This has in the final analysis not so much to do with the question who owns the trees or not but more with the question whether one can successfully defend his/her rights in case these rights are infringed upon. Security of Contract is at the moment very feeble.
- Due to the “open access” the financial price of an indigenous charcoal tree is virtually nil. Managing an asset that has no value does not seem make that much sense to a farmer. As indicated before management implies that cost have to be made. For the farmer it means spending time and effort and maybe even money into patrol & control, improved production techniques and so on. A farmer therefore needs to get a higher price for his produce. Current ex-farm prices are however based on an almost free tree due to the fact that virtually nobody pays tax. As farmers at the moment can not dictate prices a managed charcoal tree from a single farmer or a single village has to be sold for the price of a free tree. This means that the farmer who manages a charcoal tree is in effect subsidising his own tree. To argue that it will bring him benefits later on, is apart from the high risks and uncertainties involved (see previous arguments), a rather ludicrous proposition to a person who faces potential starvation and other disasters on an almost daily basis.
- The land underneath the trees is much more valuable than the trees itself. Forested areas on unreserved land are simply a land bank or savings account to be used if and when required. A hectare of maize is infinitely more worth than a hectare of charcoal (timber might compete). For a subsistence farmer the concept of a permanent natural woodland or forest estate is a rather alien idea, something that most non-farmers not seem to comprehend. Sustainable forest management based on the concept of a permanent or perpetual forest estate goes against this principle.
- There might even exist certain cultural disincentives to claim individual utilisation rights on charcoal trees. What certainly does exist is a certain aversion on the side of the individual producer to manage these natural trees on a communal or group basis. It is risky and uncertain as it involves all kinds of question regarding sharing of costs and benefits. The ultimate allegiance is towards the household rather than to the group or community but whether the producer is culturally, legally and politically allowed to undertake individual management is sometimes an open question.

All in all from a producers' point of view investing in sustainable charcoal production is under the prevailing circumstances a complete non-starter. Hence the decision to stick with the current exploitation system is rationale, profitable and the optimal way of producing charcoal.

2.2.2 Why traders never invested in marketing of sustainable charcoal

Traders consist in reality of three different groups of people, the producer-trader (bicycle operators with one to three bags at a time), local middlemen dealing in a few bags at a time, and the trader who deals in lorry loads. The Korogwe, Morogoro and Handeni town markets are almost exclusively supplied by the bicycle-trader. The Tanga and Dar Es Salaam markets, along the Segera – Chalinze road are mainly supplied by the big traders and local middlemen.

Unlike producers and the bicycle operator and local middlemen who have to minimise their risks and avoid uncertainties, traders try to maximise their profits and are prepared to take risks.

For the trader there is no doubt about the profitability of the current system. Having not to worry about investments in fixed assets, and operating in a relatively low entrance business, i.e. minimal capital and technical requirements, the virtually uncontrolled and mostly illegal production and marketing system is the ultimate capitalistic dream. The situation almost resembles the Holy Grail of the total free market where prices are only determined by the laws of supply and demand without too much government interference.

When asking traders about income and expenditures they always, like every good businessman, tend to overstate expenditures and underestimate their income and profits. Nevertheless, the following statements are a fair reflection of income and expenditure figures for a trader in for example Mkata, on the Chalinze – Segera Road. Figures are under the assumption that all taxes are paid. (Figures for March 2001)

Item	Income (Tshs/per bag)	Expenditure (Tshs/per bag)
Wholesale Price Dar (weighted seasonal average)	3,750	
Producer Price Handeni		1,000
Average Transport Price (fluctuations due to load capacity and seasonal transport demands but almost always hired by the trader)		1,000
Taxes (Tshs 400 Cess in Handeni, Tshs 400 Royalty in Handeni and Tshs 100 market levy in Dar)		900
Loading and off loading		200
Various other costs (Business licence and charcoal registration fees, income tax, travelling to Tanga for TP, organising production, buying of bags, boarding and lodging in Handeni, cost of non-repayment of advances to farmers, storage & selling cost, etc.)		350 ¹
Income		300

¹ This figure is a very rough estimate based on a fictitious trader from Dar Es Salaam whose turnover is 4,000 bags per year and stays 6 months/year in the production area to organise his trade. The licence and registration fees are already Tshs 35/bag. Travelling to and from Dar Es Salaam, staying in the Handeni area, going to Tanga for the Transport Permit, will approximately cost him Tshs 150/bag. Buying of bags, storage & selling cost in Dar, for example night watchmen, family members engaged in selling would add another Tshs 100/bag. With other miscellaneous expenses like income tax it all adds up to Tshs 350/bag. But if no fees and licences are being paid, income tax avoided and no storage is required, the figure of Tshs 350/bag will be lower.

If a trader manages to supply the Dar market with two 7-tonnes lorries per month (150 to 180/bags per lorry) the average monthly income is in the region of Tshs 100,000/month. It is certainly more than what a District Forest Officer earns but it is not such a big reward for the risks taken and time and effort spent. The classic picture of a trader who makes huge profits and who cheats farmers out of a good price is far from true. You do not become rich in dealing in charcoal.

What makes charcoal dealing extra attractive is that the above calculations are based on the assumption that the traders pays all the taxes. As indicated earlier on this is far from being the case. When their confidence was gained during discussions, traders interviewed in Handeni and Tanga openly admitted that in the absence of efficient control in the production areas, payments of Royalty and Cess has become in principle a voluntary tax. And even if they are unlucky to bump into control (like on the way to Dar at checkpoints) you can as one of them said, "negotiate your way through".

Through the absence of efficient control and collusion between trader and controller, the trader is able to lower his Cess & Royalty obligations considerably, from Tshs 900 to maybe as low as Tshs 300. (This includes the necessary collusion fees) Therefore if the trader in the above example is lucky he might be able to raise his income from Tshs 100,000 to Tshs 300,000 per month.

It is not a matter of passive avoidance of tax but an active one. The stories of foresters and traders alike are always similar and the Cess, Royalty and production figures corroborate these stories. The most often heard stories are:

- Loading at night and taking back roads to avoid detection
- Using Exchequer Receipt Vouchers (ERV) multiple times
- Obtaining Transit Passes (TPs) in Kibaha for Handeni Charcoal
- Carrying more bags than the ERV and TP states
- Offering and soliciting of bribes (depends who tells the story, the trader says it is soliciting, the other party claims it is offering), etc.

The trader claims that he is almost forced to avoid the taxes, as they are too high. But unlike with the producer who can not pay and is indeed forced to avoid payments, this argument has to be discarded. It is the maximisation of profit principle that makes the trader to automatically exploit the weaknesses in the system. You would be a bad businessman not to exploit it as paying taxes, whilst the others are not, makes your charcoal rather expensive and creates unfair competition through your own doing. One trader said that if he had to pay taxes, i.e. unlucky enough to get caught in Handeni, he was forced to sell his charcoal in the retail market, which has a higher margin, to recoup the extra costs. The drawback was that it took longer to sell and hence he was not able to return to Handeni as quickly as under normal circumstances. One way or the other it disturbs normal business practices but it is apparently accepted as part of the game.

The practice of tax avoidance on charcoal is so ingrained and widespread that a trader looks upon tax payments as an additional, and to a certain extent abnormal and unforeseen cost. Under these circumstances the idea of engaging themselves in marketing of sustainable charcoal and hence dealing in legal charcoal is from the traders' point of view a rather ludicrous proposition. Introduction of sustainable charcoal production and marketing means for a trader simply a tax increase (they consider paying a bribe to a civil servant as "indirect" taxation). Unless the trader can pass on such a tax

increase to the consumer or the current trade is being made much more unprofitable through effective control, the trader will continue to follow the most profitable, i.e. current system.

2.2.3 And why is the State not investing in sustainable charcoal?

The financial cost - benefit analysis for the State or Public Sector of the current charcoal system is seemingly beyond any doubt negative. The Public Sector is loosing enormous amounts of money and on top of that the forest estate in Handeni District (and elsewhere in Tanzania) is disappearing.

The Public Sector clearly wants to see a change in the current charcoal production and marketing system. Laws, rules and regulations are regularly updated to try to tighten the system and the policy changes over the last 5 years are certainly geared towards trying to achieve the goal of sustainable forest management, including sustainable charcoal production. So what inhibits the Public Sector from translating paper policies, laws, rules and regulations effectively and efficiently into reality?

Lack of funds is normally the first and most important reason that is being mentioned for the inability of Districts and FBD to implement laws and policies effectively and efficiently. But if it is a stated policy goal and if sustainable charcoal production and marketing is such a seemingly profitable proposition, then why does the State not make these funds available to the Districts and FBD to invest in sustainable charcoal. Why are donor funds required if as it seems the required investments are not big and are well within the reach of a District like Handeni? What is wrong?

1. Collusion between private sector and individual civil servants

Collusion, i.e. soliciting and accepting bribes for not enforcing laws, rules and regulations, severely undermines the efficient and effective implementation of the intentions of the Public Sector. It is certainly not the most important cause nor does it mean that each and every official dealing with the charcoal production and marketing is as they say "on the take". But it only takes a small number of individuals to render the system inefficient and ineffective. To a certain extent it is the Public Sector itself that causes this collusion to take place. Within the civil service bad behaviour is rarely punished and good behaviour is rarely rewarded. Confronted with low salaries, adverse working circumstances, few incentives and weak internal monitoring and evaluation, the temptation for an individual civil servant to succumb to collusion practises is very real.

