

Alternative livelihoods and sustainable resource management

ISBN-10: 90-5113-083X
ISBN-13: 978-90-5113-083-6

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Citation: Tropenbos International (2005). Alternative Livelihoods and Sustainable Resource Management. Proceedings of a workshop held in Akyawkrom, Ghana, on the 1st of April 2005. Tropenbos International Ghana Workshop Proceedings 4, edited by D. K. B. Inkoom, K. Okae Kissiedu and B. Owusu Jnr. Wageningen, the Netherlands.

Cover photos:

1. Women gathering charcoal with children (photographer unknown)
2. Pastor Oppong's grasscutters taking a bite (B. Owusu Jnr.)
3. Woman displaying 10000 cedis worth of mushrooms (B. Owusu Jnr.)
4. Strings of beads on display in bead factory at Krobo Odumase (B. Owusu Jnr.)

ALTERNATIVE LIVELIHOODS AND SUSTAINABLE RESOURCE MANAGEMENT

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**Tropenbos International
Wageningen, the Netherlands
2005**

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ACRONYMS

AfDB	African Development Bank
ALs	Alternative Livelihoods
AIDEP	African Institute for Economic Development and Planning (RC presentation)
BARFGA	Brong Ahafo Regional Grasscutter Farmers' Association
CEDEP	Centre for the Development of People
CBUD	Centre for Biodiversity Utilisation and Development
CLF	Community Livelihood Facilitators
DFID	Department For International Development
DED	German Development Service
FAGE	Federation of Associations of Ghana Exporters
FRNR	Faculty of Renewable Natural Resources
FORIG	Forestry Research Institute of Ghana
FRCP	Forest Resources Creation Project
FSD	Forestry Services Division
GSBA	Globally Significant Biodiversity Area
GDP	Gross Domestic Product
GTZ	German Technical Cooperation Agency
KNRMP	Kumasi Natural Resource Management Project
KNUST	Kwame Nkrumah University of Science and Technology
LPG	Liquefied Petroleum Gas
MDGs	Millennium Development Goals
MOAP	Market-Oriented Agricultural Programme
MoFA	Ministry of Food and Agriculture
NGO	Non-Governmental Organisation
NRMP	Natural Resources Management Project
NTFPs	Non-Timber Forest Products
OCAP	Oda-Kotamso Community Agro-forestry Project
PRSP	Poverty Reduction Strategy Paper
PTACZMP	Princess Town Akatakyie Coastal Zone Resource Management Project
RC	Ricerca e Cooperazione
RUDEYA	Rural Development Youth Association
SIDEP	Sefwi Integrated Development Project
STEP	Skills Training and Employment Programme,

PREFACE

Governments, Donor agencies, non-governmental organisations and individuals have been promoting the so-called *Alternative livelihood schemes*, especially in forest fringe communities where people depend on forest resources for survival. The main goals of the activities have been to reduce poverty and unsustainable dependence on forests. Sometimes, this latter goal has been taken to mean *weaning* people from the forest. Either way however, AL activities have not achieved the desired impacts.

This report is the proceedings of a focus group discussion on '*Alternative livelihoods and sustainable forest management*'. The topic raises several interesting questions: for instance, *alternative* to what? To what extent are these livelihoods really alternatives? Shouldn't we be talking about sustainable livelihoods? Are forest-based livelihoods necessarily incompatible with sustainable forest management? And then, the concept of weaning people from the forest! Is it to keep the forest for timber production functions, and the timber to some privileged stakeholders? Is it not a way of keeping poor people away from the very assets with the highest potential to provide livelihoods – both timber and non-timber forest products? All these are very legitimate questions.

This document considers supplementary livelihoods for forest-fringe communities. The idea should not be to wean them from the forest, but rather to reduce pressure on the forest, i.e. the development of sustainable forest-based livelihoods – a situation in which human livelihoods of all kinds and forest conservation are brought into harmony.

Over 50 participants from government ministries, NGOs, research, academic and other institutions engaged in alternative livelihood activities took part in the day-long event. Five papers were presented on the theme after which participants were put into groups to discuss the papers with the view to identifying viable alternatives, success factors and other measures to enhance their ability to reduce poverty and peoples dependence on forests.

This was the 4th in the series by TBI-Ghana Focus Group Discussions under the broad theme '*Collaborative forest management: making the policy work*'. Previous topics discussed include *Natural resources management in Ghana: challenges to professionalism*; *Chainsaw lumber production: a necessary evil?* and *Equity in forest benefit sharing: stakeholders' views*. These are published as TBI-Ghana Workshop Proceedings.

By providing a common discussion platform for stakeholders on topical forestry issues, TBI-Ghana promotes collaboration among forest stakeholders and also generates relevant information that can prompt a policy review.

In putting the proceedings together, the editors try to objectively represent the views of participants expressed during the discussions. The views are edited for style and consistency but not with respect to the content. The opinions expressed in this publication are thus those of the authors and do not necessarily reflect the views of Tropenbos International or Tropenbos International-Ghana.

KSN
November, 2005

ACKNOWLEDGEMENTS

Several people contributed in diverse ways to make this publication possible. TBI-Ghana is grateful to Dr Samuel Acheampong, Dr Dan Incoom and Mr Bossman Owusu Jnr who prepared well-researched and thought-provoking presentations for the discussion. SAMARTEX and Ricerca e Cooperazione also shared some field experiences to further enrich the discussions.

The Local Programme Management Unit of TBI-Ghana, made up of Dr Kyere Boateng, Mr Fredua Agyeman, Ms. Anneke Wieman, Mr K.S. Nketiah and Mr Kwame Okae-Kissiedu planned and organised the entire programme with support from the TBI-Ghana staff team.

Besides presenting a paper, Dr Incoom put together the proceedings and also prepared the synthesis, summary and conclusions for which we are most grateful.

We do appreciate the incisive comments, constructive suggestions and the general editorial support received from Dr Roderick Zagt and the TBI Head Office.

Finally, we are grateful to Dr Amoako Atta who chaired the meeting and also shared some rich experiences with the participants. To the distinguished participants, we say that your contributions and inputs made all the difference.

KSN
11/05

SYNTHESIS, SUMMARY AND CONCLUSIONS

The promotion of Alternative Livelihoods (ALs) is seen by many as a viable way to improve rural livelihoods and reduce dependence on the forests. However, the basis for this optimism is sometimes premised on mere conjectures and little empirical evidence. As a contribution to the discussion on ALs, Tropenbos International-Ghana held a one-day focus group discussion aimed at deliberating on the variety of issues involved in Alternative Livelihoods in detail. This synthesis captures the major issues discussed, including good practices in the promotion of livelihoods, the major actual and potential livelihood options, the current experiences with these options, and the success factors. The key challenges with respect to each of these options are also identified. The report concludes by identifying how to respond to these challenges in order to improve incomes and reduce poverty, as well as minimize the dependence on forests.

Several definitions have been advanced for the concept of Alternative Livelihoods (ALs). The Development Alternatives Approach considers ALs as activities intended to help economically disadvantaged members of society to meet their daily subsistence needs in a manner that is dignified, locally appropriate, and environmentally sustainable. The concept is also perceived to represent a range of activities that utilize indigenous local customs and knowledge to take advantage of available natural resources for the benefit of individual and societal needs. (CEDEP, 2004). Alternative livelihoods may also be defined as those livelihoods existing outside traditional or established institutions or systems (American Heritage Dictionary, 2004)

The important attributes that can be identified in any definition of ALs include human capacities, tangible and intangible assets and economic activities.

The mention of Alternative Livelihoods implicitly suggests several scenarios, namely; that prevailing livelihoods are either not producing enough benefits for the individuals or communities engaged in them, or that current activities are in contravention of existing legislations, or pose a danger to the sustainability of other resources. In the context of agriculture-dominated economies, the resources at risk may be land, forest, or water bodies. Alternative livelihoods are therefore thought of in the context of providing livelihoods that may replace or supplement existing livelihoods that are in danger as a result of resource constraints, or those livelihoods that do not generate sufficient incomes to enable those engaged in them live decent lives.

Major Alternative Livelihood Activities

The major alternative livelihood activities presented at the forum can be grouped into three main categories, namely forest-based livelihoods, forest-related livelihoods and other ‘footloose’ activities that may not be related to the forest at all.

The actual forest-based activities include taungya schemes, rattan and bamboo collection, medicinal plants gathering, establishment of woodlot/nurseries, and forest enrichment planting. The potential in this category include eco-tourism and creation of sanctuaries for flora and fauna.

Forest-related livelihoods include temporary and permanent employment as forest guards, boundary cleaners, plantation developers, (private & public) load bearers, and stock survey labourers, among others. Potentially, individuals could earn a living as fire volunteers, licensed chain-saw operators and temporary forest guards.

The third category can be considered as ‘footloose’ activities that may not have linkages to the forest, including soap making, bead-making, pottery, aquaculture, snail rearing, piggery and the rearing of small ruminants (grasscutter, guinea pigs). Others in this category include batik/tie and dye, Kente weaving & cloth making, and poultry farming. Numerous as they are however, not all of them are actually being carried out everywhere. Some of these may be limited to specific

geographical areas as a result of raw material availability (pottery) and tradition (Kente weaving), while others can be carried out everywhere (Batik/tie and dye, soap making, etc).

Current experiences

Two key experiences with forest-based livelihoods may be observed. Firstly, experiences with the gathering activities as presented by different authors indicate that these activities are especially important during periods in the farming calendar when agricultural tasks diminish, or when the need for cash is acute. Therefore considerable seasonal fluctuations occur in the degree of involvement, mainly as a result of changes in farm labour requirements, the increased need for cash during hardship periods, the seasonal availability of raw materials and some Non Timber Forest Products (NTFPs) and fluctuations in demand. The majority of forest-based cash earning activities usually decline during planting and harvesting periods, when farm labour requirements are high, but increase during the hunger season when people need money to buy staple foods. This seasonality is to be noted as individuals may use these activities as coping strategies.

Secondly, it was reported that plantations, woodlots, trees on crops and taungya systems, provided both economic and ecological benefits. There are examples of individuals and communities engaging in woodlot establishment for charcoal production, poles for electrification and construction, among others. Others include provision of commercial and subsistence value from trees such as fuel wood, fruits and/or timber, income from sale of food crops (plantain, cassava, cocoyam, yam) and vegetables (tomatoes, pepper, garden eggs), food supply for the rural household and soil fertility restoration by use of tree species that fix nitrogen and add litter through leaf fall to the soil.

Forest-related activities appear to benefit mainly forest-edge communities who, as a result of government forest policy of collaborative forest management, are engaged in the provision of various services in the forest reserves for the Forest Authorities. Though these provide regular streams of income, they may be seasonal, and remuneration may be low, compared with other activities that community members may have engaged in (both legal and illegal), and in spite of the fact that some of these activities sometimes pose a threat to the sustainability of forest resources.

Alternative livelihoods that may not have anything to do with the forest are many and varied, and experiences with these options indicate that much as they can be successful, there is the need for training and credit before engagement. Many of these activities, like snail farming and grass-cutter rearing require specialist training to ensure that the activities are successful. There have been instances where communities have lost large numbers of grass-cutters due to cold weather, for example. The need for training and large capital outlay can be said of other activities as soap making, batik/tie and dye production, Kente weaving, among others. In addition to these requirements, it appears as if this category of livelihood requires the greatest amount of initial capital inputs, which, for rural communities, where the incidence of poverty is high, may be difficult to come by.

Success factors

Several factors have been identified as reasons for the successful implementation of particular livelihoods in the three categories mentioned; forest-based livelihoods, forest-related livelihoods, and 'footloose' activities. Broad government policies that seek to reduce poverty in the rural areas appear to hold the key to successful implementation of ALs. This is particularly the case if the policies find expression at the lowest levels of government and are exemplified by specific actions like the provision of credit and market access to those engaged in the activities. Many sub-Saharan African countries have undertaken Poverty Reduction Strategies and with proper targeting, these strategies could support ALs to reduce poverty and minimize dependence on the forest. Again, the conceptual shift in the management of forests in favour of collaborating with local communities in sustaining the forest allows community members to engage in ALs with

good returns. Forestry Services, as in Ghana, for example employ reserve-fringe community members in formal temporal and permanent employment in the forest reserves.

In addition to the above, other success factors identified include: the ease with which people enter the particular alternative livelihood (this finds expression in access to training and capital in the form of micro-financing); incorporation of sustainability issues right from the start; putting in place institutional structures that provide for self-monitoring (or a form of peer review mechanism) together with a technical back-up support; the availability of ready markets or market development for the products is another key factor. Livelihood schemes associated with traditional and festive occasions also tend to succeed, since such occasions tend to provide a captive market, even though this may be periodic in nature. Again, local supply and the availability of the raw material do help ensure the success of the activity.

Finally, the role that organisations have played in popularizing and sustaining ALs is also crucial. Bi-lateral development organizations, Non-governmental organizations, educational institutions, community-based and civil society organizations, farmer-based organizations and key individuals have all played crucial roles in ensuring the success of ALs.

Key Challenges

Most of the ALs mentioned above, particularly grass-cutter rearing, snail farming, mushroom cultivation, as well as soap making, batik/tie and dye production have been championed by bilateral organizations and NGOs as projects with specific time frames. Experience has shown that inasmuch as many projects have succeeded in the pilot or infant stages, many challenges remain when institutional support is withdrawn from the communities, and individuals and groups have to cater for themselves.

Again, it is important to ensure that ALs provide a steady stream of cash flow, because of the fact that most of the communities that engage in the alternative livelihood activities have to grapple with how to cope in the lean or off season periods of their current economic activities. The challenge still remains as to how ALs that individuals engage in can complement other economic activities to ensure a steady flow of income to those engaged in them. Long gestation Alternative Livelihoods, like plantation development have to be supported with short-term income generating activities so as to cushion individuals and groups.

There is also the challenge of ensuring that livelihood activities reduce adverse impacts on seasonality, because some livelihoods may lead to lower agricultural productivity, and eventually cause food prices to increase.

For forest based activities in particular, the challenge is how to ensure that the activities are carried out on a sustainable basis, to allow the resource to regenerate, and ensure a steady stream of benefits.

Another key challenge is the availability of ready markets for the products. There have been instances of difficulty in finding markets for mushrooms and shea butter, for example, and this gives reason for concern, especially when the activity has benefited from credit financing.

Finally, there is the challenge of public attitude to some of the products of the Livelihoods. There is for example the perception that the meat of animals (grass-cutter and snail) from the wild is tastier than the meat from domesticated sources, and thus domesticated animals do not meet the quality standards preferred. There are however no facts to prove that this is the case. This perception, however, can affect the marketing of domesticated ruminants.

Responding to the challenges to improve incomes and reduce dependence on forests

Several actions can be taken to respond to the challenges enumerated above. First of all, it is important when promoting ALs to examine the geographical, social, cultural and economic

contexts of communities before start-off. In this way, skills acquisition and sustainability of the activity can be ensured.

There is the need to ensure that training is provided for new entrants. In addition to the individuals engaged in the activity, community-based focal persons need to be trained to ensure that the knowledge base on ALs is broadened, and is community-based. This will enable individuals in the communities to have direct access to technical and other extension support needed for the ALs. Training should also not be a one-off activity, but continuous, with in-built monitoring and evaluation mechanisms. This will ensure that participants acquire the necessary skills to enable them succeed in their activities.

Credit needs to be provided on terms that will make it easy for individuals and groups to start their activities. Credit that is provided should go with training to enable clients succeed in their ventures, and are also able to repay credits advanced to them. Where possible, group credit should be encouraged as this provides motivation for hard work and recovery of loans.

For livelihood activities that require large inputs of energy, e.g. soap making, alternative forms of energy should be encouraged. Fuel efficient stoves such as those used in cassava processing should be encouraged in order to reduce the dependence on fuel wood which tends to degrade the environment. Complementarities should also be explored in this regard, for example the establishment of woodlots could complement the use of fuel efficient stoves.

To ensure sustainability, there is the need to integrate any interventions in ALs into local governance structures for continuity and sustainability. The promotion of any AL should also give due attention to market development. In some cases, further processing and or packaging of the final products would have to be taken as key components of the promotion efforts.

Forest authorities should include communities in their long-term strategic planning to ensure that introduction of alternative livelihood activities are embraced by forest-dependent communities. This will help improve incomes and ensure forest sustainability.

Role of Research

Research has a key role to play in the sustainability of ALs and several areas may be considered, including the following:

Alternative livelihoods and gender, with a focus on whether particular livelihood activities favour one gender or the other and if that is the case, how to use gender as a useful variable in designing AL programmes;

Market potentials for existing and potential livelihoods;

Risks factors in the implementation of ALs, including market failure, natural disasters and land tenure;

Urban planning legislation and its impacts on ALs;

The role of organisations in supporting ALs in different spatial contexts (urban, rural, peri-urban);

The range of services needed for the successful implementation of AL programmes and how to sustain these services;

Appropriate frameworks that integrate ALs into national development planning instruments, like Poverty Reduction Strategies (PRSPs) and Medium Term Expenditure Frameworks (MTEF), among others; and

Monitoring and evaluation of AL Programmes

Above all, institutions engaged in the promotion of ALs should develop suitable frameworks for measuring the impact of ALs on communities, in terms of reducing poverty, increasing social capital, providing options for community members and reducing dependence on the forests. This should be done on a continuous basis to provide the needed baseline to monitor and evaluate ALs.

The results could then be used for effective policy making to make ALs more efficient and enduring.

Finally, the quest to introduce alternative livelihoods in the rural areas should be seen in the broader context of overall government development policy and strategy. Particular attention has to be paid to the impacts of other policies in the land, mining, environment, and agricultural sectors so as to reduce conflicts and promote complementarities between these policies.

Conclusions

ALs have a significant role to play in tackling the problems of poverty and conservation in the rural, urban and peri-urban contexts. For this to happen, however, several issues need to be considered. Current experiences indicate that not all ALs may be feasible and/or profitable in given locational and socio-economic and cultural environments. The nature, characteristics and requirements of ALs that can be promoted in specific contexts would therefore have to be identified, promoted, and facilitated in order to ensure they become and remain viable. This calls for measured and targeted interventions and a coordinated effort from the participants in these activities, research institutions, and other stakeholders in the process.

Mechanisms put in place for the promotion of ALs will have to respond to the peculiar contexts of the participants in the processes, the social, political and economic systems that impinge on the individuals involved, and the institutional framework that facilitates alternative livelihoods. The process should be iterative and ensure that good practices and lessons learned are shared with a wider audience in order to upscale interventions. For ALs that have the potential to sustain livelihoods in the future, efforts should be directed at researching into the conditions and prerequisites for their economic viability, including the market potential, start-up requirements, and how they will complement or replace current activities. In all these, the need to ensure that ALs do not negatively affect the environment should be of prime concern to all stakeholders so that the activities can be carried out on a sustainable basis for the benefit of society as a whole.

The Way Forward

The design and implementation of Alternative Livelihoods is a complex process, for which there are no simple solutions. There is the need for a systematic approach to looking at Alternative Livelihoods in order to respond to peculiar needs. Institutions, both private and public in academia and in finance, traditional authorities who own land, non-governmental organisations that have experience and resources in promoting ALs, governments at the various levels, and individuals involved in ALs all have important roles to play. An important way forward is to continue the conversations on how best to promote ALs in the wider context of sustaining natural and built environments and ensuring local economic development.

1. INTRODUCTION

1.1 BACKGROUND

Ghana's forest resources are depleting at an alarming rate, among other factors, population pressures and rural poverty, especially around forest fringe community are cited as major contributory factors.

Ensuring the sustainability of forest resources in the face of extreme poverty especially of people who live close to the resources seems almost impossible. However, with the current rate of depletion (about 75,000 hectares per annum) scientists have predicted that the entire forest cover could be lost unless the current degradation rate is halted immediately and restorative measures put in place. One of the approaches that have been proposed to halt the degradation is providing forest dependent industries, communities, and individuals with sustainable alternatives to wean them from the forests.

In forestry 'alternative livelihoods' as a concept and management approach has generated a lot of debate. The questions frequently asked are alternatives to what? Are there viable alternatives to wean chainsaw operators for instance, from their illegal activities? Others have questioned the appropriateness of the concept itself citing that the activities are at best livelihood support activities and cannot qualify as alternatives to mainstream forest livelihoods.

In all these, however, Government, NGOs and other stakeholders believe alternative livelihoods, livelihood support or supplementary livelihood activities have a role to play in sustainable forest management, be it direct or indirect.

As a result, Government through the Ministry of Food and Agriculture and some NGOs have embarked on alternative livelihood activities for the purpose of reducing people's dependence on forests. On a larger scale however, these organisations and institutions have embarked on alternative livelihood activities with the aim of alleviating rural poverty.

A few of these activities have been sustained but the success rate in terms of reducing rural poverty or weaning people from the forest is not known.

All these issues supported the need to discuss alternative livelihoods in a broader context considering key stakeholders nationwide to critically analyse alternative livelihoods to identify viable alternatives, the success factors and measures to enhance their ability to reduce poverty and peoples dependence on forests. The ultimate aim however was to put the so-called alternative livelihoods in proper context in terms of the role it can play in sustainable forest management.

Tropenbos International-Ghana therefore organised a day's workshop on 'alternative livelihoods and sustainable forest management on April 1, 2005 at the Wood Industries Training Centre, Akyawkrom, near Ejisu. This report captures the outcome of the daylong workshop.

1.2 WORKSHOP OBJECTIVE

The objectives of the focus group discussion were to identify viable alternative livelihood technologies, success factors and measures to enhance their abilities to improve incomes (reduce poverty) and eventually reduce people's dependence on forests.

1.3 WORKSHOP METHODS

The focus group discussion was in two sessions. The first session involved the presentation of invited papers based on the theme for the discussion. This was followed by a “question and answer” session where participants had the opportunity to react to the presentations. The details of the papers presented are listed below in Table 1.1.

Table 1.1 Papers presented

Title	Author
Forest resources and sustainable rural livelihoods	Dr. Emmanuel Acheampong (FRNR, KNUST)
Promoting alternative livelihoods: field experiences	Dr. Giana Da RE Ricerca e Cooperazione (RC)
Economic field experiences on forest based livelihoods	Mr. Yaw Ofori Lartey (SAMARTEX)
An analysis and evaluation of forest based livelihoods schemes in addressing sustainable resource management and poverty reduction.	Dr. Daniel K. B. Inkoom (Department of Planning, KNUST)
A critical evaluation of field experiences of alternative livelihood schemes	Mr. Bossman Owusu (TBI-Ghana)

The second session involved the group discussions. Three groups respectively discussed forest-based livelihood options, forest-related livelihood options and other options (not directly based on or related to forests). Each group identified current (actual) experiences and potential options under the three rather loose categories. In each case, the groups identified the successful practices, challenges and the way forward.

1.4 ORGANISATION OF THE REPORT

A synthesis of the issues and conclusions from the Focus Group Discussion is presented as an Executive summary of the report. Chapter 1 gives the introduction to the report. Section 2 gives the Welcome and the Keynote addresses, which set the tone for the workshop. Section 3 contains the main presentations, with each followed by a ‘Question and Answer sub-section. Section 4 gives an overview of the reports from the group sessions. The report ends with the closing remarks of the chairman in Section 5. The workshop programme, list of participants and the details of the Group Reports are all given in the appendices. The final part of the Appendices provides a clear description of the three categories of AIs and a glossary of some of the terminologies used in the presentation of RC.

2. OPENING SESSION

2.1 WELCOME ADDRESS

By Mr. K. S. Nketiah, Programme Team Leader, Tropenbos International - Ghana

Mr. Chairman, distinguished participants, ladies and gentlemen, and members of the media, it is my pleasant duty to warmly welcome you all to the 4th in the series of Focus Group Discussions organised by Tropenbos International – Ghana. The rationale for the series is to provide a forum for discussing topical societal issues that impinge on sustainable forest management. The theme for the day's deliberations is *Alternative livelihood and sustainable forest management*.

In the Ghana Poverty Reduction Strategy Paper (PRSP), forestry is seen as a means of creating wealth or reducing poverty. Forestry is expected to contribute to national development. Besides the contribution of the sector to GDP through foreign exchange earnings from commercial timber, and to some extent wildlife, and the direct employment offered by the sector, several people depend heavily on the forest for their livelihood. Against this background, the concept of alternative livelihood is often seen as a means to reduce both rural poverty and dependence on the forest. There have been several initiatives towards these ends.

Some Initiatives

The British development agency, DFID, has an entire programme on sustainable livelihoods; The Royal Netherlands Embassy has supported the Centre for Biodiversity Utilisation and Development (CBUD) of KNUST to develop and transfer several livelihood schemes; the Ministry of Food and Agriculture with support from the German Development Cooperation (GTZ) to train and support several farmers in the establishment of grass-cutter farms.

The Ministry of Lands, Forestry and Mines has also promotes other forestry-related employment options as alternative livelihood schemes. The Animal Research Institute and Forestry Research Institute of Ghana (FORIG), both institutes under the Council for Scientific and Industrial Research, CSIR, have carried out extensive research in the domestication of grass-cutters and snails, and also in bee-keeping and mushroom cultivation. All these are technologies promoted as alternative livelihoods.

The private sector and non-governmental organisations (NGOs) have not been left out in these efforts: SAMARTEX, a private timber company is known to have embarked on serious development of non-timber forest products (NTFPs), whilst RUDEYA, Ricerca e Cooperazione (R & C), TBI – Ghana and others have also worked in communities to promote these so-called alternative livelihood technologies. The Federation of Associations of Ghanaian Exporters (FAGE) have also been helping with market development and marketing of products including those from such technologies.

Some Critical Questions

Why are such technologies referred to as '*alternative livelihood*' schemes? Alternative to what? If the forests are managed by the government for the *people*, why all the fuss about finding them alternative livelihoods? Is it a cover-up so that government can continue to commercialise timber operations at the exclusion of the *true* owners of the resources? Why not allow the people to manage their own resources and derive their livelihood from it? The argument goes that given the chance, people are capable of living off the forest sustainably.

Of course the argument can be faulted, given the current population levels and growth rates and people's attitude to the forest. But there is also the argument that people's current attitude to forest resources derive from attempts to exclude them from the management and benefits from the resources. All these are debatable issues.

Alternative livelihood schemes fall into different categories: forest-based, forestry-related, and other 'alternative' livelihoods, which may not have any direct bearing on the forest.

Information Needs

Under each category, different projects have been promoted or pursued with religious zeal, be they in NTFPs like mushrooms, beekeeping, grass-cutter or snail farming or other like soap making or agro-processing. But information is lacking as to the sustainability of the various technologies, the levels of incomes (vis-à-vis) costs; the challenges encountered and the extent to which these technologies are able to reduce poverty and thereby reduce dependence on forests. All these are issues that need to be openly discussed with the view to identifying: the most successful livelihood options, success factors or best practices and challenges in terms of transfer and adoption of the technologies. Their implementation and sustainability as well as issues concerning markets and marketing must also be discussed.

The broad objective of the focus group discussion is thus to identify viable technologies, success, factors and measures to enhance their abilities to improve incomes (reduce poverty) and eventually reduce unsustainable dependence on forests.

Distinguished participants, ladies and gentlemen, my duty was just to welcome you; but I suppose I have succeeded in whetting your appetite. After the presentations at the plenary session, there will three different groups to further examine the issues. Now, even as I welcome you, may I also implore you to participate fully in the discussions. Freely share your rich and varied experiences, concerns and reservations. You are most welcome.

2.2 KEYNOTE ADDRESS

By Prof. Dominic Fobih, Minister of Lands and Forestry, delivered by the Technical Director (Forestry), Ministry of Lands, Forestry and Mines

Mr. Chairman, board members of forestry commission, members of the diplomatic corps, directors and heads of forestry institutions as well as other institutions, members of the press, ladies and gentlemen.