2. Taxation, sharing and compliance

Faced with a problem of shortage of income due to the low compliance rate the Forest and Beekeeping Division (FBD) has opted for an increase of the level of Royalties rather than broaden its tax base (a higher compliance rate). A difference in opinion between Handeni District and FBD about sharing the little that was levied made Handeni District decide to raise the Cess on charcoal and timber to 100% of the Royalty rate. More than doubling the combined taxes compared to March 2000 has increased the overall tax (Royalty & Cess) but pushed the compliance rate down (and the collusion up) as traders in Handeni have to compete in Dar Es Salaam and

Tanga with cheaper charcoal from other Regions. In a situation where the State is in a rather weak position, and that is certainly the case in a huge district like Handeni, raising taxes is a self-defeating exercise and counter productive.

3. Inefficient Collection and Monitoring System

Both the Cess and Royalty Collection System are cumbersome and too much open to abuse. Moreover, Royalties have to be passed on to Treasury before a percentage is returned to FBD Dar Es Salaam, who in turn passes a certain percentage to the Regional Representatives, who divides it again among the Districts, if ever. This system is a bone of contention for many of the stakeholders involved in the forest sector and the source of many conflicts.

4. Public Sector assuming sole responsibility for development

Although it is changing, the Public Sector still assumes in many instances that it is the sole responsible institution for development. Imposing taxes without real consultation and patrol, control solely carried out by civil servants, etc. The limitations of this attitude are being recognised and efforts to change are being initiated. The consequences of 30 years of top-down implementation, and frequent, not always consistent policy changes that were not always beneficial to the people, are still being felt within the private sector. The attitude of producers and traders alike in Handeni for example towards foresters and other relevant civil servants ranges from wariness to caution and distrust and from avoidance to sometimes open hostility. (Not on a personal level though) Soliciting payments, legal or illegal, from charcoal producers that simply can not pay is not helping the necessary attitude change among the private sector.

5. Subsidisation dilemma

As indicated earlier on the Public Sector can pay for the sustainable management of a bag of charcoal in a number of ways. One is to tax the charcoal producer or trader and allow them to pass the tax, partially or wholly, on to the consumer. Another one is to pay for the management cost through general non-forest taxes. Whichever tax system is opted for in the end life becomes more expensive for the average Tanzanian as they are asked, directly or indirectly to invest in the future production of charcoal. But can consumers really afford price increases? Politically speaking it is a very dicey proposition and it is much cheaper and safer to simply transfer the cost of the present charcoal production (soil erosion, etc., etc.) for future generations (and donors) to pay.

There is another even more far-reaching consequence than increased cost to consumers. Sustainable forest management (and charcoal production and marketing) implicitly means that the permanent conversion of the forest estate into agricultural and livestock areas will have to be stopped. This would in turn force the agricultural sector to modernise through an increase of yields/Ha and this again would have major and profound social, economic, political, cultural and financial implications.

The crucial question is can Tanzania or Handeni District at this point of its development really afford to introduce sustainable charcoal production on a large scale? Nobody has ever done research into the real cost of sustainable forest management, only the (gross) benefits are being highlighted. But the answer to that question is most probably not. There are for example in Handeni villages where the

forced introduction of sustainable charcoal production and marketing would certainly have disastrous consequences for the farmers involved. It has therefore to be accepted that these villages should be allowed to continue with what they are doing. A gradual introduction or an introduction in certain villages is most probably indeed possible and an attempt will be offered in Section 2.

All these reasons together and especially the last one, provide an answer to the question as to why the Public Sector is not supplying the relevant institutions with more inputs although management of these production forests seems to give net benefits, environmental as well as financial. Although it might be a profitable proposition for the forestry sector and the sector might even become a net contributor to the Treasury, the overall costs to society might be too high for Tanzania at this point of its development. Moreover there are other sectors, health, education, etc. which have a higher priority than forests and their sustainable management. Instead of the forestry sector being able to charge society the real price for its efforts, it is used instead to subsidise other sectors. (Cheap energy, land, timber, water, electricity, etc., etc.)

And even if Tanzania had the resources to invest at the moment, all the other factors makes that the forestry sector will not realise its full potential. Drastic changes need to be introduced to overcome these problems.

2.2.4 The current thinking about change

The current thinking about change moves strongly into the direction of community involvement in the management and even privatisation of part of the forest estate (plantations).

Relevant for the charcoal production and marketing on public and village lands are the ideas of setting aside village forest land as village land forest reserves if and when the village is willing to do so and hand over control and management and Royalty Collection to the villagers. In doing so they will be able to benefit directly from the proceeds from Royalty Collection by retaining part of it themselves.

There are however a number of questions and inherent weaknesses in these proposals:

- The trade is not involved. As long if it is not part and parcel of proposals for management they remain outsiders and they will certainly probe for weak spots to exploit. And any system has its weak spots.
- Transferring control has to mean offering security of contract. Giving villagers the control without the means to defend themselves against infringements of their legal rights by third parties, including the Village, District and national Authorities makes it an extremely risky proposition for the villagers. How can security of contract be strengthened?
- Transferring management responsibilities to villagers means an additional cost. How do they recoup them? Higher prices for charcoal?
- Compared to the current situation the sharing of Royalties between FBD and the village is putting yet another additional cost which they do not have at the moment

as the vast majority of the production is illegal and therefore not taxed. Why should villagers tax themselves?

- The current collusion between trade and foresters will multiply tremendously. As there is no incentive for villagers to tax themselves and no reason to believe that village officials are less inclined to collude than other levels of the public sector the Consultant is of the opinion that the compliance rates will even drop further. Apart from the collusion factor village officials are even more prone to pressures from their own people not to tax than the other levels. Who is supposed to monitor and control village tax collectors?
- What is the role of the District? Will they continue to try to levy a separate Cess on production level? Given the current thinking and attitude this might well be the case and would certainly have disastrous consequences. Who ensures that the district is not going to use charcoal (and timber) production as the proverbial milking cow
- What about the so-called reserved trees? Who owns them?
- What about the forested areas in villages who do not wish to establish village land forest reserves but want to continue what they are doing right now with the forest? It would not be surprising if more than 90% of all the villages in Tanzania would not opt for a forest reserve on village land. Why should they?
- Who trains villagers in the management techniques?

There are not only many questions and inherent weaknesses in the current thinking but most important of all is that the thinking is based on the wrong footing. The thinking assumes that once the new laws, policies and approaches are in place and people have been sufficiently made aware that they will automatically change to a more sustainable charcoal production and marketing system. But sustainable charcoal production and marketing is just an idea, nothing more and nothing less and changing the rules and policies does not necessarily mean that people are going to buy the idea.² The idea needs to be sold.

2.2.5 Sustainable Charcoal production and Marketing needs to be sold

Whatever the technical content or definition of sustainable charcoal production, the bottom line is that the change from the current charcoal production system to a new production system is based on a change in attitude and ultimately human behaviour. Primary stakeholder groups, i.e. producers, traders and consumers, have to change their production and consumption patterns and techniques and attitude towards charcoal in particular and energy use in general.

² Sustainable forest management, of which sustainable charcoal production is one of the elements, is in terms of development neither an absolute truth nor the only alternative. Clearing the majority of the natural woodlands and ultimately replacing parts of these woodlands with privately owned planted trees is as much a development as sustainable forest management. That the stakeholder groups in favour of sustainable forest management consider clearance of these woodlands a disastrous or negative development and hence think that their ideas are the only way forward is neither here nor there. Sustainable forest management remains an idea, and only one of the possible development avenues.

The reason why these primary stakeholder groups have to change is rather simple. It is the State or Administration of Tanzania, in conjunction with the donor community and other secondary stakeholder groups that wishes them to do so. This wish to change derives from the fact that these secondary stakeholder groups deem the current charcoal production system extremely detrimental to the existing forest estate in particular and the national and global environment in general. Although it is being scientifically justified as a necessary change or development and the only viable solution to the problems connected with the existing production system, it remains for the time being merely an idea from a few stakeholder groups.

From the point of view of the State or Administration introducing the idea of sustainable charcoal production and marketing means nothing more than *the nebulous affair of trying to guide and thus anticipate human behaviour.*

An Administration that is faced with the question how to change or guide people's attitude and behaviour in such a way that the proposed changes in the charcoal production system will be taken up by the primary stakeholders, i.e. producers, traders and consumers alike, has basically two options.

The first one is to force people to change their attitude and behaviour or management by control. The second one is to try to convince the people with valid arguments that the new charcoal production system is better than the current charcoal production system or management by consent. Which option to choose depends on how weak or strong the Administration is.

A major indicator of how weak or strong an Administration is, is the degree to which the Administration can force the majority of people to pay tax. In order to have efficient and effective management of scarce resources or public assets like security, water, health, forests, etc., an Administration requires income or payments from the private to the public sector, i.e. taxes. If it is not in a position to solicit these taxes from its citizens than the efficient and effective management of these scarce resources or public assets becomes virtually impossible and hence development in whichever definition used will be extremely difficult to initiate.

If the State or Administration is strong it could get away with forcing people to change their behaviour to a certain extent and for some time. Changes will take place. There are numerous examples in history were the State forced people to change and hence development took place. Africa during the colonial period is but one of the many examples. Another example is the Soviet Union. But in the end even the strongest State is not in a position to plan and determine people's behaviour. At some point even a strong State has to involve its people in the debate about which changes are "good" and which are "bad", or in other words how the future of a country should look like.

A weak Administration on the other hand can never force its own people to adopt ideas, goals and objectives they do not see the relevance of it or worse do not agree to. Tanzania is a country where the Administration is weak.³

The people in Tanzania are able to simply ignore to a greater extent most of the things the Administration wants or does or in other words are virtually not accountable anymore to its own Government. The Administration needs the people to survive but the people hardly need the Administration to survive. In such a situation the Administration has to rely on people's participation. In Tanzania people's participation is a pre-condition for any change and hence development to take place. If Tanzania wishes to change the current charcoal production system it can only do so through a participatory process.

The dictionary definition of "participation" is to "have a share in, or take a part in." This definition implies three things:

- Participation demands that a responsibility is taken and that accountability exists.
- Participation is always a two way responsibility and accountability
- Participation is an investment in terms of time, labour and sometimes money and as with any investment benefits are expected. Not only that the benefits should accrue to the investor but also that the expected benefits surpass the cost. Furthermore the investor requires security of contract. This means that the investor is allowed to defend the legal investment against any infringement of third parties, even the Administration.⁴

Participation can never be guaranteed nor be forced upon. One can at best promote participation, i.e. trying to design an intervention in such a way that it will influence people's decision to participate (invest, take responsibility and be accountable) or not. In

³ Tanzania is not in a position to force the majority of the people to pay tax. Its tax base is extremely small and covers mainly the formal, urban based, salaried economic sector. More than 90% of the people in Tanzania are either not covered and/or avoid paying many of the taxes they are supposed to pay. Two examples highlight this problem. It is estimated that the Forest and Bee Keeping Division (FBD) can not collect 95% of the Royalties on forest products and usage. It was estimated in 1996 that FBD lost approximately US\$ 50 million in Royalties not collected. (H. Buys & S. Mariki, Royalty Collection & Monitoring, 1997). It was estimated that Mwanza City Council in 1999 only managed to collect 17% of all the City Levies. (Danish Embassy, 2000)

A weak internal organisational structure of the Administration that has given rise to mismanagement, embezzlement and corruption of the few taxes collected are compounding the lack of money. As a result the management of scarce resources or public assets is extremely inefficient and ineffective and hence is seriously hampering development, in whichever definition used.

⁴ Security of Contract is closely linked to the issue of the credibility of the Administration. How secure are property rights vis-à-vis the Courts of Law and Government Policies. Will the Government stick to its promises? Are courts really impartial? Can contracts be enforced? Given the past track record of the Administration in Tanzania the credibility of the Administration amongst its own people is still rather low and security of contract rather weak. Moreover the profitable disposal of the benefits of investments by private sector was a problematic issue, especially before 1990. When people want to judge what the Government intends to do in future they base such a judgement on past experiences. If these past experiences were negative, they would not for some time believe what is being said. Only if the Government implements a policy in a consistent manner for some time will people believe it and subsequently start changing their behaviour. This is called people's "rationale expectations" and one of the economic theories (developed by Lucas, for which he received the Nobel Price in 1996) that form the corner stone of many Governments' economic and financial policies.

the long-run beneficiaries will participate only if it is in their best interest to do so. If people do not participate it simply means that it is not beneficial to them.

One can summarise the above as follows:

Sustainable charcoal production and marketing is an idea that, as far as the Administration and some other stakeholders is concerned, has more net benefits for them than the current charcoal production and marketing. Subsequently they want the primary stakeholders in this production and marketing process to change their attitude and behaviour. But the Administration is not in a position to force these primary stakeholders to change by introducing a more enabling legal framework and/or to rely on management by control. It can only be done through a genuine participatory process that is aimed at selling the idea to the primary producers as they hold the ultimate power to accept or reject the idea, whether it is Law or not. How to sell the idea is the subject of Section 2.

SECTION 2

**A PROPOSAL
FOR A
SUSTAINABLE CHARCOAL PRODUCTION AND MARKETING SYSTEM
IN
HANDENI DISTRICT**

3. PRECONDITIONS FOR SELLING THE IDEA

Before starting the process of selling the idea of sustainable charcoal production and marketing to primary stakeholder groups, FBD and Handeni District Council need to realise a number of implications of and preconditions for the “selling process”.

1. FBD and the Handeni District Council, being representative institutions of the Administration, need to be prepared to genuinely discuss and negotiate with producers and traders their ideas about changing the current charcoal production and marketing system.

As argued in the previous Chapters FBD and the Handeni District Council are, as far as charcoal on public and village land is concerned, simply not in a position to demand anything from traders and producers based on the notion of management by control. Both institutions have to realise that they have virtually no control at present and hence have no real power to force traders and producers to do what the two institutions want them to do. Whereas the de jure power lies with FBD and Handeni District Council, de facto power lies with the producers and traders. Subsequently FBD and Handeni District Council are forced to discuss and negotiate from a position of weakness.

This weak position means amongst others that they have to be prepared to discuss and negotiate about taxation (Cess and Royalty) levels and an appropriate tax system. To insist that producers and/or traders have to follow the current system and have to pay the current taxes, or in other words make taxation a non-negotiable issue, is a folly.⁵

It also means that the idea of Royalty “sharing” between FBD and producers/traders should not be entertained and enter the discussions and negotiations as a proposal. FBD and Handeni District Council have to accept the fact that in a situation where 98% of the charcoal is not being taxed, a “sharing” proposal is nothing else than adding a cost to producers and/or traders they do not have at the moment. Why should anybody voluntarily agree to an additional production cost? This does not mean that producers and/or traders should not pay tax. They should pay for a variety of reasons but FBD and Handeni District Council have to make crystal clear what producers and/or traders get in return for paying an agreed upon tax on charcoal.

⁵

A folly can be defined as: “the pursuit of a policy by the Government contrary to its own interest”. A folly is a self-deception and based on wooden-headedness. It consists in assessing a situation in terms of preconceived fixed notions while ignoring or rejecting contrary signs. It is acting according to wish while not allowing oneself to be deflected by the facts. (Barbara W. Tuchman, *The March of Folly*, 1984, page 5) The current policy regarding Royalty Collection and Monitoring is an extreme good example of a folly. To continue with it is even a greater folly. FBD and Handeni District Council have to face the facts or rather reality and change their preconceived fixed notion that people will pay Royalty and Cess just because there exists a (by)law or that people will engage in sustainable charcoal production and marketing just because the policy and Law says so.

2. At present the already weak position of FBD and Handeni District Council is further eroded by the fact that they do not act in unison. Producers and traders exploit the fact that the Catchment Forest Office and the District Natural Resource Office, under which the District Forest Officer resorts, hardly collaborate with each other and squabble over who is the ultimate responsible institution to collect Royalties. If FBD and Handeni District Council are to successfully discuss and negotiate over the introduction of sustainable charcoal production and marketing with the primary stakeholders, they first and foremost have to settle their own differences and agree on a common position.
3. The other issue that erodes the position of FBD and Handeni District Council vis-à-vis traders and producers even further is corruption. Although no hard legal evidence exists, every trader and producer admits that soliciting and accepting bribes is a known and integral feature of the current charcoal production and marketing system in Handeni District. Whatever the two institutions want to do or change is being rendered rather ineffective by corruption, even if it only involves a few and a tiny minority of the civil servants. As long as corruption is not dealt with efficiently and effectively, traders and producers will be able to exploit every single weakness in whichever rule, regulation or law and their implementation to their own advantage and at a loss to the Government.
4. Sustainable charcoal production is in principle controlled or legal production and Royalty and Cess compliance rates are merely an instrument to measure how much of the production is legal. But sustainable charcoal production and marketing does not mean maximisation of Royalties and Cess or tax payments. Maximisation of tax payments and sustainable management are in principle not compatible. Tax should be used as an instrument to promote positive behaviour (sustainable production) and punish bad behaviour (unsustainable production). Tax is a means to achieve an end, not an end itself.
5. The discussions and negotiations have to centre on the financial cost-benefit of the current system versus the financial cost-benefit of the new system. This requires the recognition by FBD and Handeni District Council that the current charcoal production and marketing system has its merits for producers, traders and consumers and, as the charcoal study has shown, is profitable for them. If they are to convince the traders and producers that sustainable charcoal production is a better system than the present one, than it is up to FBD and Handeni District Council to show that the new system is at least equally profitable in the short and medium term. This requires that FBD and Handeni District Council have to table realistic and concrete, measurable and verifiable cost and benefits of the new system. Arguments like "that it is better for the environment" or "cutting the forests makes you poorer in the end" or "the current system promotes soil erosion, shortages of water", etc. should not be used. These arguments are too vague, the likely consequences too far away in the future and present a doomsday scenario that is not only questionable but hardly a good basis for a positive dialogue.
6. The selling argument of the new idea is to be based on short-term and medium-term poverty alleviation not on long-term environmental benefits. And poverty alleviation arguments require very concrete facts and figures and need to be very transparent. Traders and producers are rational human beings and do know intuitively that to manage a forest, which they are not doing right now will bring additional cost. FBD

and Handeni District Council will have to present them with answers to the following questions:

- What does sustainable forest management entail in terms of techniques and what are the cost in terms of time, labour and money for the producers and traders? (Amongst others for example paying an agreed upon tax (Cess + Royalties) and possibly limiting production to a sustainable harvesting level).
 - Who has to pay for what, when, how and where?
 - What exactly are the concrete benefits for producers and traders (Amongst others for example higher producer prices) To who do these benefits accrue, where, when and how?
 - What are the risks and uncertainties involved? In other words what guarantees does FBD and Handeni District Council offer in terms of security of contract?
 - What will be the responsibility and rights of traders, producers, FBD and Handeni District Council under a sustainable charcoal production and marketing agreement? Can they be legally enforced? What is the role of the Ward and Village Government?
7. Apart from providing answers to these questions FBD and Handeni District Council have to provide traders and producers with the relevant legal information: what does the current forest policy and Forest Ordinance say regarding tree cutting of reserved and unreserved trees and charcoal production on unreserved lands? What is the current land policy and Land Act saying? What is the legal power of the District and FBD vis-à-vis each other and the private sector? What is the legal power of the private sector vis-à-vis the public sector? It does not suffice to merely translate relevant laws, rules and regulations into Kiswahili, people need to be properly educated through an awareness campaign that should partially precede the discussion and negotiation process.
8. The issue of the forest management plan warrants a separate remark. It is a folly to insist on the classical or traditional management plan development approach. These traditional management plans are either geared towards timber production or conservation management. Both forms of management have a relative high added value per Hectare and require a relative high level of technical expertise. But woodlands for charcoal production have a very low added value and villagers do not have and need a high level of knowledge and expertise to manage a piece of forest for sustainable charcoal production.⁶

Lastly, traditional forest management plans are implicitly based on the notion of a permanent forest estate, and for that matter almost always involves reserved land. The notion of the permanent forest estate for charcoal production on public and village lands by local community members who do not have the concept of a

⁶ A typical Hectare of Woodland with an M.A.I. of 2 M³ available for charcoal production would bring a producer in Handeni a gross profit, excluding labour cost, of between Tshs 10,000 and Tshs 15,000 per annum. To spend that same amount or even more per Hectare on aerial photography, classic inventory, boundary clearing, enrichment planting, patrol and control, etc., etc. makes clearly no sense. The fact that the economic value of such a Hectare is normally calculated at 20 times or more the financial value and therefore should justify these classic management activities is a very weak argument. Economic value is a book value, the value of the management cost are financial and real and have to be paid up front. To do it by the book means simply that sustainable charcoal production will have to be financially subsidised. Who wants to do that?

permanent forest estate is bound to be troublesome. Rural communities have always treated forested areas as a “land bank” not as a forest as such. Utilising this land bank includes changing its land use if and when required.⁷ Management plans for charcoal production need to be extremely simple and flexible and cheap and quick to produce and have to take into consideration the existing and future demands for agriculture and livestock development. (See Annex 2 for an example)

9. The idea that under the new proposed Forest Act the handing over of forests on public lands to local communities would enable the introduction of sustainable charcoal production and marketing, is seriously flawed and should not be used as an argument or “carrot” during the discussions and negotiations.

First of all the local “community” does not exist. It is a grouping of individual households that will collaborate with each other on a temporary basis if and when this collaboration is beneficial to the household. The ultimate allegiance is to the household and not to the community. To base interventions on a very fluid organisation that is rife with infighting, back stabbing and all other human shortcomings has severe deficiencies. To manage a natural resources asset communally has proven to be a nightmare in many places and something community members do not like for obvious reasons.

Secondly, to have the Village Government control such forests on behalf of its people does not work either. The Village Governments display the same weaknesses as the District and National Government. Insufficient transparency, accountability and credibility make people in many villages very suspicious of Village Governments and reluctant to “participate”.

Thirdly, handing over control of a public asset or scarce resource from a public sector manager to what basically is a private sector manager (the “community”) is bound to create problems. The public sector manager has a more long-term national economic outlook whilst the private sector manager has a more short-term individual/household financial outlook. And these differences in outlook are bound to clash.⁸

⁷ Even if a forested area would be converted into agriculture and grazing areas in let us say 10 years time, sustainable charcoal production can still be practised during the interim period and has its value. Unlike the current system the sustainable production and marketing system will add an absolute value to trees (which they do not have right now) and a relative value to the land underneath. In other words sustainable charcoal production will introduce a real cost factor to the conversion process in 10 years time and maybe to such an extent that natural woodland farming becomes more profitable than maize farming. But as this is not known one should not insist at present on natural woodland farming in perpetuity. The option should be kept open. This reasoning might be difficult for a forester to accept but is part of the necessary attitude change of foresters if they want to sell their idea of sustainable charcoal production.

⁸ The best example is the United States Bureau of Land Management that is mandated “to manage public land (i.e. unreserved land) on behalf of the American people for maximum profits in perpetuity.” (Article 1) Especially in the Mid West where the Bureau leases most of these public lands out to cattle and sheep farmers, conflicts over management rules between farmers and the Bureau are widespread. These conflicts centre on individual short-term financial profits of farmers versus the maximum profits in perpetuity for the Nation as a whole. Farmers claim that the management rules of the Bureau are too costly and hence are not profitable for them. Environmental lobby groups claim that the Bureau’s rules and regulations are harming the national benefits in perpetuity.

Moreover, the reality on the ground at the moment is that local communities are treating these forests on public and village lands already with a private sector management outlook. Whatever the current or future legal status of these forests might be has had little or no bearing on what they have been doing so far or what they will do with these forests in future. Handing over control to villages will merely legalise or rather confirm an already existing practice and in fact reinforce this private sector outlook rather than weaken it.

The management of such an asset should be given to a (legal) association of some community members that have common interests. They should be answerable to the community as a whole through clearly defined management conditions. And if FBD and Handeni District Council want to sell the idea of sustainable charcoal production in these village forests it should use private sector arguments and not public sector arguments. The role FBD and Handeni District Council have to play is that of advisors that have to accept the fact that their Clients, the “communities”, can take their advice or simply leave it.

10. Even if an agreement is going to be reached between all parties, FBD and Handeni District Council should not expect sustainable production and marketing to start right from the day the agreement is implemented. The introduction of sustainable charcoal production and marketing is a process and will take time, even if management plans and other means or instruments are in place. As argued before changing the system constitutes in the final analysis a change of attitude and ultimately behaviour. And that does not happen overnight.

4. THE PROCESS OF SELLING THE IDEA

Selling the idea of sustainable charcoal production and marketing to customers (“beneficiaries” in development speak) who are suspicious and shrewd and, especially charcoal producers, who are not in a position to experiment and want to minimise risks and avoid uncertainties, requires a careful approach. The selling or discussion and negotiation process consists of a number of logical steps that could take up to a year or more and success can not be guaranteed beforehand. Nevertheless it needs to be tried. The following steps in the process are anticipated.

Step 1: The preparations

FBD (Catchment Forest Project) and Handeni District Council have to settle their differences and agree upon a unified tax (Cess and Royalty) collection & monitoring system and how to collaborate effectively and efficiently in future. Furthermore both parties have to agree on a common stance and approach during the discussions and negotiations and investigate ways and means how to tackle corruption in their own ranks. Lastly and perhaps most importantly both public sector institutions have to evaluate for themselves whether they really want to enter into genuine discussions and negotiations or not.

Step 2: Informing the General Public

After having settled their differences, wanting to enter the negotiation process and having agreed upon a common stance, the Public Sector “Party” designs and distributes information leaflets in all villages along the Segera – Chalinze road. These information leaflets should contain a brief summary of the “Idea” and an invitation for a round table workshop or conference with village government representatives, producers and traders. The maximum number of people attending should 30, with the majority coming from the traders and producers. The location for this conference should not be in Handeni town but in one of the more centrally located villages along the Segera – Chalinze road. This dissemination process should take at least one month, preferably two, as people have to be given the time to read, discuss and digest the information.

Step 3: A preparatory Conference

During the conference the Public Sector “Party” will outline the aim of the discussion and negotiation process and will distribute the first part of the Proposal, which should have been translated into Kiswahili, contained in the Debriefing Note hereafter. For producers and traders to be eligible to take part in the discussions and negotiations two pre-conditions have to be put forward:

- Traders have to register a traders association with Handeni District Council. The maximum numbers of traders allowed to operate in the villages along the highway is put at 20 or 30. The District will announce that non-registered traders (non-association members) will not be allowed to operate anymore in Handeni in the near future⁹
- Charcoal producers have to organise themselves in village production associations with flexible membership conditions.¹⁰ Only the representatives of the traders and different producer associations will be invited for the actual negotiation process.

To make sure that what has been discussed during the conference will reach the majority of the ordinary villagers along the Highway, the Public Sector “party” will have to produce and distribute pamphlets, including legal information, and apply other extension

⁹ Forming a Traders Association with exclusive trading rights has several advantages, both for the public sector as for the traders themselves. For traders it means that they can monopolise the trade and keep unwanted and unfair competition out. For the public sector it means a much better grip on the trade side. Such a move however requires most probably a new District Council bylaw.

¹⁰ These Associations should not be registered under the Co-operative Act as (pre)co-operative groups but as business Associations under the Business & Company Act. It is much faster, can be done by any Lawyer and creates a solid legal entity that can enter into contracts, be sued if necessary, etc., etc.

The Production Associations are not meant to promote co-operation among producers. It has been tried before and failed for a variety of reasons. The aim of forming these Production Associations is more to create a legal entity that will be allowed to monopolise charcoal production within a designated area and could sue and be sued for breach of Contract. Whether the Association is disorganised or not does not matter, if it fails to adhere to the rules of the game the Contract can be nullified and the production rights go to another Association.

and awareness techniques.¹¹

An independent or impartial moderator assisted by a facilitator should head the conference. These two people should continue to play the same roles during the subsequent negotiation and discussion process.

Step 4: The Discussions can begin

FBD, The Council and representatives of Village Governments and the newly formed producers and traders Associations will gather again this time in Handeni to discuss the analysis of the current trade based on the first segment of the Debriefing Note. The aim is to see whether the Consultant has indeed covered all the relevant points of the current system, for example whether the figures mentioned on page 10 are correct, and for the participants to get to know each other. At the end of this meeting, which could last two days, the participants have to agree on a joint document that contains the agreed upon analysis, the problems, weaknesses and strengths, of the current system. Only after having passed the joint document, the actual proposal for the new system should be handed out for discussions during follow-up meetings.