Let me first of all express my appreciation for the opportunity given me to fraternise with experts in the forestry sector to discuss this important subject. I am also grateful to Tropenbos International – Ghana for taking the lead in organising this seminar on a subject that is becoming increasingly significant in view of rising poverty associated with the weaning of communities from forest resources. It is a well-known fact that the vast majority of Ghanaians particularly those in the rural areas depend on the forest as their source of livelihood. These include the use of fuel wood and charcoal as their main source of energy for cooking, collection of food, medicinal plants and construction materials for housing. These communities also supplement their cash income by collecting and selling such materials for making handicraft.

However, the importance of the forests in these ways has partly been blamed for the high rate of forest degradation. Ensuring the sustainability of forest resources in the face of extreme poverty especially of people who live close to the resources is almost impossible.

Mr. Chairman, we all know that until such a time that the economy improves significantly to provide other sources of employment people will need to survive on these forest resources. This will also require that prudent measures be adopted to ensure sustainable resource management so that alternative livelihood options can be provided for them.

The government recognises the link between these two and has therefore put in place some measures to provide alternative livelihoods that can reduce poverty and thereby reduce pressure on forests. It is in line with this objective that the ministry through the forestry commission invested heavily in alternative livelihood projects during the first phase of the Natural Resources Management Project (NRMP 1) to improve the economic status of communities living around forest that fall within Globally Significant Biodiversity Areas (GSBAs) and to encourage them to forgo income previously generated from exploitation of the newly designated GSBAs.

Mr. Chairman, in addition, several Non-Governmental Organisations have also supported farmers in alternative livelihood schemes aimed at reducing poverty of rural farmers. Besides these groups, the Forestry Commission has also trained forest-fringe communities in new technologies such as mushroom farming, grass-cutter rearing, bee-keeping and snail farming.

The adoption of new equitable benefit sharing schemes in natural and forest plantation as well as the introduction of Social Responsibility Agreements in timber harvesting areas also shows the commitment of government towards ensuring that communities were adequately catered for in terms of sustainable livelihoods.

The Ministry of Lands, Forestry and Mines believes that plantation development could provide important alternative livelihood opportunities for farmers and forest fringe communities. It is in this vein that the government has provided funds through various sources as well as technical assistance to support the on-going forest plantation development.

Mr. Chairman, permit me to also mention some initiatives within other Ministries. The Government through the Ministry of Local Government and Rural Development with technical support from the Centre for Biodiversity Utilisation and Development (CBUD) of

KNUST and with financial support from the Dutch Government has trained over 5,000 farmers in alternative livelihoods including grass-cutter farming, snail farming, bee keeping and the cultivation of leafy vegetables.

The Ministry of Food and Agriculture has been working with GTZ to promote grass-cutter farming among several communities not only in the Brong Ahafo Region but also in other Regions. By all these efforts, Government hopes to provide alternative employment to the forest-fringe communities and thus reduce pressure on the forest.

In spite of all the efforts by the Government, Development Partners and NGOs to promote alternative livelihoods to create wealth and wean people from the forest, it is not very clear the extent to which such efforts are achieving their goals of improving incomes and weaning people from the forest. The success factors and the challenges from the field are also not so well known. It is for these reasons that I consider the theme for this forum very relevant and appropriate.

If previous Focus Group Discussions by TBI-Ghana are anything to go by, then it is my firm belief that this meeting will shed light on these and other relevant issues and come up with practical recommendations for carrying out further alternative livelihood agenda for the good of the populace and for significant contribution towards the realisation of sustainable resource management in Ghana.

My Ministry therefore considers very laudable, TBI-Ghana's goal of helping provide distinctive input into the sustainable management of Ghana's high forest resources for the benefit of people and conservation. I particularly commend them for the regular forum they provide for discussing topical and burning issues that impinge on forestry in particular, socio-economic and development as a whole.

It is worth noting that we are also faced with environmental degradation due to surface mining especially the unapproved small-scale mining popularly referred to as 'galamsey'. My Ministry is finding solutions to minimize the hazards of the trade as well as the degradation to the environment. Alternative livelihood schemes for 'mined out towns / ghost towns' will go a long way to wean these small scale operators and offer alternative employment to indigenous citizens in mining areas. I hope this meeting will take into consideration the matter I have just alluded to in their deliberations.

Mr. Chairman, before I take my seat, I wish to urge all participants to critically share and examine your rich experiences and knowledge in alternative livelihood schemes and actively contribute to the discussions so that very useful and practical recommendations will emerge from this forum to carry the agenda forward.

I am eagerly waiting to receive the outcome of your discussions for firm policy decisions to be taken by my Ministry.

Thank you all for your kind attention, and may God bless you all.

Questions and Comments directed to the Minister's representative

Question:

Ghana has a great potential in the NTFP and I want to suggest to the Ministry of Lands and Forestry to fully promote NTFPs by instituting a day to honour developers as MOFA is doing on Farmers day.

Answer:

Good suggestion but needs to be done in collaboration with Ministry of Manpower, Youth and Employment.

Question:

From all the presentation it can be seen that agriculture is paramount to alternative livelihoods, is there any collaboration between Ministry of Lands Forestry & Mines and MOFA in looking at alternative livelihoods? What is the way forward then?

Answer:

AfDB – CFMP

Question:

Sir, due to the recent increase in petroleum products, don't you think that it will have adverse effect on our already depleted forest: with reference to Kerosene and LPG (Liquefied Petroleum Gas)?

Answer:

Establishment of woodlots with fast growing species needs to be promoted.

Question:

The problem with the promotion of alternative livelihoods is lack of proper networking and collaboration. Normally, after the initial research and introduction of the new technology to the people, the implementation of the livelihood strategy becomes a problem. Most of the time, what is needed is just simple tools to sustain the livelihood but since projects are time bound, there is a break there. What then is Mr. Fredua Agyemang and his outfit, as policy makers doing to bring researchers and project implementers together to make sure that we move a step ahead to help the people with the basic skills and resources needed to sustain the livelihoods?

Question:

Throughout the presentations the need to increase tree planting both on farms and in the forest has been highlighted. I am also sure your outfit is also vigorously pursuing that objective. Meanwhile the Ministry of Food and Agriculture encourages cocoa farmers to reduce the number of trees on their cocoa farms because the new cocoa variety (the hybrid) is not shade-loving. What is your outfit doing about this inter-sectoral policy conflict?

3. PRESENTATIONS

3.1 FOREST RESOURCES AND SUSTAINABLE RURAL LIVELIHOODS

By: Dr. Emmanuel Acheampong, College of Agriculture and Natural Resources, KNUST, Kumasi, Ghana.

Introduction

In less developed countries, particularly those in Africa, livelihood insecurity remains a major problem. Poverty, famine and malnutrition are serious, perennial problems that these nations have to grapple with. Poverty in the developing world is more a rural than an urban phenomenon, and in the poorest developing countries, 65-80% of the population still live in rural areas (Shepherd *et al.*, 1999). Rural people in these countries, especially the poor, thus employ a diversity of means to help meet basic needs: food crop production; cash crop production; forest and tree product gathering, consumption, processing and sale; and income-earning enterprises both on and off the farm. Often, the poorer the household, the more diverse the sources of its livelihood, as the needs for the year must be made up from various off-farm as well as on-farm natural resources, and often from migrant labouring as well (Shepherd *et al.*, 1999).

Within this matrix of opportunities, poor rural people are very much dependent on land and other natural resources for their livelihood. They have traditionally depended upon forests and trees for the collection of livelihood goods such as food, fruits, fuelwood, fodder and fibres (Chambers *et al.*, 1989) as well as for income (Falconer and Arnold, 1991). Forests and forest products are therefore key resources for poor people.

This paper focuses primarily on the role of forest products (especially non-timber forest products [NTFPs]¹) in rural livelihoods. It begins with a brief discussion on the concept of sustainable rural livelihoods. The discussion then narrows down to an examination of the extent and manner in which forest-based resources form part of livelihood structures of rural people. The final section discusses the impact of local people's dependency on the forest resources and ways of developing the resource so as to continue to support rural livelihoods. The paper is based on a study conducted in the Wassa Amenfi District in the Western Region of Ghana. Data was collected in three forest communities (Sureso, Kamaso and Kamaboi) for a period of six months between January and June 2001 using both quantitative and qualitative methods.

The concept of sustainable rural livelihoods

The concept of 'Sustainable Rural Livelihoods' relates to a wide set of issues and is increasingly central to the debate about rural development, poverty reduction and environmental management (Scoones, 1998). It was first put forward in the report of an Advisory Panel of the World Commission on Environment and Development (Chambers and Conway, 1992). In calling for a new analysis, the commission proposed sustainable livelihood security as an integrating concept, and made it central to its report. The definition was as follows:

¹ The paper is based on the following definition of NTFPs: "all the biological material (other than industrial round wood and derived sawn timber, wood chips, wood-based panel and pulp) that may be extracted from natural ecosystems, managed plantations, etc. and be utilised within the household, be marketed, or have social, cultural or religious significance" (Wickens, 1991). Examples are animals of different species, mushrooms, fruits, roots, barks, leaves, non-industrial wood used for diverse purposes, seeds, flowers, leaf litter, resins, gums, honey, fibres, canes, medicines, chewstick, etc. (Asibey and Beeko, 1989)

"Livelihood is defined as adequate stocks and flows of food and cash to meet basic needs. Security refers to secure ownership of, or access to, resources and income-earning activities, including reserves and assets to offset risk, ease shocks and meet contingencies. Sustainable refers to the maintenance or enhancement of resource productivity on a long-term basis. A household may be enabled to gain sustainable livelihood security in many ways - through ownership of land, livestock or trees; rights to grazing, fishing, hunting or gathering; through stable employment with adequate remuneration; or through varied repertoire of activities" (WCED, 1987, in Chambers and Conway, 1992: 7).

Thus, the idea of sustainable livelihoods emerged as an approach to maintaining or enhancing resource productivity, securing ownership of and access to assets, resources and income-earning activities, as well as ensuring adequate stocks and flows of food and cash to meet basic needs. Clearly, food security is an important component of this framework.

The definition of sustainable livelihoods has undergone modifications since it was first introduced. For example, in modifying the WCED Panel definition, Chambers and Conway (1992) put forward the following working definition of sustainable livelihoods:

"A livelihood comprises the capabilities, assets (stores, resources, claims and access)² and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term" (Chambers and Conway, 1992: 7).

Drawing on Chambers and Conway (1992), Scoones (1998) also defines sustainable livelihoods as follows: "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base" (Scoones, 1998: 5; see also Carney, 1998).

From the above definitions, three fundamental attributes of a livelihood can be identified, namely: the possession of human capabilities (such as education, skills, health, psychological orientation, etc.); access to tangible and intangible assets (such as land, forests, etc.); and the existence of economic activities. In particular, the asset dimension is critical to an appreciation of the concept. Assets, in this context, are resources and stores (tangible assets), and claims and access (intangible assets), which a person or household commands and can use towards a livelihood (Chambers and Conway, 1992). Out of these tangible and intangible assets people construct and contrive a living, using physical labour, skills, knowledge, and creativity.

The sustainable rural livelihoods approach identifies five types of capital assets³, which people can build up and/or draw upon. These are natural capital (soil, forests, trees, water, air,

² According to Chambers and Conway (1992), stores and resources are tangible assets commanded by a household. Stores include food stocks, stores of value such as gold, jewellery and woven textiles, and cash savings. Resources include land, water, trees, and livestock; and farm equipment, tools, and domestic utensils. Claims and access are intangible assets of a household. Claims are demands and appeals which can be made for material, moral or other practical support or access. The support may take many forms, such as food, implements, loans, gifts, or work. Access is the opportunity in practice to use a resource, store or service or to obtain information, material, technology, employment, food or income.

³ This is not an exhaustive list, other forms of 'capital' can be identified. For instance, the broader political conditions (including the relationship between the state and civil society) which allow or constrain the pursuit of different livelihood strategies may be termed 'political capital'. Similarly, the embedded historical and cultural setting within which livelihoods are pursued may be captured by the notion of 'symbolic capital' (Scoones, 1998).

genetic resources, etc.); human capital (skills, knowledge, good health, etc); financial capital (cash, savings, remittances, etc.); physical capital (basic infrastructure such as transport and shelter, production equipment and technologies); and social capital (networks, social claims, social relations, affiliations, associations, etc.) (Scoones, 1998; Farrington *et al.*, 1999). These assets constitute livelihood building blocks. The assumption is that people pursue a range of livelihood outcomes (more income, food security, health security, reduced vulnerability, etc.) through different activities, by drawing on a range of assets or resources. The role of institutions and organisations, which determine, in large part, the access of households to resources and strategies, is critical.

In a rural context, households may construct four main categories of livelihood strategies: agricultural intensification; agricultural extensification; livelihood diversification, e.g. forest product gathering, processing, consumption and sale, petty trading, formal employment, etc; and migration (Carney, 1998; Scoones, 1998; Mearns and Dulamday, 2000). Broadly, these are seen to cover the range of options open to rural people. More commonly, rural people pursue multiple strategies, together or in sequence. They may, for instance, depend on their own farming, on selling their labour locally, on gathering and processing forest products, on hunting, or on migration, all within the same year. Outcomes will not be simply monetary, or even tangible in all cases. They may include, for instance, a sense of being empowered to make wider, or clearer, choices (Farrington *et al.*, 1999).

Sustainability is a key quality of successful livelihoods. Sustainability means both the ability of the livelihood system to deal with and recover from shocks and stresses, and also the ability of the livelihood system and the natural resources on which it depends to maintain or enhance productivity over time.

Contributions of forest resources to rural livelihoods

As pressures on the agricultural land base increase, leading to progressive fragmentation of farm holdings and overuse of arable land, the ability of farm households to achieve food self-sufficiency and livelihood security from their land declines. Rural populations in the Wassa Amenfi District (the area in which case material for this paper was drawn) are therefore becoming increasingly reliant on forest resources for their livelihoods. As uncultivated forestland outside reserves has largely disappeared in this area, reserved forests have come under increasing pressure from local people. As one woman reported:

"All the land is finished... We do not have enough land for growing food crops. Food shortage is therefore a major problem in this village... The forestland, which is fertile, is now finished and since our numbers are increasing fallow periods have reduced to between 3 and 6 years, by which time the soil has not regained its fertility. If the government does not help us, we will all leave for the city because we are dying of hunger. We are pleading with the government to release some of the forest reserve to us for farming" (Woman interviewee, Kamaso Village, March 2001). The majority of households expressed similar sentiments.