The local representatives are obliged to keep their constituents informed and FBD and Council employees should monitor this information process.¹²

Step 5: the long road ahead

With the actual proposal discussed with their respective constituencies the meeting reconvenes and starts trying to hammer out an agreement for a new more sustainable charcoal production and marketing system. This might take 5 meetings, 10 or even 20 and could last for three months, eight or twelve, nobody can tell. It might end up in an agreement or not. Some villages might opt out and others continue.

During this process it might be necessary to conduct further field investigations into the total forested area in a village, M.A.I. estimates, and other necessary information. These investigations should take an appraisal approach; “quick and dirty” and based on the premise that you have to know what you do not have to know.

¹¹ The importance of disseminating information to all people concerned can not be stressed enough. Development projects and Government Institutions have an in-build tendency to marginalise the downward information flow and at best give some information to Village Governments and/or special “development” committees. But they in turn hardly ever inform the people in a proper manner, if at all. How can people make a decision to participate or not if they do not even know the basics? Saying yes and voting no with their feet is one of the results of a bad information flow.

¹² The District Council should empower one or two of its employees to negotiate on behalf of the Council. The same applies to FBD. These negotiators are obliged to report back at regular intervals to FBD Dar Es Salaam and the full Council Meeting as the negotiation process has to have the political backing of the responsible institutions at all time.

5. THE PROPOSAL & HOW IT WORKS

5.1 The Proposal

To start with there are many ways to translate theory into practice and the proposal presented here is neither the ultimate nor the only right one. But whichever idea is proposed there are a number of “golden rules” that any proposal for the introduction of sustainable charcoal production and marketing in Handeni has to adhere to. These are:

- Adding a financial value to trees on public and village lands
- Raising the producer price for sustainable charcoal
- Minimising collusion, corruption and general avoidance of agreed upon rules and regulations.
- Sustainable production and marketing is basically a voluntary issue.

The proposal is as follow:

- Except for the special Handeni Charcoal Bag and the combined Cess and Royalty tax payments (see below) the proposed system and all its components does not apply to Local Authority and Territorial Forest Reserves. All the other elements of the system should be piloted in all villages bordering the Segera – Chalinze road.
- The agreement reached should be in the form of a legal contract between private sector (traders and producers) and public sector (national, district, ward and village) that gives explicit provisions for legal redress in case of non-compliance or infringements of rights. These provisions could be relevant existing Rules and Regulations, By-laws and any other new provision deemed necessary.
- For ease of administering the tax collection the Royalties and Cess should be amalgamated into one payment. The level of the combined Royalty and Cess collection should not exceed Tshs 500 per bag of charcoal. Whatever part of the Tshs 500 is designated as Cess or Royalty and whether Royalties should be shared between the District and FBD is subject to negotiations and agreement between the two partners. The combined Royalty and Cess tax is only to be levied at the level of the traders on behalf of producers.
- For ease of administering tax collection and monitoring a special charcoal bag is to be introduced, called the “Handeni Charcoal Bag”. Traders have to buy these bags for Tshs 500 + cost of the bag. Upon buying the required number of bags the trader receives the ERV and TPs with the right to use these bags for a month. Charcoal that is found in any other bag in Handeni District is automatically illegal.
- The sale to traders of the “Handeni Charcoal Bag” and the monitoring of the use of illegal bags is to be tendered out by FBD and Handeni District Council to a reputable private sector company on an annual basis. The company also has the right to issue the Transport Permit and retain the proceeds of confiscated illegal charcoal. The tender price should be based on an agreed number of bags and be paid to FBD and Handeni District Council up-front on a quarterly basis. ***This also means that***

foresters representing the District and National Authorities are under no circumstances allowed to involve themselves in any charcoal tax-related matter. Foresters are to do what they are supposed to do: training, advising, assisting & creating awareness. (See 5.2 for tender procedure details)

- Producers are not to be taxed on charcoal production by the Handeni District Council. This provision should be part of the legal agreement to be reached. The Village Government though has the right and obligation to introduce a so-called annual charcoal sustainability tax of Tshs 1,000 per household. Part of this sustainability tax is to be reinvested in the management of designated charcoal production areas.¹³
- Charcoal producers are obliged to form a business association being a recognised legal entity independent from village government. Membership should be flexible and open, allowing for people's need to produce charcoal if and when required as long as charcoal production does not exceed sustainable levels.
- The Village Government has the right and obligation to charge the Charcoal Producers Association an annual access fee of Tshs 400 per Hectare to the designated charcoal producing areas.¹⁴ The Village Government has the right but not the obligation to introduce an additional tax on charcoal produced outside designated charcoal production areas.
- Management plans for designated forested areas and village land forest reserves have to be approved by the District Forest Officer. These management plans should not exceed 3 pages and reviewed annually at the end of the rain season. The District Forest Officer or one of his subordinates is contractually obliged to assist the village in drawing up such plans and annually review them together with the village. The Production Association is obliged to pay the forester a reasonable allowance for the services rendered. (See Chapter 5.2 for detailed information about these plans)
- The District Council can levy a punishment tax of Tshs 50,000 on villages whose Production Association does not adhere to the agreed upon management plans.
- Registration of traders allowed to trade charcoal in Handeni District will be done in Handeni District. The trading licence will bear a passport picture and is to be laminated. The registration fees or any part thereof agreed by FBD have to be remitted by the Council to FBD. The District is to limit the number of traders allowed to deal in Handeni District to a maximum of 30 only.

¹³ The Consultant is well aware that the Village Government is most probably going to consume this tax rather than invest it. In that respect a Village Government is not better nor worse than a District Council or FBD. There is a big difference however between a Village Authority and a District Council or FBD and that is the distance to the taxpayer and subsequently a potentially higher degree of accountability. If such a tax is going to be consumed rather than invested it will definitely become an item in village elections.

¹⁴ The number of charcoal bags that could be produced sustainable per hectare of natural woodland would never exceed 20 and is in reality often not more than 10. Tshs 400 per hectare means a tax of less than 5% per bag. The idea is not to earn money but to start adding a real financial value to trees.

- Traders have to enter into delivery contracts with specific Villages on a monthly basis. The trader agrees to pay Associations an extra Tshs 400 per bag over and above the prevailing seasonal price.¹⁵
- Any trader found with illegal charcoal will have the licence revoked and banned from trading in Handeni District for at least two years. On top of this he has to pay a fine of Tshs 50,000 to Handeni District Council. The means of transport (truck, bicycle, bus, tanker or any other motorised vehicle) carrying illegal charcoal will be impounded, confiscated and sold in accordance with forest rules and regulations. The proceeds of the sale of transportation will be shared between the company responsible for administering charcoal taxation, FBD and Handeni District Council.¹⁶
- Civil servants soliciting for or accepting bribes will be punished to the maximum legal limit.

One can add numerous other issues and items and change fee, fine and tax levels. But the above is meant merely as a starting point and shows a possible way of selling the idea of sustainable charcoal production and marketing.

5.2 How the System Works

All the aforesaid points are connected in a logical manner and the best way to explain this logic is to describe the process by way of an example.

1. The “Tax Company”

How does the tender procedure for outsourcing tax collection and monitoring work?
An example:

- Assuming that the estimated production in Handeni District is 30,000 bags per month, FBD and Handeni District Council have to decide what kind of compliance rate should be possible. Suppose this would be 60%. This means that realistically speaking only 18,000 out of the 30,000 bags produced can be taxed in a profitable manner.
- Suppose the special Handeni Charcoal Bag will be used on average three times a month. This means that $18,000 : 3 = 6,000$ bags per month can be sold.
- $6,000 \text{ bags} \times \text{Tshs } 600/\text{bag} = \text{Tshs } 3,600,000$ per month. This figure constitutes the minimum total or **gross** tax target that should be achieved by the Tax Company.
- But to collect money costs money and it is the Tax Company that is to foot the bill for these costs. Suppose FBD and the Council estimate that the cost of tax collection and monitoring is Tshs 1,500,000 per month. This would mean that the **net** tax is $\text{Tshs } 3,600,000 - \text{Tshs } 1,500,000 = \text{Tshs } 2,100,000$.

¹⁵ This could also be formulated in a different way as long as the price paid to producers is higher than what they get now.

¹⁶ Like anything else this is of course open to abuse and bribery and can hardly be stopped. But the idea behind it is that the level of fines and the chances of being caught have to be increased to such an extent that the price of illegal charcoal for the trader is as high or even higher than the price of legal charcoal.

- How to share the net tax of Tshs 2,100,000? Suppose FBD and the Council decide that a 20% profit margin for the Tax Company or Tshs 420,000 is a fair remuneration for their efforts. This leaves FBD and the Council with 80% or Tshs 1,680,000. This amount of Tshs 1,680,000 per month or Tshs 20,160,000 per year is what FBD and the Council want to earn from Royalty and Cess on charcoal in Handeni district.
- So whichever Tax Company is awarded the tender to undertake tax collection on behalf of FBD and the Council has to pay them Tshs 20,160,000. The minimum tender value is therefore Tshs 20,160,000.
- The company that wins the tender has to pay up-front on a quarterly basis or in the above example Tshs 5,250,000 per quarter.
- If the Tax Company fails to collect sufficient taxes it is not FBD and the Council that suffer, they get their guaranteed quarterly payment of Tshs 5,250,000. It is the Tax Company that will loose.
- In case however the Tax Company sells more than 6,000 bags per month they can retain 100% of the profits.

The fact that a private sector party is to be allowed to collect tax on behalf of two public sector institutions requires the provision of a new District by-law. Also other tax matters in the proposal require either village and/or District by-laws. Annex 3 provides an example how such by-laws can be formulated and made complementary.

2. The Trader

After having heard the announcements and read the advertisements in the news papers from the Handeni District Council inviting interested charcoal dealers to discuss and negotiate new charcoal producing and trading system, trader Juma from Dar Es Salaam decided to become member of the Association and take part in the negotiations. After all parties signed an agreement he registered in Handeni District at the council offices as a charcoal dealer and paid the Tshs 50,000 registration fee.

Trader Juma is required to enter into delivery agreements with one or more villages that are part of the designated pilot area. He used to earn on average about Tshs 300,000/month. (450 bags) He has in principle two choices: to deal with a village with an approved management plan, which means he has to pay an extra Tshs 400 per bag or deal with a village without such a plan. Unfortunately for Juma all the villages bordering the Segera – Chalinze road have decided to have Production Associations and come up with a management plan (at least on paper). He could go deeper into the interior villages not part of the pilot area but that adds costs to transportation and especially during the rain season is much more cumbersome. Therefore he has no choice. It is all the same. He makes delivery contracts with charcoal associations in two villages for 225 bags each.

After signing he goes with the copies of the delivery contract to one of the selling points of the “Tax Company” and buys 150 bags for that month. He would normally use them three times but could “cheat” by using them even four or maybe five times. But whether he uses them two, three or five times, for the Company it is all the same. As long as he pays Tshs 700 per bag (Tshs 600 tax + Tshs 100 for the bag) it does not matter. Having paid $150 \times \text{Tshs } 700 = \text{Tshs } 105,000$ he receives his ERV and a number of TPs. Both are valid for the whole month and he will fill in the necessary blanks on the TPs if and

when needed. With these forms he receives 150 special Handeni Charcoal bags. They are made out of plastic and imprinted with "Handeni Charcoal Bag", the month and year in bright red, being the colour for that month. Next month it will be another colour.

This month he manages to use the bags four times. So what does Juma earn compared to the old system? The example follows the calculations on page 10.

Bag use	Variable cost (tax) (Tshs/bag)	Fixed cost (Tshs/bag)	Selling Price/bag	Income (Tshs/bag)
1	700	2,650 + 400	3,750	0
2	350	2,650 + 400	3,750	350
3	233	2,650 + 400	3,750	467
4	175	2,650 + 400	3,750	525

He earns a total of Tshs 525 per bag. In the good old bad days he earned Tshs 900 if he was really lucky and Tshs 400 if he was really unlucky. He now however does not have to move during the night anymore and have the hassle at the different checkpoints on the way or spend time on endless negotiations and has a more stable income. Although he can still "cheat" the system if he likes or need to but it is all above board.

And the Council and FBD?

- Under the present circumstances they would on average catch 2% of Juma's load or in this case 12 bags. At Tshs 800 per bag it would have earned them a total of Tshs 9,600.
- Under the new system the earnings can be calculated as follows:
 - Juma pays 150 bags x Tshs 700 = Tshs 105,000 to the Tax Company
 - With Tshs 100 per bag as the cost price the gross tax revenue is 150 x Tshs 600 = Tshs 90,000.
 - Out of the Tshs 90,000 the Tax Company can subtract the cost of tax revenue. According to the Contract (See page 29) the Tax Company can deduct 42% or Tshs 37,800 as the cost for tax collection. This leaves a net tax revenue of Tshs 90,000 – Tshs 37,800 = Tshs 52,200
 - Out of the Tshs 52,200 net tax revenue the Tax Company has to pay 80% or Tshs 41,760 to FBD and the Council.

The Tshs 41,760 constitutes an increase of 435% compared to the current system.

And what about the producers?

They earned Tshs 400 X 600 = Tshs 24,000 more.

Compared to the old system, the increase in the income of the FBD and the Council and producers, a total of Tshs 32,160, comes from two sources, partially from Juma, who was avoiding paying Cess and Royalty and partially from the bribes he had to pay to several civil servants. The trader and the civil servants colluding with the trader are the two parties that stand to loose most from the new system.

Would Juma be tempted to cheat by using illegal charcoal bags? Of course he will but if he is caught with even one bag, the following would or rather should happen:

- His licence is revoked and he is banned from dealing in Handeni for two years.
- He has to pay a hefty fine of Tshs 50,000.
- The transporter carrying the bag would loose his truck

- The village with whom he has delivery contracts will be fined as well

As Juma knows that the tax collection and monitoring is commercially based the chance that he can deal illegal charcoal undetected is slim.

In the above example Juma and the villagers “cheated” the Council as he had delivery contracts for a total of 450 bags and yet they sold him 600 bags. This is not financial cheating but a breach against the rules of the forest management plan. This is more difficult to uncover. Would the charcoal association be prepared to do it? In the case the management plans are revoked the producers will lose their premium and are banned from producing charcoal. They have to bribe the forest officer and the Tax Company that monitors tax collection, which adds another cost to production. It is however always possible that they would risk it.

At the beginning of the new month the process starts again. Juma has to get new delivery contracts, has to go to the Council and receives upon payment new bags. The new bags have a completely different colour so that it is even visible from a 100 metres away whether a bag has the right monthly colour or not.

2. The Producer

An awareness campaign has informed the villages along the Chalinze – Segera Road about a proposed new system. After learning about the potential benefits, a number of villagers in Mkata formed a charcoal business association. (In reality some of their members are middlemen) and joined the negotiation process. With the conditions described in the previous Chapter having been approved, the association has two options: producing with a management plan or producing without one. Given the positive incentives (higher producer price) the association of course opts for a management plan.

It looks very simple and promising:

- The village becomes the full and unrestricted owner of all the trees within the boundaries of the village
- Households “hire” the trees they want to cut from the village government;
- Charcoal producers will not be harassed anymore.
- The Association has to make monthly delivery contracts with designated traders.
Although unwritten they used to have these kind of contracts before the new system

Based on past experiences they are not sure whether to believe this new plan or not or whether the Government, whether Village, Ward, Council, National, is simply looking for a way to squeeze money out of them. So they quickly agree to the managed production option but are really not firmly committed to it. First see and wait. (As the Law governing the possibilities of a village land forest reserve is not expected to be enacted for at least another year, this option is not discussed here)

The procedure for the management plan has a number of components and steps. The whole village agrees to designate part of the “porini” that has no use for agriculture land in the foreseeable future as a “forest”. A few landmarks (big trees, stones, painted white and maybe a path or seasonal stream) are used as the boundary.

A forester comes and surveys the area together with interested association members, other villagers and representatives. He asks what the village wants to do with the area (objectives of management). Reply: charcoal, firewood, building poles, grazing and some other small stuff like mushrooms, medicinal plants, etc. Doing a few transects and using the basal area calculation technique he quickly arrives at the conclusion that on average standing volume is roughly 40 M³ per hectare with an M.A.I. of about 1.0 M³ per Hectare. As the designated area is about 500 Hectares the conclusion is that the Association could produce 500 bags of charcoal per year in a sustainable manner and use the rest of the allowable production for firewood and what not. For this year a harvesting coupe of about 12 Ha is chosen and demarcated in the same way as the overall management area.

The forester explains that they have to leave a few small trees, which he paints, points out some potential future valuable timber trees that the association could leave standing if they wish to do so, discusses the value of early burning and that is about it. The only strict condition is that no cutting of wood is allowed outside the harvesting coupe. Other activities like grazing, grass collection, etc. are allowed. He makes a rough sketch, writes down the management objectives, allowable charcoal annual production levels, some other necessary details and a visiting/training schedule (once every three months). The forester, the village government and the chairman of the association sign the plan, which including the map is 3 pages long. The whole exercise should be over and done with in a couple of days. The village has to pay the forester an allowance to do the job and for the subsequent training visits (out of the sustainability tax).

The described exercise is cutting a lot of corners and foresters might be horrified by the seemingly sloppy and hasty way of doing things. But it is justified. These are not valuable timber or biodiversity areas but woodlands with an extremely low added value. Making inventory, etc. is part of management cost and they should not exceed the expected benefits. Moreover, it are villagers not foresters managing these woodlands. With little time and management knowledge you can not give them plans they can not implement.

Each household has paid the Tshs 1,000 annual sustainability tax to the Village Government and this gives them in principle the right to use trees in the designated village "forest". But not everybody is in need of charcoal. The solution to this lie with the formation of the Charcoal Association that has to pay another Tshs 400/ha for burning charcoal. They would have to be villagers (youth for example) who become professional burners. In other words the average farmer, who does not like to burn charcoal anyhow, hands the activity over to professionals.

The whole idea behind this is to start putting value on trees and to start professionalising the production.

The issue of control of the whole management area is the trickiest part. It needs to be done by the Association and in principle by village youth hired by the Village, using part of the Tshs 1,000/household sustainability tax. There is a big chance that the Village Government will consume all of the tax, but political pressure will develop, especially when influential people from the Village will be member of the Association.

The village left of course a considerable part of their "porini" outside the management area because it contains either fallow land or will be converted within the next few years. These areas will of course be used for charcoal, firewood and building poles as well. But

this is allowed and even implicitly promoted, as it will serve as a bufferzone for the managed “pourini”. The whole idea is really to let villagers gradually get used to the idea over the course of some years of managing their resources rather than exploiting them.

With the plan out of the way they now can enter into the monthly delivery contract with the trader. They receive the special Handeni Charcoal Bag for that month and start working.