The local people's dependence on forest resources derives from a number of sources: their roles in forest clearance and hence their close contact with the forest and its products; their poverty - which increases their dependence on minor forest products (for example, snail and mushroom gathering and the collection of *Marantaceae* leaves); and their vulnerability, with NTFPs providing important buffer or safety net in times of stress (Agyemang 1996; Brown 1999).

Subsistence uses of forest products

Forests contribute to all aspects of rural life of fringe communities in the study area: providing food, medicines, fuelwood, fodder, canes, building materials (poles and thatch), wrapping leaves, pestles, chewing sticks, and materials for all sorts of household items. NTFPs thus form an integral part of the rural economy. Several species of forest foods are widely consumed throughout the entire area. Virtually all the respondents (98%) reported that

they consume several varieties of forest foods in their households including fruits, nuts, seeds, leaves, mushrooms, snails, honey, tubers, and bush-meat. In all, the respondents mentioned 49 plant species whose parts are consumed in the study area. Bush-meat is the most highly valued and the most popular forest food in the area and all classes of people consume it. Commonly consumed bush-meat species in the area are the giant rat, grasscutter, porcupine, duikers, bushbuck, squirrels, and snails.

In order to gain a general picture of how often forest foods are consumed in households, respondents were asked to indicate the last time they consumed any kind of food from the forest and then list the type. Of the 160 households interviewed, 31 percent had eaten or had included forest foods as ingredients in their meal preparations during the day of the interview, 22 percent indicated that they had eaten forest foods in the day preceding the day of the interview, 16 percent reported that they had eaten forest foods in the week prior to the interview, while 8 percent indicated that they had eaten forest foods in the previous month. Fourteen percent (14%) of the respondents, however, could not remember the last time they consumed any kind of food from the forest.

Although the quantities of forest foods consumed in households are small compared with the main staples, they play a very important role in supplementing what is obtained from agriculture. In addition, forest foods also play seasonal and emergency roles in the rural communities. Most people indicated that forest foods are used to help meet dietary shortfalls during particular seasons of the year, and are important in times of crop failure, famine, and other emergencies. For example, 37 percent of the households surveyed reported that they collect wild food from the forest in times of crop failure (Table 3.1) confirming the role of forests as "buffer" or "safety net" which people can fall on in times of need.

Table 3.1 Means of surviving previous year's insufficient food crop harvest

Means/Ways	Number of households	% of households
Borrowed food	7	4.4
Bought food	77	48.1
Given food	15	9.4
Collected food from the forest/bush	59	36.9
Other ways	2	1.3
Total	160	100

Source: Fieldwork, 2001; Household Survey

In addition to forest foods, most household items such as baskets, sleeping mats, crop drying mats, grinders, mortars, spoons and other utensils are also produced from forest and tree resources found in the surrounding environment. Forest and tree resources thus are prominent in the material culture of the study villages.

Changing patterns of household use and consumption of forest foods

Although forest foods still contribute greatly to household subsistence, most local people, including key informants, admitted that the quantities of certain food items consumed are dwindling. The majority of elders interviewed felt that the variety and importance of forest foods in the diet had declined over their lifetimes. The vast majority felt that changes in forest food consumption patterns were a result of declining availability rather than changing taste.

For example, comparing the extent to which forest foods are consumed at present with 10 years before, 44.4 percent of the households reported that people eat less forest foods today although 33.8 percent reported that people eat more forest foods today. Twenty percent (20%) indicated that there is no change in consumption whilst a few (1.9%) could not describe the pattern of consumption (Table 2).

Table 3.2 Consumption of forest foods now compared with 10 years ago

	Number of households	% of households
Today people eat more forest foods	54	33.8
Today people eat less forest foods	71	44.4
No change in consumption	32	20.0
Don't know	3	1.9
Total	160	100

Source: Fieldwork, 2001; Household Survey

Several reasons were given to explain the declining consumption of forest foods. Of the 44.4 percent who reported that people eat less forest foods today, 85.9 percent indicated that this is so because forest foods are less available, 4.2 percent reported that forest foods are considered inferior today, 2.8 percent mentioned the availability of better varieties of cultivated foods, 1.4 percent reported that people have more money to purchase food from the market, whilst 5.6 percent indicated that people eat less forest foods today because of lack of knowledge of the different types of forest foods (Table 3.3).

Table 3.3 Reasons for the decline in consumption of forest foods

Reasons	Number of households	% of households
Forest foods are less available today	61	85.9
Forest foods are considered inferior today	3	4.2
Availability of better varieties of cultivated foods	2	2.8
People have money to purchase food from the market	1	1.4
Lack of knowledge of the different types of forest foods	4	5.6
Total	71	100

Source: Fieldwork, 2001; Household Survey

It seems clear, therefore, that the most important reason for changes in forest food consumption is the declining availability of forest foods.

Income from forests and household livelihoods

Though a significant proportion of forest products are used in the household, the sale of gathered forest products and processed goods derived from them also provide an important part of the family income throughout the year. In the study area forest-based activities provide one of the most common income-earning options for households, although the majority of the rural people are principally farmers for whom the forest-based activities represent a supplementary source of income. In all, 94 percent of households obtain some sort of income from forest product activities (see Fig 3.1). These activities are especially important at times when agricultural tasks diminish, or when the need for cash is acute.

The majority of forest-based income activities (especially the gathering activities) display considerable seasonal fluctuations in the degree of involvement, mainly as a result of changes in farm labour requirements, the increased need for cash during hardship periods, the seasonal availability of raw materials or some NTFPs and fluctuations in demand. The majority of forest-based cash earning activities usually decline during planting and harvesting periods, when farm labour requirements are high, but increase during the hunger season when people need money to buy staple foods.

Because of rural sensitivities, it was not possible to obtain precise data from households on the absolute amount of income that the individual forest-based activities provide in a year. Instead, respondents were asked to estimate the proportion of their household's income derived from forest-based activities and whether they view this income as 'important' (in absolute terms, at a particular important time of the year or for what it is used to purchase).

Although more than 50 percent of the respondents reported that the proportion of their household income from forest based activities is very small (less than 20%), almost all of them indicated that this income is of great importance (Figure 1). Most households maintained that the income obtained from forest-based activities contributes immensely to their livelihoods, as it is often available in times when agricultural income is non-existent.

An interview with a herbalist in Kamaso village provides an example of the enormous contribution of forest-based activities to household incomes and livelihoods. The 62-year-old man was married with 6 children. He reported that he has treatment for conditions such as piles, rheumatism, eye problems, waist pains, hernia and impotence. He sells his medicine to locals as well as outside traders and indicated that he obtains more money from medicines than from farming. Although this man could not quote exact figures, he estimated that about 80 percent of his annual income comes from the sale of traditional medicines. He maintained that this income is very important to the survival of his household.

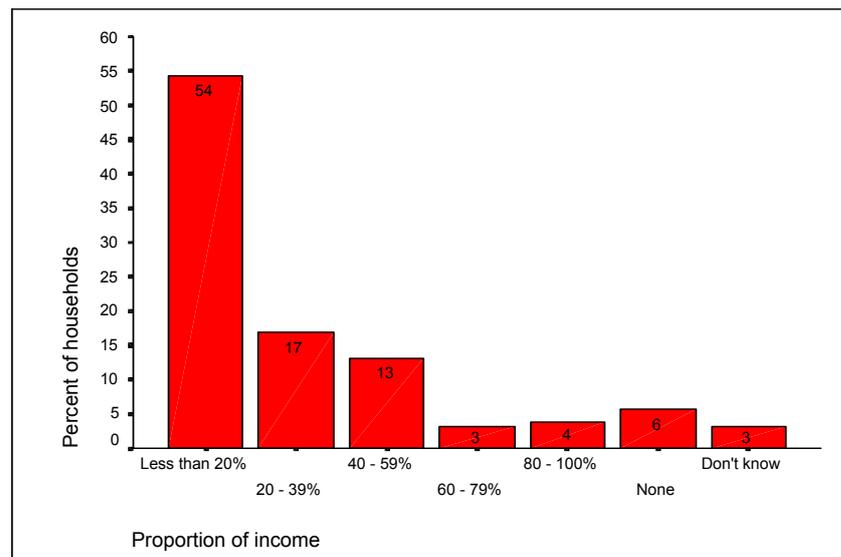


Figure 3.1 Proportion of households' income from forest-based activities⁴ Source: Fieldwork, 2001

Impact of local people's dependency on the forest resources

People living in forest environments, and practising hunting, gathering and shifting cultivation, draw heavily on forests and their outputs to sustain their livelihoods. Local people's dependency on forests for livelihoods often results in forest loss and the decline in availability of many forest products, especially NTFPs (Contreras-Hermosilla, 2000). Thus, reports of worsening NTFP supply situations have been widespread in many areas of the developing world (Arnold, 1996).

In order to gain a general picture of local people's perception of the availability of forest products, households were asked to describe the condition of the forests, especially forest reserves. Virtually all the local people complained that the condition of the forests is very poor, as most areas are degraded. Some people reported that the forest reserves are very much degraded due to the activities of logging companies and chainsaw operators. People felt that logging companies cut the timber without replacing them. Most of them are worried since they feel that their source of livelihood is being eroded. They reported that the availability of most NTFPs has declined considerably, with some products becoming almost extinct.

⁴The respondents were asked to estimate the proportion of their household income from forest-based activities by making reference to their previous year's income.

For example, 78 percent of the survey households reported that forest products in general are less available these days (Table 3.4). In particular, they complained bitterly about the reduced availability of bush-meat species since it is the main source of protein in the area.

Table 3.4 Availability of forest products compared with 10 years ago

	Number of households	% of households
Forest products are less available	125	78.1
Forest products are more available	12	7.5
No change in availability	18	11.3
Don't know	5	3.1
Total	160	100

Source: Fieldwork, 2001; Household Survey

Respondents mentioned more than one reason as responsible for this decline. These included over-harvesting of forest resources due to population pressure, destructive harvesting practices, bush fires, forest guards restricting access to forest resources, logging operations damaging the resource, logging workers harvesting the resource, clearance of forest areas for farming, and invasive weeds (Table 3.5). Some people also believed that the availability of forest products has declined because local people have not been observing or respecting traditional rites and customs.

Table 3.5 Reasons for the reduced availability of forest products

Reasons	Number of households	% of households
Over-harvesting of forest resources	110	68.8
Destructive harvesting practices	42	26.3
Clearance of forest areas for farming	109	68.1
Forest access restriction by forest guards	104	65.0
Bush fires damaging forest resources	48	30.0
Logging operations damaging the resource	59	36.9
Logging workers harvesting the resource	14	8.8
Invasive weeds	13	8.1
Total	160	100

Note: Households could mention more than one reason.

Source: Fieldwork, 2001; Household Survey

The majority of elders interviewed indicated that when they first settled in the area, bush-meat species were so abundant that they could use the noise made by monkeys to tell the time. The vast majority maintained that snails and bush-meat species were so common that they could harvest them in the middle of footpaths and at their backyards. There was no need to enter the reserve forest or travel long distances to hunt bush animals. Indigenous fruits such as 'prekese' (*Tetrapleura tetraptera*) and 'watapuo' (*Cola gigantea*) as well as wild yams were not difficult to find. People did not have to plant kola as they occurred naturally in the forest. Most people maintained that now they have to sneak and travel long distances into the reserved forest in order to get bush-meat. They claim that chew-sticks, particularly 'nsokor' (*Garcinia spp.*), are now very scarce in the area due to over-exploitation.

Most people felt that forest products have declined because they are not replaced when they are harvested. For example, one woman from Kamaboi Village reported as follows: "The condition of the forests has changed drastically. There is more degradation because when we harvest trees and other forest products we don't replace them. Don't we replace cassava when we uproot them from our farms? Can't we do the same to our forests?" Such sentiments suggest that the local people living near the forests have much impact on the forest resources and are at risk of losing important resources on which their livelihoods depend.

Conclusion and recommendations

This paper has shown that NTFPs provide critical resources across southern Ghana, fulfilling nutritional, medicinal, financial and cultural needs. Very large numbers of households continue to draw a wide range of foods from the forest and generate some of their income from forest product activities. However, current rate of exploitation threatens the sustainability of the resource and forest-dependent livelihoods. There is therefore the need to maintain and develop the remaining resource, if forests are to continue to support local livelihoods.

The paper has revealed that the major factor responsible for reduced availability of forest products is over-harvesting or the unsustainable exploitation of the resource. Therefore, interventions that explore potential management solutions to this problem and investigations of ways to increase supplies through cultivation would appear to be appropriate. Indeed, NTFP cultivation can be incorporated into existing plantation and rehabilitation programmes. These programmes should encourage the cultivation of NTFPs in newly established plantations and in areas where forest rehabilitation is taking place. Research into means of integrating NTFP production into agroforestry systems along with suitable agricultural extension to encourage the cultivation of trees in farming systems should also be considered. Although the majority of farmers retain important NTFPs during land clearance, most people were not aware that NTFPs such as canes and 'nsorkor' (*Garcinia spp.*) could be cultivated and attributed this to the lack of technical support. The Forest Services Division (FSD) therefore has an important role to play in encouraging farmers to cultivate NTFPs especially those that are in serious decline.

Throughout the study area people highlighted the importance of bush-meat to their livelihoods, along with the declining availability of wild animals. Many have tried to bring the source of supply under closer control through attempts to domesticate wild animal species such as the grasscutter, the giant rat and the tree squirrel, but not all these animals do well in captivity. Research into various aspects of the biology and ecology of these species - leading to their effective domestication - should be considered. Such studies should involve the development of cheaper methods of production and extension services to enable the transfer of the technology to small-scale farmers.

It is clear from the foregoing discussion that forest resources contribute to sustainable livelihoods and the reduction of poverty in many rural communities. However, the majority of forest-based activities (especially the gathering activities) are characterised by low returns to labour. New options, which are quite likely to be outside forestry, need to be developed to help people move out of forest product activities of declining importance and those that can offer no more than marginal, unsustainable livelihoods. These alternative activities can help ease the pressure on forest resources. Care needs to be taken, however, to ensure that alternative activities indeed offer better livelihood options and future growth prospects.