During his quarterly visits the forester, accompanied by the trader (!) will monitor operations and give advice. During the dry season next year the old plan will be reviewed and if necessary revised, a new coupe will be developed, annual harvesting levels established, sustainability tax levied, etc.

As mentioned, cheating at this level in the sense of “overproducing” or not bothering to manage is a real threat and will undoubtedly happen. But there are opposing forces. The Council would like to see this happen as they earn more money from unsustainable production through the raising of punitive taxes. Producers and traders could lose more than they win.

4. FBD and the Council

Their role is simple and straightforward, collecting the quarterly cheque from the “Tax Company” and advise/control on management plans.

As already stated several times, the proposal is neither a draft nor a project plan. It is also not a shopping list or menu from which parties can choose the desired items. Everything is linked together and picking a thing here or there will render the whole proposal useless. The parties could come up with a whole new proposal. So be it. But it has to make sense, i.e. profitable, to all parties involved and has sufficient checks and balances and incentives, simple and affordable and process oriented.

The Consultant can not claim that the current proposal is the ultimate answer. It must have weaknesses as well. But only the actual implementation can unearth weaknesses in a system and adjust it accordingly.

Annex 1 Terms of Reference

Background

The Natural Resources Management and Buffer Zone Development Programme (NRBZ) under the Ministry of Natural Resources and Tourism is jointly implemented by the Forestry and Beekeeping Division (FBD) and the German Technical Co-operation (GTZ). The NRBZ is providing capacity building for FBD itself, and for the district councils of Handeni, Lushoto and Mwanga. The aim is to capacitate the above organisations to successfully implement the Forest Policy. More specifically, technical approaches are being developed for sustainable forest management, which FBD may be in a position to benefit from for consideration on a national scale. For this end, the project is also contracting consultants to assist in elaborating the said approaches. One of the consultant studies planned for the year 2001 is to tackle the problem of increased charcoal production and respective degradation of woodlands, insufficient revenues from charcoal, and ineffective law enforcement related to charcoal trade.

In Tanzania as in other Africa Sub-Sahara countries, the commercial traditional energy market, i.e. firewood and charcoal, is in its current uncontrolled mode a major contributor of forest depletion and ultimately deforestation. Many countries in Africa Sub-Sahara have tried to introduce more regulated and efficient production and consumption of firewood and especially charcoal to combat the forest depletion and deforestation. So far however the impact of these efforts has been less than expected.

Experiences from amongst others Ghana, Burkina Faso and Niger suggest that creating more systematic linkages between producers, traders and Authorities combined with a higher price for traditional energy products for producers and the introduction of a discriminatory tax and licensing system, is a more promising avenue. A higher producer price seems to be a powerful incentive for local communities to introduce control and management in charcoal and firewood producing areas. Discriminatory tax and licensing schemes that "punishes" the production of and trade in unsustainable charcoal and firewood makes it possible for sustainable and hence more expensive charcoal and firewood to compete. Finally, linking traders, Authorities and traders in a systematic and formalised manner minimises and counteracts the rampant uncontrolled and often illegal production and marketing of these products.

Whether these principles are applicable, feasible and workable in Tanzania as well is a matter that needs to be investigated and is subject of this study. Handeni district in Tanga region has been earmarked as the pilot district, where the study shall be conducted.

Objectives and outputs of the study

The objective of the charcoal study is to elaborate ways for sustainable charcoal production, efficient revenue collection and effective law enforcement for trade in charcoal.

The following outputs are expected to achieve the above objective:

1. A financial cost-benefit analysis of the current charcoal production and marketing is undertaken.

2. The viability and feasibility of the introduction of a more sustainable charcoal production and marketing system vis-à-vis the current production and marketing mode is analysed.
3. A workable price, tax, licensing and enforcement system that is agreeable to and profitable for producers, Authorities and traders alike is proposed and negotiated.
4. If feasible and viable, the implementation of a pilot charcoal production and marketing scheme in one village in Handeni District is initiated. Likely steps: identification and organisation of traders, identification of possible collaborative production areas, authorities/trader/farmer negotiations, signing of a preliminary agreement, negotiations with Local Authorities, implementation of the supply-demand linkage system.
5. Relevant District staff and FBD representatives are trained in undertaking sustainable traditional energy demand supply linkages analysis.

Methodology

The proposed approach of the charcoal study is not so much academic but more participatory action research oriented. The cost-benefit analysis of the current charcoal production and marketing and the viability and feasibility study is to be undertaken by representatives of the main stakeholders themselves, i.e. producers, traders, Local Authorities and FBD under the auspices of and being advised by the consultant. The process of the whole study is as important as the ultimate outcome of the study.

In undertaking the study, the consultant shall make reference to the following documents:

- National Forest Policy of 1998
- Forest Ordinance (for current legal framework on forests) and 4th Draft Bill for a Forest Act (for proposed future legal framework on forests)
- Study "Incentives and Disincentives for Sustainable Natural Resource Management on District Level in Tanzania", which was undertaken in 1999 by FAO Investment Centre on behalf of NRBZ.
- Study "Forest Royalty Collection in Tanga Region" of 1999.
- Any other documents that are relevant to meet the objectives of the study.

The District Natural Resources Officer (DNRO) and the District Forest Officer (DFO) of Handeni district council, as well as the District Catchment Forest Officer (DCFO), who is resident in Handeni but directly answerable to the FBD, will play a pivotal role in the charcoal study. In addition, a representative from FBD who is charged with charcoal production and royalties collection shall accompany the consultant during the fieldwork in Handeni. Furthermore, the DNRO from Mwanga district council will join the team to learn something for application in Mwanga district.

It is envisaged that the DFO will act as a counterpart to the consultant. He and other relevant District officials and FBD representatives will be trained in an on-the-job fashion by the consultant in how to organise and facilitate the analysis and negotiations.

If the parties concerned are convinced that the outcome of the study is worthwhile to be brought to the attention of the wider audience at national level, notably at FBD, the consultant shall be prepared to participate in the respective fora. This presentation and discussion of study results is not subject of the study.

Proceeding

The whole study, the analysis and negotiation process will stretch over a period of several months. It is nevertheless envisaged that the periods of services of the consultant are required for up to 16 days, divided into:

- up to 1 day preparation (study design)
- up to 3 days analysis and backstopping
- up to 10 days fieldwork
- up to 2 days drawing up guidelines and reporting

The study is expected to commence as soon as possible. Ideal periods are either the second half of February or the second half of March.

Reporting

The consultant shall report to the NRBZ district advisor, who himself shall ensure close communication with the authorities concerned in Handeni district, and FBD. During the fieldwork, the consultant shall report to the DNRO Handeni district council.

A draft report shall be submitted as file (MS Office 97) not later than 5 days after completion of the fieldwork. This report entails:

- Result and interpretation of the financial analysis.
- Design and justification of the production and marketing system, as well as of the price, tax, licensing and enforcement system.
- Write-up for the pilot scheme for one village in Handeni district (provided the viability and feasibility of a new system has been agreed).
- Explanation and assessment of the training component of the study.

No later than 5 days after receipt of comments on the draft report, the consultant shall submit the final report as file copy (MS Office 97) and 10 hard copies.

The Consultant

The study shall be undertaken by an internationally experienced consultant with relevant working experiences in other African countries.

Regardless of the professional background of the consultant (forestry, rural development or economics), he shall have a minimum of 10 years relevant working experiences. He shall have been involved in works related to charcoal production and marketing, economic analysis of produce production and marketing, tax and licensing of forest products, as well as law enforcement aspects of forest produce marketing.

Under the auspices of NRBZ the consultant is responsible for:

1. Design of the charcoal study
2. Initiation and analysis of cost-benefit and set-up of current charcoal production and marketing
3. Feasibility and viability analysis of more sustainable supply-demand linkages
4. Initiation of tax, price, licensing and enforcement system negotiations
5. Training of relevant staff and designated officials
6. Monitoring of the whole study process
7. Development of traditional energy supply demand linkages
8. Preparation of a charcoal study report describing and analysing the process and outcome.

Annex 2 Inventory

Inventory should be done in a quick, simple and economical manner. It should aim at roughly determine the standing volume, species composition and the Mean Annual Increment. The best way of doing this is by using the basal area calculation using a relascope, a cheap and known instrument to foresters that can be produced even locally. Although the method is simple and quick people nevertheless need to be trained in it. The following outline provides some basic guidelines to the inventory process.

1. Determination of basal area by the use of a relascope

B =	Basal area - (m ² /ha)
n =	Number of tree counts in a 360° sweep with the relascope
w =	Width of the slot in the relascope
l =	Length of the relascope = distance from observers eye to slot
D =	diameter of "border-tree" (counted ½)
R =	Radius of "sample plot" = distance from observer to tree

$$\text{Given: } D/R = w/l \quad \text{and} \quad B = (w/l)^2 * 2.500 * n$$

Measurements

With $w/l = 1/50$, the "Factor" = $(w/l)^2 * 2.500 = 1$, which is the case for the standard version of e.g. the Skogma relascope. In this case the basal area equals the number of trees counted in one 360° sweep. If $w/l = 1/100$ the "Factor" = $(w/l)^2 * 2.500 = 1/4$. In this case the basal area equals 1/4 (one fourth) of the number of trees counted in one 360° sweep. With a smaller "Factor" the size of the sample plot and the number of trees counted increases, and hence the accuracy and the precision of the method is increased. In an average miombo woodland, the basal area typically varies between 5 and 15 m²/ha. It is thus obvious that relascope measurements with "Factor" = 1 will have a low precision, and the use of a relascope with for example "Factor" = 1/4 is thus recommended.