Questions on forest resources and sustainable rural livelihoods

Question:

How does forest access restriction lead to non-availability / declining availability of NTFPs?

Answer:

People believe that the resources are in the reserve, but because they are not allowed to go into the reserve to harvest they see it as declining even though the resources actually exist in the reserve. They therefore see access restriction as one reason for the decline in the resource even though the resource is physically there.

Question:

What animal species are consumed as bushmeat, especially the most important species?

Answer:

A lot of species are consumed including mammals and rodents, but mostly rodents, because of their relative availability. Snails are also very common.

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3.2 PROMOTING ALTERNATIVE LIVELIHOODS: FIELD EXPERIENCES

By Dr. Gianna DA RE, Ricerca e Cooperazione (RC)

BACKGROUND

The forestry sector

In Ghana Forest fringe communities live in **poverty** despite the fact that the forestry sector contributes some 6% to the Country GDP, 11% of export earnings and 70,000 jobs. (FAO country report, 1996) These facts have not been transmitted to people who live by the forest and depend on it for their **livelihood**.

National poverty incidence is highest among the **forest fringe / rural population**, which constitute about 70 percent of all Ghanaians. Major causes of rural poverty are rapid population growth combined with decreasing soil fertility, ecological degradation including forest and wildlife habitat destruction due to human activities of various nature, lack of education, gender inequity, lack of information and awareness and lack of access to resources. Others include uncertain ownership right on trees and land, unequal benefit sharing and lack of consultation and participation in decision making. In short, natural resources are under intense pressure, and the challenge of sustainable development remains enormous.

The world community has agreed a set of international development targets for all countries, the achievement of which requires concerted action on poverty reduction, environment, education, health, gender equality and people participation. This is expressed in the Millennium Development Goals (MDGs). The environment, along with poverty, has moved to centre stage as a critical issue. There is now wider realization that these concerns are closely related and that poverty reduction, environment protection and sustainable resources management are mutually supportive in the long run.

In Ghana inadequate protection, conservation and management of the environment has led to substantial direct and indirect impacts on the health and the livelihoods of the poor.

Over-abstraction of surface water and ground water is common; river flows are often greatly reduced. Problems include falling water tables, vegetation and habitat loss, siltation, and pollution.

One of the major environmental threats to the livelihood of the poor in Ghana is soil degradation. Many of the areas where the rural poor live are fragile and can be easily made non-viable by small changes in their ecology. Deforestation continues at a high rate. As a result rural and forest fringe communities are deprived of forest resources such as wood products, food, medicinal plants. This in addition to the serious impact on nutrients recycling, soil stabilization and local as well as global climate change.

Biodiversity losses are increasing at an alarming rate as a result of both natural and human activities and phenomena. The rapidly growing population are placing ever greater demands on ecosystem as are increase in natural resources based - exports. People and future generation are key stakeholders in environmental and resources management issues, but they have no, or little, voice in today's decision-making process, while their full participation is deemed, and has shown to be a determinant if the present trend has to be reversed.

Financial services are often not available. Access to health and education often favours the better off and ill-health is a major and frequent cause of families being thrown back into poverty. Children may be required to work for the family to survive. Medicines can cost large amounts of money and be the cause of very poor families getting themselves into debt.

In fact, environmental problems are a significant cause of poverty, and generally hit the poor hardest. Therefore better environmental and resources management is essential to secure lasting poverty reduction. Too often we deal with the consequences of poverty rather than the underlying causes.

Ricerca e Cooperazione's strategy to poverty reduction using sustainable livelihoods approach

RICERCA e COOPERAZIONE is committed to reversing the present situation and to the achievement of the Millennium Development Goal 3? to halve the proportion of people living in extreme poverty by 2015 together with the associated targets, which combines the protection of the environment and poverty reduction with the final aim of ensuring sustainable development for all.

In particular RICERCA e COOPERAZIONE's work focuses on:

- i) Enhancing the capacity of the poor and the civil society to restore, protect and manage the current natural resources assets by enhancing their capacity to do so;
- ii) Protecting the access of the poor already have to critical resources (such as lands, trees, water and fishing ground) by enhancing their capacity to advocate for their rights;
- iii) Strengthening the participation by the poor and of the civil society in decision making process related to access to natural resources by facilitating their participation in the formulation and implementation of local, regional and national plan, policies and strategies which are truly pro-poor;
- iv) Enhancing the capacity of the poor and civil society in managing and investing in environmental services and resources by facilitating the acquisition of better quality environmental services such as water supply, sanitation and waste management; and
- v) Promoting environmental technologies that benefit the poor through a greater focus on tackling the environmental problems that impact on the livelihoods of the poor and enhancing the adoption of affordable, appropriate, economically viable and environmental sound technologies.

We think that if poverty is to be reduced effectively, poor people themselves must be placed at the epicentre of development. Their capabilities must be emphasized and empowered to take decisions. Too often in the past, development experts have decided on behalf of the poor with the assumption that they can not do so on their own. The reality, however, is different, and experiences from the world over indicate that they are hardworking, creative and able to take decisions that affect their welfare and overall development. The poor bring a range of skills to development, both personally and as part of the wider communities to which they belong. Adopting a Sustainable Livelihood approach builds on the strength of poor people so increasing the opportunities open to them. Strengthening formal and informal community organizations can enable them to engage with governments, the private sector and the powerful elites that tend to dominate their lives.

In summary we have adopted a Sustainable Livelihoods Approach to enhance the well-being of the poor, which encompasses the following:

Putting people **at the centre of development and involving them at all stages**, from design, to implementation and the assessment of process.

Identifying in a holistic manner the opportunities and constraints for poor people to improve their situation.

Recognizing that poor people have diverse livelihoods strategies and expectations, based on a range of different activities. These will evolve over time, so support must also move on and be **dynamic**.

Linking policy to **community activities** and vice versa. This is vital for achieving lasting benefits. For example, secure access to land and tree tenure by the poor, requires action at community level but also require changes in policies, legislation and in the institutions responsible. The lessons drawn from the local level must be integrated into development policy, ensuring that policies reflect the priorities of the poor rather than reinforcing the position of the elite.

Working in partnership with the **public and private sectors**. Poor people require access to the services (extension, transport) and goods (planting material etc) on which they depend for their living. These need to be provided by both the public and private sectors depending who is best placed to provide them.

Using a long-term **approach** to ensure that improvements are **sustainable**.

Aiming at achieving practical **results**. Although a livelihoods analysis is holistic, action are focused on a limited number of activities, which will make a practical difference on the welfare of the people.

ALTERNATIVE LIVELIHOODS

Using this approach, which positions people at the centre and is participatory, Ricerca e Cooperazione has been promoting and facilitating the adoption of **alternative livelihood by forest fringe and rural communities** in its project and operational area. This is done taking a comprehensive view of development and bringing together economic, environmental, political and social aspects.

What is an alternative livelihood?

Alternative livelihoods are activities that build on traditional customs and knowledge promoting strategies that empower local communities to utilize the natural resources under their control in a sustainable manner for enhanced welfare. They are non-consumptive resource use based

Why alternative livelihoods?

Alternative livelihood systems are vital to the long-term survival of people and the environment particularly in sensitive areas that support neither additional cultivated agriculture nor conventional livestock production. People's welfare must be balanced with conservation of the environment and the preservation of biodiversity. In achieving this balance the wider issues of national and regional policies, international conventions and trans-frontier conservation initiatives need to be understood and applied to local conditions. In regions with high ecological value outside formal conservation areas, community-led development is critical to preservation of the environment.

RICERCA E COOPERAZIONE FIELD EXPERIENCE IN ALTERNATIVE LIVELIHOODS

RICERCA e COOPERAZIONE's field work has focused on enhancing economic well-being, social and human development, environmental sustainability and regeneration; reducing poverty among vulnerable groups, in particular poor farmers, forest fringe communities, fishing communities, women and children building their capacity to achieve increased economic benefits using the natural resources in a sustainable way.

High Forest Zone and the Transitional Savannah

The Forest Resources Creation Project, which commenced in the year 2001, ended in February 2004. The project took place in the Sefwi Wiawso district, Western region and operated in off-reserve areas. It was aimed at reducing pressure on natural forest resources in

the district within a sustainable development framework, by creating forest resources, planting mainly assorted indigenous timber tree species and improving farming systems through agro forestry. Others include halting and reversing land and ecosystem degradation, and applying soil reclamation and restoration techniques to enhance the livelihoods of people.

The project was implemented in an integrated manner, tapping on the collaborative capacities of all the stakeholders using collaborative resources management, participatory and gender as well as institutional capacity building approaches to solve environmental degradation problems associated with agriculture production and timber exploitation in the district.

The Sefwi Wiawso District falls within the moist semi-deciduous forest zone of Ghana with some of the trees in the upper and middle layers of the shedding their leaves in the dry season. This zone covers most of Ashanti, Western, Brong-Ahafo and Eastern Regions of the country. The commonest trees within the semi-deciduous forest zone are the *Celtis mildbraedii* (Essa) and *Triplochiton scleroxylon* (Wawa), both of which are very common in the area and occur in all layers of the forest. The other common tree species are *Ceiba pentandra* (Onyina), *Milicia excelsa* (Odum), *Khaya ivorensis* (Mahogany), *Entandrophragma cylindricum* (Sapele), *Terminalia ivorensis* (Emire) and *Terminalia superba* (Ofram) and Red cedar. The presence of these timber species explains the fact that creating artificial timber plantations of such species in the district will achieve a better result.

Farming in the Sefwi Wiawso District is mainly based on traditional practice of shifting cultivation. In the olden days when land was abundant this system was sustainable. Today however, the number of farmers has increased while the amount of fertile land remains the same. Pressure on land is increasing and farmers can no longer afford to leave their lands to fallow as long enough as would be required to restore fertility. Periods of bush fallow are becoming shorter and cropping periods are becoming longer.

Consequently farmers are being forced to practice permanent cultivation of the land with time. It was therefore based on these that various agro forestry interventions with sedentary farming innovations were introduced to farmers within the district for adoption to enable them have sustainable use as well as get maximum benefits from their land.

Sedentary farming proposes technical options which sustain continuous farming on the same land and maintain simultaneously the natural resources by respecting nature's law of death, decay and growth.

Agro forestry, an integrated land-use management system where trees or shrubs are deliberately cultivated on the same piece of land as crops and/or livestock combines the protective attributes of forestry with the productive characteristics of both forestry and agriculture. Various Agro forestry technologies were adopted and practiced under different interventions by farmers within the district to meet specific land-use needs. Interventions implemented are; Trees on oil palm, Trees on crops land, Trees on cocoa, Woodlot, Forest enrichment, Windbreaks, Home gardens, Live fencing, Trees on water ways and flood plains and Buffer zone Agro forestry.

Tree species used ranged from timber trees to soil fertility improvement types. These included, *Ceiba pentandra* (Onyina), *Mansonia altissima*, *Terminalia superba*, *Entandrophragma angolensis*, etc for timber production whiles *Gliricidia sepium* was used to improve soil fertility.

A. Trees on crop lands

Trees may be retained or planted on the farmland to derive multiple uses for them. Under this intervention, beneficiaries planted the trees in zonal arrangement on the cropland. The trees after five to seven years will form the upper storey. With education and training, some

farmers now intentionally retain trees they consider important augmented by planting of free seedlings supplied by the project.

Observations

Various timber tree species inter-planted with food crops within Sefwi Wiawso district. The ultimate aim of farmers engaged in this intervention is to have a timber plantation in the near future. Total of 106,171 seedlings of assorted timber trees species were supplied to beneficiaries under this Agro forestry intervention. Out of this figure, 88,750 of the trees survived and are performing well, representing 83.6 percent of trees planted. Planting distance of trees planted under such an intervention was based on the technical standards drawn for the project. Hence farmers adopted an average planting distance of 5m x 5 m giving 160 trees per acre and 554 acres of trees on crops established. With such spacing, farmers will be able to stay on that land for a relatively longer period for crops cultivation until the canopy closes. This arrangement will also enable the farmer realize some income within the short term whiles at the same time take good care of the trees.

Most of the trees on crops were located on low-lying areas where the soil texture is sandy loam. Based on the information received from the farmers and our own observations, duration of cocoa trees on such soils is relatively short as compared to that of hilly and clay loam soils. Sandy loam soil was used mostly for trees on crops with a larger percentage of Ofram and *Cedrella* showing fast growth. Generally, the performance of Edinam and *Mansonia* cannot be compared to Ofram on sandy loam soils. One important adoption that has really enhanced the performance of all the trees irrespective of the soil type is the zero burning method of land preparation. This is the practice of no-burning of fields after clearing the vegetation. The fertility of soil is not disturbed and essential nutrients are not lost before planting, but instead are gradually released as weeded plant material gradually decomposes.

Example 1:

Mumuni Adams an early adopter had established 3 acres of well managed *Cedrella* and Ofram under this intervention. Practicing zero tillage, the farmer was able to intercrop the trees with vegetables (tomatoes, garden eggs pepper) and pineapples all year round. Dry season cultivation was made possible by irrigation. The vegetables were fertilized with compost prepared by the farmer on site using sheep, goat, chicken droppings, nitrogen rich leaves (*Gliricidia*) wood ash etc. It is interesting to note that this farmer made as much as 300,000 cedis on the average from the sale of the vegetables a week. On the average he made 1,800,000 – 2,000,000 cedis as net profit on sales for a season. It is projected that in 15 -20 years time he will harvest the *Cidrella* trees for timber. Given the present state of affairs income from farming operations of the farmer will increase dramatically. This implies that Mr. Adams now has a greater opportunity in the future than he had in the past when his livelihood depended only on his traditional crop farming.

Example 2:

One beneficiary farmer (Augustine Olimpio) through the adoption of this intervention has a total of 2400 of *Cedrella*, Ofram, *Ceiba* and *Wawa* that are performing very well. The trees were inter cropped with plantain and cocoyam well lined pegged at a spacing of 8'x 8'. Tree spacing of 16'x16' was therefore adopted making the out-planting of trees easier and less expensive. In addition the farmer fertilized the crops using decomposed poultry manure well spread over the entire 10 acres cultivated area of his crop land. *Gliricidia sepium* was also used as live fencing for yams.