If the average basal area differs significantly from the above mentioned, the use of a relascope with a different "Factor" should be considered in order to obtain the maximum precision. Relascopes with such different "Factors" can easily be produced locally from a wooden rod with an attached plastic piece wherein the appropriate slot is cut/shaped.

During the actual use of the relascope, special attention should be given to:

- Trees with $D/R > w/l$ should be counted "1".
- "Border-trees" ($D/R = w/l$) should be counted "½".
- The point of "measure" should be DBH.
- Trees with a DBH less than the minimum diameter should not be counted (whatever the relationship between D/R and w/l).
- Non-exploitable tree-species should not be counted.
- Trees can be hidden to the observer due to other trees or bushes in the line of sight. If these hidden trees' $D/R \geq w/l$, they should nevertheless be counted.
- Multi-stem trees can in some cases count more than "1".

(Initial) Verification - "Calibration of eye-sight"

In order to "calibrate" ones eye-sight, the following operations can be executed:

- Place a white piece of paper behind the tree stem to enhance the distinctness of the diameter (DBH) of the tree.
- "Border-trees" can be verified by measuring the diameter (D) with a calibre and the distance (R) to the observer with a tape measure. If $D/R = w/l$, the tree should be counted " $\frac{1}{2}$ ". If $D/R > w/l$, the tree should be counted "1". Otherwise it should not be counted.

The liability and the consistency of the relascope measurements relies very much on the experience and the training of the person taking the measurements. Initial to any inventory, training and calibration is therefore highly recommended.

2. Stratification

The forest cover has to be divided into strata but for simplification purposes the strata should be broad and few in number.

3. Layout of sample plots and intensity of sampling

It is of paramount importance that the sample plots are laid out in an unbiased way, that is, the plots should represent the average condition in the strata of the forest. In practice this can be achieved as follows:

1. Prior to the inventory the distance between the setting of clusters of sample plots is decided - say every 500 meters. Following a chosen track in the forest the forester makes stops at each 500 meter interval. At this point, and perpendicular to the direction of movement, 2 centers of sampling are chosen, - 1 on each side of the track - by pacing 50 meters on either side of the track.
2. Along the lines in a 1-meter belt all trees above 10 cm dbh are recorded separately for species and diameter at breast height (dbh). The result of this exercise is a tabular indication of main species and diameter distribution

In order to alleviate the variance of the composition of the woodland itself as well as the inaccuracy of the measurements, the necessary number of sample plots can be determined as follows. The number of sample plots should be such that an additional sample plot would not affect or change the average of the previous plots outside the given or chosen interval of precision.

Example:

Plot	Basal area m ² /ha	Basal area running average	Deviation from previous avg.
1	7,5	7,50	
2	5,8	6,63	-12%
3	5,5	6,25	-6%
4	3,0	5,44	-13%
5	7,8	5,90	9%
6	4,8	5,71	-3%
7	2,3	5,21	-9%
8	5,5	5,25	1%
9	6,0	5,33	2%
10	2,3	5,03	-6%
11	7,8	5,27	5%
12	3,5	5,13	-3%
13	5,5	5,15	1%
14	7,8	5,34	4%
15	2,3	5,13	-4%

If the precision is decided to be $\pm 5\%$, it is seen in the above example that after the 11th plot, the deviation from the previous running average stays within these 5%, even for extreme values of the basal area. The chosen interval of precision (expressed in percentage) should be less than the acceptable level for the whole management set-up. In the case of charcoal production one could easily get away with a 8% to 10% variance.

4. Standing volume

Using the average basal area and the average diameter as described in the previous section, the average standing volume ($m^3/ha > 10 \text{ cm dbh}$) is determined/estimated using a volume curve (basal area - volume).

5. The Use of GPS (Global Positioning System)

As speed and economy is considered much more important than a very high accuracy or precision, it is not recommendable to work with differential GPS.

In order to be able to educate and train the core forest staff in the use of GPS, it is necessary first to give some basal instructions concerning co-ordinates and the UTM grid system (UTM = Universal Transverse Mercator). This presents at the same time the opportunity to verify and correct certain errors on the maps already produced. The training should mainly concern the features of position determination and navigation to a known set of co-ordinates, which both are aspects of forest mapping and management.

Annex 3 Management Plan

Management Plans for forested areas that are mainly used for charcoal production, firewood collection, possibly grazing and some harvesting of non-wood products need to be simple, cheap and quick to make, flexible and updated on an annual or even a biannual basis. With the main aim of producing charcoal a designated forest area is to be divided into annual harvesting coupes. Given the prevailing forest types in Handeni District the preferred harvesting method should be as much as possible based on clear felling, i.e. removing in principle all trees > 10 cm diameter at breast height (DBH) and let natural regeneration do the restocking. On a mutual agreement between the people and the forester certain trees could be earmarked as non-harvestable trees.

Although enrichment planting and fire management are usually prescribed management activities these should be optional, i.e. if people want to do it they can do it. It should however not be put as a conditional activity by the forester. Boundary demarcation should as much as possible follow natural boundaries, i.e. a road, a river/stream bed, etc. Boundary clearing in terms of creating fire lines should not be considered. It is too expensive and labour intensive. Again if people want to do it, they can and should do it. But FBD nor the Council should make any funds available for such an exercise.

The Management Plan should have the following format. (not exceeding 3 pages)

Name of Village:

Size of designated forested area to be managed (ha):

Map of designated forested area (based on available topographic maps) indicating boundaries and location of Harvesting Coupe for charcoal production.

Period of current management plan: (Example: October 2001 to May 2002)
Objectives of management: (example)

- 1. Charcoal Production**
- 2. Grazing**
- 3. Domestic Firewood Production & Building Poles**
4.
5.

Estimated Mean Annual Increment (M.A.I.) designated forest area (M³):

Size of Harvesting Coupe for Charcoal (Ha): ¹⁷

Estimated Standing Volume Harvesting Coupe (M³):

Estimated allowable number of charcoal bags to be produced:

Activities:

Allowed/Intended & Agreed Activities	Harvesting Coupe	Forested Area	Undertaken *)		Remarks *)
			Yes	No	
Examples					
Boundary demarcation	X	X	X		Marker trees to be done again next year.
Thinning	X	X		X	People claimed no time and no need
Early Burning		X	X		Only partially done
Grazing		X	X		Overgrazing in many areas
No harvesting of mature trees		X	X		10 black wood trees illegally cut.
Patrol	X	X	X		On average too little
Charcoal	X		X		200 bags. Within set limits.

***)** The first three columns are to be filled in biannually by the villagers and the

¹⁷ The size of the harvesting coupe for clear cutting can be calculated in two different ways. One is to multiply the M.A.I of preferred charcoal tree species with the total HA of the designated forested area. For example if the area is 500 Ha and the M.A.I. is 1.0 M³ per hectare per year, the total allowable cut per year is 500 M³. This figure is than matched with the standing volume of a given area. If the standing volume for charcoal tree species is 40 M³/Ha than it follows that the harvesting coupe can not be bigger than 12.5 Ha. Another method is to divide the total forested area by the number of years it takes for the average charcoal tree to reach commercial maturity. This also will give the maximum allowable size of the harvesting coupes. Suppose the area is 500 Ha and it takes 50 years for the average charcoal tree to mature, it follows therefore that an annual harvesting coupe should be maximal 10 Ha. Dividing a forest into harvesting coupes has disadvantages as well and both methods to calculate coupe sizes are very crude and leave a number of issues unanswered. But as a starting point they are good enough. The refinement will come after producers and foresters have gained enough experiences with assessing what is there, what is possible and how things should be done.

forester at the start of the six months period. The last two columns are filled in at the end of the six months period. It is an evaluation of the state of affairs. It has to be done by the forester in collaboration with the people.

Dates and Purposes of foresters' visit:
(To be planned at the beginning of every six months period)

Date	Purpose	Undertaken		Remarks	Signature forester
		Yes	No		

The first two columns are planning tools and filled in at the beginning of the six month period. The last three columns are evaluation tools, which the forester has to sign off after every time he/she has made or should have made a planned visit.

Proposed & Agreed improvements/changes for the next six months:

Annex 4 Itinerary & Work Schedule

Date	Activity
18 March	Arrival in Dar Es Salaam, Meeting Mr. Sarrazin, GTZ
19 March	Meeting Mr. Kessie & Mr. Mashurano, FBD. Teaming up with DFO Kibaha. Travel to Handeni
20 March	Meetings & Discussions in Handeni (Council, DNRO, DFO, GTZ-NRBZ, etc.) teaming up with DFO Mwanga. Meeting Mr. H. Lipp
21 March	Field visits, discussions with foresters, traders & producers
22 March	Field visits, discussions with foresters, council & village officials, traders, producers
23 March	Field visit, discussions with village officials and producers. Travel to Tanga
24 March	Discussions with Mr. D. Kobb & charcoal dealers
25 March	Discussions with Mr. D. Kobb. Travel to Handeni
26 March	Field visit & Discussions in Handeni town
27 March	Discussions in Handeni Town with team members & DFO Handeni.
28 March	Discussions in Handeni Town with team members & DFO Handeni. Preparations debriefing note
29 March	Debriefing Handeni District Council representatives. Travel to Dar Es Salaam.
30 March	Debriefing FBD, Prof. Iddi & Mr. Sarrazin, GTZ
31 March	Finalization Debriefing Note
1 April	Finalization Debriefing Note. Travel to Cape Town
2 April to 8 May	Finalization 1 st and 2 nd Draft Charcoal Report