Benefits

In discussions with participants, the following benefits were mentioned:

- i) Provision of commercial and subsistence value from the tree component such as fuel wood, fruits and/or timber
- ii) Income from sale of food crops (plantain, cassava, cocoyam, yam) and vegetables (tomatoes, pepper, garden eggs),

- iii) Food supply for the rural household.
- iv) Soil fertility restoration by use of tree species that fix nitrogen and add biomass through leaf fall to the soil.

B. Trees on cocoa plantations

Trees on cocoa has been a traditional land management practice since the beginning of cocoa cultivation in Ghana. Technically, one acre of cocoa farm should have a maximum of six to ten trees to allow optimum light penetration. These trees are deliberately left on the farm during land preparation. However, the presence of timber trees on cocoa has recently been considered as a nuisance due to destruction of cocoa trees during logging. With the education on tree ownership policy carried out by the project, a lot more farmers have planted large quantities of trees on cocoa farms to provide the required shade needed for maximum and sustained yield and also for long- term economic benefits.

Observations

The number of trees on cocoa farms has increased appreciably within two years in the Sefwi Wiawso district. Under the FRCP, 116 beneficiaries adopted this land use management of incorporating trees on cocoa. Most of the farmers planted the trees with the view to replacing the old cocoa farms for timber plantations in the near future. Hence trees were planted in relatively closer spacing of 10 x 10m and at the patches within the cocoa as against the normal 6-10 trees per acre. This means that a range of between 10 and 40 trees depending on the state of the cocoa plantation were planted with an average of 25 trees per acre. As indicated in the table 3.6, a total of 47,545 of assorted timber trees were planted out of which 42,699 survived representing 89.8 percent.

The trend of species supplied where Ofram, Edinam and *Mansonia* dominated also featured under trees on cocoa. With the integration of trees on cocoa, indigenous knowledge of the farmers was taken into consideration. The predominance of Edinam and *Mansonia* on cocoa farms is indicative of the fact that these timber species co-exist well for mutual benefits. Thus, such species performed well under relatively low light penetration. However, it was observed that the performance of Ofram and *Cedrella* under very low light penetration was poor as compared to

Table 3.6 Quantity of assorted timber trees planted on cocoa plantations

Species	Supplied	Survived	Mortality
Cedrela	5227	4720	507
Edinam	12897	11602	1294
Mansonia	9841	8917	924
Ofram	18163	16279	1884
Wawa	541	369	172
Gliricidia	675	661	13
Kyere	75	55	19
Kyenkyen	120	88	31
Ceiba	4	4	4
Total	47,545	42,699	4,846

Edinam and *Mansonia*. This therefore implies that, when integrating Ofram and *Cedrela* with cocoa, the trees must be planted within the open canopies within the cocoa plantation to receive maximum light for better growth. The effect to soil type on intervention and its corresponding impact on the tree performance was also observed during the period. It was realized that hilly areas with clayey loam (red in colour) is suitable for cocoa as compared to low lying areas with sandy loam soil. In the same vane, Edinam, *Mansonia*, Asanfena and

Abako were found to perform very well on hilly clayey loam soils. In situations where zero burning as land preparation method was used, performance was exceptionally good.

Benefits—discussions with participants

The farmer continues to harvest the cocoa in the short and medium term while the trees serve as long-term security. Such farms could also have yams inter cropped. Compatible Agro forestry technologies like apiary could be established under this intervention. E.g. a number of farmers already have set up beehives under their trees on cocoa farms and have started generating income from honey.

C. Trees on oil palm plantations

The introduction of trees on oil palm was a new intervention of land use management that has been embraced by beneficiaries of FRCP in the Sefwi Wiawso district. This intervention erupted from the fact that oil palm plantations always have spaces that can be used for tree establishment without compromising the yield of the oil palm. With such a practice, planting is done according to time and space. All the beneficiaries who adopted this intervention have already established oil palm plantations, which have started yielding fruits. Realizing the huge economic benefits that one may realize in the near future, such farmers inter-planted the timber trees at the spaces between the oil palm so that after felling the oil palm trees in nearly 10 years after its establishment, the timber plantation will serve as a replacement.

Observations

It was realized that Ofram, Edinam, and *Cedrella* were the three species mostly used on oil palm plantation with very high survivals although other species showed significant performance. The performance of Ofram and *Cedrella* were relatively better on oil palm plantation than Edinam simply because these two species require maximum sun light while Edinam prefers moderate sun light penetration to perform well during the young stage. Other species though survived under this intervention, their performance were not comparable to Ofram, and *Cedrella* except where the canopy of the oil palm allowed moderate sunlight penetration.

Planting distance of trees on oil palm was made to conform to the recommended spacing for oil palm (10m x 10m). It can be deduced from the planting distance that with **47,793** trees planted, **796** acres of trees on oil palm has been established within Sefwi Wiawso District.

Table 3.7 Timber trees planted on oil palm plantations

Species	Supplied	Survived	Mortality
Cedrela	9982	8,855	1128
Edinam	9096	8,405	691
Mahogany	1179	1,179	0
Mansonia	4873	4,191	682
Ofram	21315	19,212	2103
Wawa	277	267	10
Asanfena	330	327	3
Gliricidia	415	416	0
Kyenkyen	309	278	31
Ceiba	15	15	0
Total	47,793	43,143	4,650

Benefits—discussions with participants

The farmer continues to harvest the oil palm in the short and medium term while the trees serve as long-term security. With such wide spacing on 10m x10m, food crops could be

planted after the oil palm has been felled. The canopy for such an intervention is also suitable for apiary and even soil fertility restoration after harvesting the trees as the final crop.

The Coastal area

Coconut production and processing

In 2001 Ricerca e Cooperazione in partnership with MoFA and with funding from the French Development Bank started a coconut production and intensification project in six coastal districts of the western (4) and Central region (2). There, due to the lethal yellowing coconut (Cape St. Paul Wilt) disease, coconut production, one of the main agricultural economic activities in the coast of Ghana, has been progressively disappearing, increasing the level of poverty among the population.

The project, which is still on-going, aims at developing a total cropped area of 3,200 hectares of coconut, replanting with disease-resistant (to the disease) material and intensifying the production in still existing plantations with the overall objective of enhancing the sustainable livelihoods of rural families in the coastal area.

A number of actions and strategies have been put in place to achieve the project aim, in particular: Development of a dynamic production environment, creating capacity at institutional and individual level, giving credit, inputs and know how to farmers and associations. Organizing small-scale farmers into groups. Producing coconut and quality coconut oil. Promoting processing by operators (women) of small-scale coconut units. Promoting marketing by small-scale operators (women) initially at least in the Western and Central Regions.

Cultural Heritage and Alternative livelihoods/ Eco – cultural tourism

Under the framework of the budget line Culture 2000 of the European Commission Ricerca e Cooperazione is implementing in the coastal area of Ghana, Central and Western regions, a research-action project focusing on the forts of Axim, Butre and Anomabu. The project, which involves a number of local, national (Ghana) and European partners aims at enhancing the knowledge of these communities' resources at local national and European levels. It also aims at using a participatory approach to facilitate the identification and use of the forts to enhance the community livelihoods.

Integration of alternative livelihoods with more conventional agricultural and agro-forestry activities

There are other alternative livelihood options available to forest fringe and rural communities, given the right ecological conditions, economic profitability, as well as the necessary training and initial encouragement/motivation for their production and adoption.

Ricerca e Cooperazione, between 1992 and 2004 within the framework of four projects funded by the European Commission, SIDEP and Poverty Reduction and Job creation in the Sefwi Wiawso district, PTACZMP in the Ahanta West district, and with funding from the Italian Government in the Afram Plains (AIDEP1) assisted farmers in the high forest, coastal and transitional savannah zone of Ghana to integrate their conventional agricultural and Agro forestry activity with other income generating and environmentally sound activities. Specific activities included bee keeping, black pepper cultivation, vegetable production, cashew cultivation, snail rearing, piggery, small ruminant production, poultry farming, fish farming, mushroom growing, fruit trees cultivation, powder making, soap making, bakery and confectionery, brick laying, animal feed selling etc.

Black pepper cultivation is one of the activities that proved to be economically viable. A number of farmers showed interest and adopted its cultivation after the awareness (since 1992) was created. It is normally intercropped with *Gliricidia* and *plantain* and other food crops. *Gliricidia* produces nitrogen rich litter which mixes with the soil and fertilizes it, while

providing support for the pepper plant which is a climber; it is also used as fodder to feed sheep and goats. The food crops because of their short maturity period can be harvested for home consumption and for the market to generate some income while the black pepper is still maturing. So much attention was given by farmers to the cultivation of black pepper that one of these farmers is now one of the leading black pepper producers in the country (Mr. Duku, Suhenso).

Beekeeping, an alternative livelihoods promoted under SIDEPE, is one of the most successful and economically viable activities promoted by RC. The nature of this activity is such that it does not interfere with farming activities. The farmers who adopted it still kept their cocoa and other three crops in addition to and food crops farms and are deriving a good amount of revenue from the sale of honey from the beehives.

Vegetable production is another activity that RC promoted to generate income and improve diet. These vegetable gardens have been put into bio-intensive gardening using nature's ingredients to rebuild and maintain the productivity of the soil. In this way, options are provided for intensive food production on a small plot of land all year round, alternating various crops (tomatoes, onions, garden eggs, beans, cabbages, carrots, groundnuts), addressing issues of access to land, sustainability, self reliance of production input and income generation.

RC also promoted some activities such as mushroom cultivation and snail rearing which are Non-Timber Forest Products under SIDEPE project. Women have always collected snails and mushroom from the wild for home consumption and for sale. The gradual decline and destruction due to bush fires, urbanization and degradation of forest resources requires the need for their production or cultivation. The culture of mushrooms and snails has the advantage of requiring a small area and is less expensive compared to small ruminants. It can supply the protein needs and additional income of the family even when out of season. Continuous technical support is a major factor to ensure the sustainability of these activities.

Challenges in promoting alternative livelihoods

Some identifiable issues confronting the promotion of alternative livelihoods include: Policy support, develop suitable credit schemes for various beneficiaries, develop producer – markets (internal and external) and effective networks. Other challenges include: the development of a culture of sustainable resource management from the national to individual level, ability of beneficiaries to generate sustainable interest, land and tree rights and ownership, conservative attitudes of some rural communities, Illiteracy and the level of income generated from activities.

The way forward

We are still developing our approach and think there is a lot to be done, in particular:
To develop the institutional capacity at local regional and national level to improve the livelihoods of poor people;
To enhance the capacity of individual's, women and men, to improve their livelihoods.
Develop a better understanding of livelihood diversification, in particular the opportunities presented to rural communities by off-farm income sources;
Devote more attention to the role of the private sector; and
Develop a suitable framework for measuring the impact of livelihoods programs.

Questions and comments on 'promoting alternative livelihoods: field experiences' – Ricerca e Cooperazione (RC)

Question:

With the introduction of tree crops in cocoa growing areas of Sefwi in the Western Region, won't the trees form canopies and increase the incidence of diseases like black pod? What about the hard pan of the soil?

Answer:

The incorporation of trees into the cocoa farms was done when the cocoa trees were dying off. So on patches of the cocoa farm where the cocoa trees have died off they have the trees. Other agroforestry components can then be introduced. The problem with the soil is not hard pans but rather high acidity due to high rate of rainfall in the area. From observation and research work done by Soil Research Institute on the project, the timber trees have been found to be doing better than cocoa.

Question:

Did you take note of the Cape St Paul Wilt coconut disease in deciding to support farmers in the Western Region?

Answer:

The coconut species being promoted is an improved variety resistance to Cape St Paul Wilt disease.

Question:

Talking about networking properly, what is Tropenbos doing or steps to practicalise this in Asunafo District, Goaso where MoFA is left out in grasscutter programmes of Tropenbos?

Answer:

Tropenbos had some dealings with MoFA/GTZ to establish a breeder facility at Goaso. However, the gentleman in charge at MoFA was asked to prepare and forward the estimates to Tropenbos, which never came. Rita Weidinger from GTZ promised to follow up when contacted on the issue, but nothing has come out yet. So Tropenbos would have loved to support MoFA except that the contact needed was not forthcoming.

Question:

In relation to the Sehwi Wiwso project of RC, was there any feasibility study to find out who the stakeholders were for the forest resources, what forest resources they normally take from the area and what benefits they derive? Also, was this taken into account to ensure that the best alternative is provided and to enhance participation?

Answer:

A comprehensive feasibility study was carried out.

Question:

We are talking of alternative livelihood for the people to reduce pressure on the existing forest. Is it possible to have an alternative land use system, where people will maintain and manage forest resources on their private lands? Also to promote option that will support ownership and benefit sharing in these areas, for people to manage and maintain their forest and benefit from them?

Answer:

Yes, this is one of the options being promoted.

Comment on the cocoa situation at Sefwi

The reason why Sefwi cocoa is dying is that they are planted under shades. When cocoa is planted under shade, the annual production is low but the trees last longer. On the other hand, when cocoa is planted without shade, which the migrant farmers at Sefwi are practicing, the annual production is high but the trees die off earlier.

3.3 PROMOTING ALTERNATIVE LIVELIHOOD: FIELD EXPERIENCE.

By: Yaw Ofori Lartey, SAMARTEX

Introduction

Two of the greatest global challenges are the elimination of poverty and the reversal of environmental degradation. These challenges are inextricably linked with promoting alternative income generating activities. They are reflected in several national, sub-regional and global commitments including the millennium development goals and the plan of implementation adopted at the World Summit on sustainable development. The environment is crucially important to the poor and poverty reduction is not simply an issue of income.

Forests provides both timber and non-timber forest products such as fuelwood, nuts, fruits and medicinal plants. They also provide essential environmental services such as protection from erosion, regulation of natural water supplies, habitat for wildlife, carbon storage and landscape amenities. Forests are thus an integral component of the environment.

Strategy

Samartex as a major timber company needs to make a long term plan for continuous supply of raw materials coming from sustainably managed forests. In line with this objective and the need to improve the livelihood of farmers living around the vicinity, Samartex initiated the Oda-Kotamso Community Agroforestry Project (OCAP) in 1997 in collaboration with the chiefs and people of Oda-Kotamso. The project, which has chalked some successes, has been used to implement most of the alternative livelihood activities that the company is promoting. The project has about 200 participating farmers involved in various income generating activities. Since 1999 the German Development Service (DED) has been giving technical support in terms of personnel for advisory role in the project. Among other things the project has successfully rehabilitated 450 hectares of degraded lands through Agroforestry. (Ref. www.samartex.com)

Problem Analysis

Rural poverty has been identified as one of the problems facing farmers in and around the communities in the area. There are several reasons that can be advanced.

Dependency on cash crops and its associated failures as for example low market prices for cocoa and also low market price of crops at bumper harvest has contributed significantly to rural poverty; The prevalent land tenure system has an adverse effect on the development of land area into profitable use, especially because of the fact that most of the farmers are tenants. Samreboi, Asankrangwa and Oda-Kotamso area fall under a marginally suitable zone, this means that only 20-40 percent of maximum attainable yield can be obtained from cocoa in this area. The high rainfall also results in leaching with its resultant high soil acidity, hence efforts put in by farmers is not rewarded. Lack of income and capital to start farming also affects the livelihood of farmers.

Agriculture extension services in the area are not enough to reach all farmers, as is the general situation in the country. The ratio of extension officer to farmer is estimated to be 1:2000. Again, population in the area keeps on increasing whilst land still remains same. The number of children in each family in the area is estimated at between 9 and 12, and this has tremendous affects on the people since much investment goes into feeding and education of dependants.

Objectives

In line with Samartex concept, the following objectives were set:

Ensure sustainable natural resource management, reduction of shifting cultivation, reforestation & Agroforestry, diversification of agriculture, promoting alternative livelihoods

and Income generating activities, product development and transfer of know-how, education & technical advice.

Needs

Collaboration with various stakeholders is key to achieving sustainable livelihood programmes. In doing this, the needs of the stakeholders were considered. The following are some of the identified needs of specific stakeholders.

FARMER NEEDS

Livelihood security, Education, Fertile land, Market access, Tenure security, reliable source of income

LANDOWNER NEEDS

Land, Labour force, Satisfied tenants, Rent income, Reliable cooperation partners

INVESTOR NEEDS

Access to raw materials, Infrastructure, Labour & machinery, Conducive working environment, Peace in chieftaincy matters, Reliable cooperation partners

The following are the major livelihood opportunities undertaken by farmers involved in the Samartex/OCAP projects: Citrus (orange) plantations, Cola plantations, Black pepper, Staple foods e.g. cassava, maize, Vegetables, Timber trees integrated with agric crops (Agroforestry), Beekeeping, Snail farming, Grass cutter rearing, Pig rearing, Fish farming, Gari processing, *Thaumatococcus danielli* (Ego)

Activities to achieve stated objectives

Land use system where woody perennials are used deliberately on the same land management unit as annual agricultural crops and or animals either in spatial arrangement or temporal sequence.

Reforestation with economic important tree species through pure plantations and Reforestation through Agroforestry

BASIC FOREST MANAGEMENT

This includes the identification of “future trees”, focusing of labour on “future trees” and improving their quality.

INTRODUCTION OF IMPROVED CROP VARIETIES

Crops are grown in rotation with N-fixing legumes, Passion fruit, Citrus plants, Black pepper

INCOME GENERATING ACTIVITIES

Income generating activities promoted include Snail farming and Beekeeping and Gari processing. The Gari processing was set up in 1999 with some 30 women & 10 men involved. Forty bags of Gari per month were produced generating an income of 57,600,000 per annum.

NON-TIMBER FOREST PRODUCTS

Samartex has identified many Non Timber Forest Products (NTFPs) as alternative sources of income for farmers. These include: Bamboo (*Bambusa* spp.), Rattan (*Calamus* spp), Miraculous Berry (*Synsepalum dulcificum*), Sweet Prayer ‘Katempfe’ (*Thaumatococcus danielli*), Perfume tree (*Cananga odorata*), Gum copal tree (*Daniellia ogea*) Annatto (*Bixa orellana*) and other medicinal plants.

CONSTRAINTS

Despite the immense potential the above NTFPs are constrained by limited local demand and lack of processing technology & capital. Lack of reliable data on existing quantities of these NTFPs is also affecting their development as effective livelihood schemes.

THE THAUMATIN PROJECT

Thaumatococcus danielli is a green natural plant product which fruit is hardly utilized because processing technology is unknown and value adding takes place far from the area of product. The solution is to conduct a feasibility study on resource availability, production and market potential, international tonal networking & transfer of technology. The expected output is cooperation between the rural community, Samartex and international donor and research agencies.

Findings relevant to OCAP cooperation partners.

Although there are different priorities concerning needs, the livelihood strategies of the farmers, the landowners and the investor do not differ much. The basic principle is the rational behaviour while activities aim at securing and improving the social and economic conditions. This project partners must see each other as business partners sharing a common goal.

The way forward

In advocating the involvement of all stakeholders, special emphases need to be given to the livelihood needs of grassroots communities. Their livelihood activities can make or break our efforts to conserve our forest. The challenge is for all to see the forest resource as a resource with multiple potential, which can be actively managed to create sustainable livelihood.

The Non-Governmental Organizations, Community Based Groups etc, has a critical role to play in promoting alternative livelihood. In pursuit of this goal we must ensure that persons promoting livelihood programmes are well trained and have authority over their subject area. They must be able to predict the investment cost and the returns expected.

Questions and comments on economic field experiences on forest based livelihoods – Samuel Ofori-Lartey

Question:

What type of farming system is being adopted by the Pig Farmers? Do they have rough estimate for labour in their calculations?

Answer:

The farmers practice intensive system of farming and gave a labour estimate of 8,000 cedis per day.

Question:

How are the pig farmers addressing the problem of marketing and feeding of pigs since after weaning them if no ready markets are available all intended profits would be eroded through feeding and health care.

Answer:

A study was done on market access for sale of pigs. This gives an indication that the Sameraboi, Enchi and Oda areas are potential markets. The chop bars and drinking spots were the heavy consumers. Pig consumption levels were high during the Christmas and Easter festivities. On the average each drinking spot and chop bar takes one pig in two weeks. The study was carried out in collaboration with the Animal Science Department of the College of Agriculture and Natural Resources, KNUST.

Question:

You made mention of snails being stolen by other people in the communities you studied. Do you consider that (stealing) as a livelihood activity?

Answer:

No, I consider that as a method of adaptability of the component but it is a bad precedent.

Question:

You made mention of reduction of shifting cultivation as one of your objectives. Meanwhile most of the alternative activities you mentioned are agricultural or farm-based. Are you considering ways of encouraging farmers to do sedentary farming? And what assistance are you giving to them in this regard?

Answer:

SAMARTEX has established a revolving fund for the farmers to access but you must be into tree planting to qualify to access it.

Question:

What is the role of MoFA in encouraging the adoption / production of cocoa in the samartex project area?

Answer:

SAMARTEX is not into promotion of cocoa due to the acidity problem in the area. However, MoFA is collaborating with University of Ghana Agricultural Research Station in raising germinated materials for interested farmers in the area.

3.4 HOW VIABLE ARE THE ALTERNATIVES?

An analysis and evaluation of alternative livelihood schemes in sustainable resources management and poverty reduction

By Dr. Daniel K. B. Inkoom, Department of Planning, KNUST

Summary

The paper is an attempt to carry out an economic analysis of identified livelihoods with a view to assessing their potential to reduce poverty and ensure sustainable resource management. Data for the analysis have been derived from three sources, namely: the Kumasi Natural Resource Management Research Project implemented from 1997-2000, the CEDEP “Boafo Ye Na” Project implemented from 2002-2005, and author’s own field research carried out in 2005 as a follow up of the CEDEP Project. The methodology involved a review of relevant literature, focus group discussions, participant observation, the use of questionnaire, and informal discussions. The results indicate that a great majority of livelihood activities have the potential to reduce poverty and ensure sustainable resource management, but this is premised on the assumption that entrants into livelihood activities are given adequate and timely technical and financial assistance including sound training before credit, consistent monitoring and evaluation of credit schemes and proper targeting. Again, the activities with short gestation periods are preferable, (because the poor cannot wait!) and participants themselves must demonstrate an interest in the activity.

Introduction

In man’s quest to survive, he has to harness the resources in his environment to be able to produce and feed himself and probably store some for the future. Urbanization results in changes in land use systems leading to diminishing access to farmland in the peri-urban areas. (Robert et al, 2000). The pressure on peri-urban lands for residential and agricultural purposes as well as poor farming practices and wanton destruction of the vegetative cover in both the rural and peri-urban areas have led to impoverishment of the soil giving rise to desertification, lower crop yields and climatic change. This situation impoverishes the rural and peri-urban communities and threatens the security of future generations.

Sustainable resource management thus becomes paramount in the efforts to reduce poverty in these areas to meet their present and future needs of people. The inadequacy of the incomes from existing livelihood activities coupled with the pressure on the land-based resources calls for alternative livelihood activities that would create employment for peri-urban and rural communities to increase their incomes and reduce the pressure on land-based resources.

The question asked is “**how viable are these alternative livelihood activities in addressing sustainable resource management and poverty reduction?**” To respond to this question, this paper draws on work that has been done in Kumasi- The Kumasi Natural Resource Management Programme (KNRMP), the alternative livelihood schemes initiated and facilitated by the CEDEP under the “Boafo Ye Na” project in twelve peri-urban communities in the Ashanti region of Ghana to reduce poverty in these areas, and the author’s own field investigations in some of the CEDEP research communities. The choice of this project is based on the fact that these activities have been planned, implemented and monitored with ample studies conducted on them over a period of time. Relevant studies done by other writers on such livelihood activities as well as those on the project formed a good background to this paper. Informal interviews were conducted with coordinators of the alternative livelihood schemes and the beneficiary groups in these communities as well as the Community Livelihood Facilitators (CLFs) who work in these communities.

The paper is organized as follows: firstly, the key concepts in the topic are reviewed to put the discussion in context. This includes review of the relationship between sustainable resource management and alternative livelihood schemes, the nature of poverty in Ghana and some of the efforts to reduce poverty in Ghana. Secondly, an analysis and evaluation of each

livelihood activity is done with the baseline information from CEDEP and the field survey to determine the extent to which each livelihood activity has contributed to sustainable resource management and poverty reduction. Finally, conclusions are drawn on the viability or otherwise of each livelihood scheme on the basis of sustainable resource management and poverty reduction.

The Nature of Poverty in Ghana

“Poverty is pain; it feels like a disease; it attacks a person not only materially but also morally. It eats away one’s dignity and drives one into total despair (Dutch Policy Brief on Poverty Reduction” Dec. 2001, cited in George and William, 2004). Poverty is perceptible and those who are poor know best what poverty is. However, it is generally defined as the lack of or inadequacy of access to health care, shelter, food, education, power and other basic necessities in life.

The World Bank in 1995 estimated that a GDP growth rate of 5.8 percent per annum was required to restore Ghanaian living standards to their 1965 level by the year 2000. On this basis, it is estimated that it would take 10 years for the average poor Ghanaian to escape poverty, 40 years for the poorest of the poor. Subsequent economic growth has been below the assumed level, averaging 4.3 percent per annum in the 1990s (George and William, 2004).

Based on an expenditure definition of poverty the proportion of the population defined as poor decreased from 52 percent in 1991/92 to 39.5 percent in 1998/99 (update of GPRS, 2004). There are geographical and ecological dimensions to poverty in Ghana. Poverty is overwhelmingly a rural phenomenon with 80 percent of those persons residing in the rural areas classified as poor. Among the various ecological zones, the rural savannah (comprising Upper East, Upper West and Northern Regions) tops the list as the poorest zone in Ghana. Another poverty endemic area in Ghana is the rural forest zone. The major areas of concentration in this zone are Central and Eastern Regions. In the rural savannah and rural forest, more than 40 percent of their population is classified as poor.

Poverty is highest among food crop farmers especially in the rural savannah of Northern Ghana and among the food crop farmers, the women predominate and experience greater poverty than men.

In the Ashanti region of Ghana, only four districts were described as non-poor in the update of the GPRS in 2004. These were the KMA, Adansi West District, Ashanti Akim North and Kwabre Districts. Whilst rural communities in all the districts in the region can be classified as poor, only two districts have poor urban areas. The two districts are Bosomtwe/Atwima/Kwanwoma (46 percent) and the Ahafo Ano South (50 percent). Thus whilst majority of the rural communities are poor, most of the urban communities are relatively non-poor. The incidence of poverty in the region ranges between the Kumasi Metropolitan Area (10 percent) and Ahafo Ano South (50 percent).

Poverty Reduction Efforts in Ghana

The Economic Recovery Programme (ERP) was initiated in 1983 as a direct response to an economic decline and poverty that plagued the country during the past decade. The policy reforms since 1983, succeeded in reversing the decline of the economy and improving the overall economic performance. GDP increased by an average of 5 percent per annum between 1984 and 1992. According to the World Bank, this growth pattern was broad-based touching the vast majority of the population in Ghana and therefore reflected positively in poverty reduction in Ghana (World Bank, 1995).

The incidence of poverty declined to 31.6 percent in 1991-92. This suggests that by 1991/92, about 32 percent or 5 million Ghanaians were poor with expenditure of less than US\$25 per month. The depth of poverty declined from 11.9 percent in 1997/88 to 8.1 percent in 1991/92. This wonderful economic performance and poverty reduction was undermined by fiscal shock

triggered by increase in public expenditure and a fall in tax revenue. The plight of the poor in Ghana deteriorated compared to the pre-1993 gains in poverty reduction. In response to this, the government of Ghana and its Partners in Development initiated several actions to address the issue of poverty reduction in a comprehensive way.

The future perspective of poverty reduction in Ghana was expressed in the new development planning process in Ghana whose key element is the preparation of a long-term strategic national development policy document – Ghana Vision 2020 following a highly participatory process in April 1994. The document provided a comprehensive policy framework for development policy-making and planning for the period 1996 to year 2020. The main strategic goal of Ghana-Vision 2020 was to transform Ghana into a buoyant and dynamic middle-income country within the first decade of the 21st Century.

Based on the long-term framework, a medium-term coordinated programme of economic and social development policies was prepared for the first five-year period, 1996-2000 and presented as **The First Step, Ghana-Vision 2020**. Whereas about 50 percent of the policy statements are categorized as focusing on poverty activities; about 21 percent are categorized as targeted on the poor and the remaining 29 percent impinging on the policy environment. The need to ensure equitable distribution of benefits of development, closer integration of women and rural inhabitants within the national economy, elimination of hard-core poverty through the promotion of efficient rural farm and non-farm productive activities and encouragement of innovative spirit of micro and small enterprises was clearly spelt out in this document (Ghana's Vision 2020 document, 1994).

With the turn around of political fortunes in Ghana in 2000, the Ghana Poverty Reduction Strategy was formulated under the government of the New Patriotic Party and its implementation begun in 2002. This strategy formed the basis for the 2002 budget. The GPRS envisaged significant sharpening of the linkages between resource allocation and poverty reduction. The strategy identified vulnerable and poor groups and targeted resources to these poorer regions for a rapid poverty reduction.

The current Ghana Poverty Reduction Strategy (GPRS) 2003-2005, has a number of strategies proposed for increasing production and gainful employment for poverty reduction. The programme on production and gainful employment seeks to improve public sector delivery programmes and also provide sufficient incentives to stimulate the private sector to increase and sustain the production of basic staples, production of selected export crops, and a vigorous expansion of employment in sectors such as tourism and alternative livelihood activities.

Poverty Reduction Activities in the GPRS

A number of specific actions are spelt out in the GPRS to tackle poverty. They include the following:

Provision of small-scale irrigation schemes that will allow better use of the land especially in the Savannah areas

Investing in the provision of good drinking water

Ensuring all school-age children receive education and health care

Provision of free basic education

Empowerment of women to participate in economic and social decision-making

Provision of adequate information on how to avoid problems such as HIV/AIDS, floods and bush fires

Developing simple technologies that process local materials into semi and finished products

Ensuring equitable provision of basic services to rural and urban areas

Facilitating access to land for farming and other businesses (Alternative Livelihood Activities)

Making it easy for people to acquire vocational skills and credit to do business.

Source: GPRS 2003

What is Sustainable Resource Management, and how does it relate to Alternative Livelihood Schemes and Poverty Reduction?

Graaf (1986) defined natural resources as possessions in the form of wealth and goods that can help in meeting the needs of man. These resources are not man-made though man's activities can either increase or deplete the available stock. In defining sustainable resource management, Berks and Forkes (1998) say it is a perpetual or continual use of resources while putting in measures such that the future generations would also have the opportunity to use them in meeting their needs. This means that resources should be used judiciously to ensure that they are replaced or replenished for future use.

Inkoom (1999) identified the *integrated resource management planning approach* in the management and sustainability of natural resources. This approach is elaborated in three strategies namely *resource protection strategy*, *sustainable production strategy* and *peoples' involvement in resource management strategy*. These three resource management strategies envisage protection of the resources against destruction, ensuring that the production potential of the resource is ensured, and involvement of the people in the management of these resources. Other writers have asserted that in managing, conserving and developing renewable natural resources, legislation is a very useful tool to guide and control human behaviour in the use of these resources.

In agreeing with these writers, sound and sustainable natural resource management should be one which promotes sound ecological practices that maintain a balance in the ecosystem, its productivity, resilience and bio-diversity and regulated by a policy framework with the active involvement of the people.

Robert et al, (2000) suggest the management of agricultural land by improving cultivars, irrigation, organic and inorganic fertilization, management of soil acidity, green manure and cover cropping in rotations, integrated pest management, double cropping, and crop rotation to increase crop yields. On the management of grazing land, they suggest that grazing practices should be responsive to climatic variations, and previously intensively grazed land should be protected and cultivated lands reverted to perennial grasslands. Agro forestry is also suggested as a management system. They noted that agro forestry leads to a more diversified and sustainable production system and provides increased social, economic, and environmental benefits for all land users. As a resource management system, it encompasses a wide variety of practices including crop-fallow rotation, complex agro forestry, simple agro forests, and urban agro forestry. In assessing the strength of this resource management tool, Sanchez (1995) argued that with the right technology in place, agro forestry would be superior to other land uses at the global, regional, watershed, and farm scales because they optimize trade-offs between increased food production, poverty alleviation and environmental conservation. On the other hand, agro forestry can be inferior to other land uses in poverty alleviation particularly when the technology is inappropriate or the accompanying policies are not enabling.

In 1994, Ghana formulated a Forest and Wildlife Policy in the quest to balance competing demands on our limited natural resources. This policy recognizes the right of the people to have access to natural resources for maintaining a basic standard of living, and highlighted numerous responsibilities of the people to ensure the sustainable use of such resources. Emphasis is placed on participatory management and the protection of the forest and wild life resources. In doing this, the government called for the development of appropriate strategies and programmes in consultation with the relevant agencies, rural communities, non-governmental organizations and individuals.

In response to this policy in the face of the increasing pressure on land and land-based resources, especially in the urban and peri-urban areas, several non-governmental organizations, community-based organizations, governmental agencies and individuals intensified their search for **alternative livelihood activities** that would provide alternative or supplementary employment and income for the poor in poverty alleviation.

An analysis and evaluation of the alternative livelihood schemes in sustainable resources management and poverty reduction: the example of Boafo Ye Na Project by CEDEP.

Under this, each livelihood activity is analyzed based on the available information from CEDEP, the initiator and facilitating body in the alternative livelihood schemes in the Kumasi peri-urban area and an informal interview with the stakeholders. In all, 147 people were involved and seven livelihood activities in the series of studies that produced series of reports.

Mushroom cultivation

This alternative livelihood is a very new concept in the beneficiary communities. Before the introduction of the livelihood in those communities all the beneficiaries were in some other activities and still are in those activities. All the respondents under this activity admitted that their earnings from their previous activities were attractive. Whereas 22.7 percent of them said the new livelihood (mushroom) compares equally with their old livelihoods. About 63.6 percent of them said their old activities are more profitable than mushroom production, with 13.6 percent responding in favour of mushroom production.

Table 3.8 below shows the distribution of the beneficiaries in mushroom production

Table3.8 Distribution of beneficiaries in mushroom production

Community	Number of people	Percentage
Adagya	1	4.5
Abrepo	1	4.5
Ampaabame	1	4.5
Assago	4	18.2
Atafua	2	9.1
Behenase	4	18.2
Duase	4	18.2
Maase	2	9.1
Esreso	3	13.6
Total	22	100

Source: CEDEP, October 2004

As far as the impact of the livelihood activity is concerned on poverty reduction and sustainable resource management, ironically, 85.7 percent of the respondents say they have experienced some positive impact from the livelihood, when 63.6 percent said their old livelihoods are more profitable. It means that the majority of the beneficiaries find mushroom production as a supplementary activity. The beneficiaries combine it with other activities and tend to feed on it.

On sustainable resource management, mushroom production which requires less space and less time to do, as well as has a stable market, if properly handled would provide alternative sources of protein to augment protein supply from animal rearing.

Trading

Trading an age-old activity was one of the alternative livelihoods identified and facilitated by CEDEP. From the same survey, 92.3 percent of the respondents are currently not involved in any other activity and 90 percent of the respondents started the activity before CEDEP's intervention. About 75 percent of the respondents found their earnings from petty trading to be attractive and 68.2 percent of the respondents said trading is more profitable than their previous livelihoods such as cropping. It therefore means that if trading is promoted more people would be interested in it than crop farming and reduce the effect on the land-based resources.

All the respondents said they have experienced positive impact on their standard of living and 96 percent of the beneficiaries saved some of the returns from trading and 20 percent of those who save want to expand their businesses with it.

As far as trade's contribution to sustainable resource management is concerned, the effect of trade to a very large extent could be neutral. This activity does not require the clearing and depletion of vegetation and could take place anywhere. The danger however with it is that, if it is promoted over agriculture and industrialization there would come a time that one would have nothing to sell. Trading should be a supplementary livelihood to some other productive activities.

Snail rearing

Snail rearing was never done in any of these communities before the intervention of CEDEP, the facilitating body. Before the introduction of this activity 48.3 percent of the current beneficiaries were engaged in crop production, 34.5 percent in petty trading and 17.2 percent in artisan.

Comparing the old livelihood with the new one, about 77.8 percent of the current beneficiaries indicated that the previous activity was better, with 19.5 percent saying the two of them compare equally. As far as the benefits profitability of the previous and alternative activities is concerned about 6.9 percent of the beneficiaries indicated that the new activity is better with the 93.1 percent who think otherwise. This clearly creates a very negative impression of the activity as an alternative livelihood but was largely so due to the massive death of the young snails causing serious losses to the farmers. However, the beneficiaries contend that the stable market for snails would have enabled them earn a lot if they had succeeded. The reason for not succeeding is the inadequate technical know-how, with most of the beneficiaries requiring more training.

Despite the gloomy economic strength of this activity in the face of these difficulties 37 percent of the beneficiaries indicated that at least it has increased their incomes as they still do their old businesses. But in totality, 71.4 percent of the beneficiaries said the activity has not had any positive impact on their lives.

Having failed significantly to reduce poverty as an alternative livelihood it has a high potential to enhance sustainable resource management. This is because should it become economically viable with the right atmosphere in place, it would not occupy much space and would not also demand the massive clearance of vegetative cover. It could pull a lot of people from agriculture as it is less laborious, thereby reducing the pressure on the land.

Rabbit and grass-cutter rearing

Another alternative livelihood is the rearing of grass-cutters or rabbits. Prior to the introduction of grass-cutter and rabbit rearing a greater number of the beneficiaries were engaged in farming and the rest of them were in petty trading and artisanship (CEDEP, 2004). For the impact of the livelihood on the lives of the people, in the case of rabbit rearing, 18.2 percent of the beneficiaries admitted experiencing some positive impact on their lives as a result of the livelihood and 30.8 percent in the case of grass-cutter rearing. It is obvious from the available statistics that only a handful of the beneficiaries in both activities have experienced some positive impact. The rest of the 81 percent and 69.2 percent for rabbit rearing and grass-cutter rearing respectively do not experience any positive impact. The reason for this gloomy picture is that, rodents and other animals attack the rabbits and grass-cutters and they die.

For the potential of these two activities to contribute towards sustainable resource management though they are not yet as profitable as the old livelihoods of these beneficiaries they contribute to the beneficiaries' incomes and would help provide alternative sources of nutrition. Considering the high demand for bush meet across the country by all ages of the population, rabbit and grass-cutter rearing is one of the most laudable proposals in wild life conservation and management.

Crop production

This is one of the traditional activities with a tremendous effect on the environment and the natural resource stock. Before the introduction of intensive crop production in the

communities as an alternative livelihood six of the current beneficiaries were into petty trading, six others were into crop production, one was into artisanal activities, two into animal rearing and two into salary work. With the introduction of crop production, 13 percent of the current beneficiaries find it to be an attractive activity, 66.7 percent say it is fairly attractive and 20 percent say it is not attractive. Comparing the previous and current livelihoods of the respondents, approximately 56.3 percent of found the new livelihood to be better than the previous one. A significant proportion of the beneficiaries consider farming as an alternative activity to be more profitable than the previous activities they were engaged in. the beneficiaries' choice for choosing farming as an alternative was based on stable market of the farming produce and also because farming is a traditional occupation.

Adopting farming as an alternative livelihood was however difficult because of the difficulty in securing farmland, difficulty in securing funds and or clearing the land. About 81 percent of the respondents feel a positive impact of the livelihood in their lives. This they see in the provision of food, increased savings and access to social services. Only a few of the beneficiaries do not experience any positive impact in their lives resulting from crop production as an alternative.

With respect to the sustainable resource management, crop farming as an alternative livelihood activity would mean more demand for arable land. In the urban and per-urban areas, it would not be a very good alternative due to the scramble for land for residential, industrial and commercial purposes. However, in the rural areas, crop farming can be promoted but sound farming practices should be employed. On the whole, crop farming if not properly handled could have the most devastating effects on the environment than the rest discussed above.

Alata Soap Making

Before the adoption of Alata soap making, the 42.9 percent of the respondents were engaged in petty trading, Artistry (17.9 %), livestock production (3.6 %), and crop production (28.6 %) A comparison of the old and new livelihood activities of the respondents under this livelihood slightly favours the old livelihoods in terms of better economic returns, 48.3 percent and 37.9 percent for the old and new livelihoods respectively (CEDEP, *ibid*). However, there are prospects for Alata soap making because the old livelihood activities have not been entirely abandoned and can go hand in hand with the new ones.

On the whole, the impact of the new livelihood on the beneficiaries was said to be positive. This was because the beneficiaries could now save more with the involvement in the new livelihood than before. Approximately 75.9 percent of the beneficiaries said the new livelihood has improved their living standard.

Table 3.9 Distribution of beneficiaries

Community	Number	Percentage
Abrepo	1	3.4
Adagya	3	10.3
ampabame	3	6.9
Apatrapa	3	10.3
Asaago	1	3.4
Atafoa	2	6.9
Benhenase	3	10.3
Duase	2	6.9
Esereso	3	10.3
Maase	2	6.9
Okyerekrom	3	10.3
Swedru	4	14.1
Total	29	100

Source: CEDEP, October 2004

About 19 percent of the respondents save towards the expansion of their activities and this is a positive factor towards sustainability. It is also deduced from these findings that with the stability in the market and low risk involved in this activity more people are likely to join it. On the basis of the use of resources and profitability analysis, the activity is a viable alternative livelihood. However, the environmental pollution at the site of this activity and the emission of gases into the atmosphere lives much to be desired.

In combining all the livelihood activities the table below shows the number of respondents. In all, 147 people were involved and seven livelihood activities in the series of studies that produced series of reports.

Table 3.10 Distribution of beneficiaries

Livelihood activity	Frequency	Percentage
Trading	26	17.7
Snail rearing	29	19.7
Mushroom cultivation	22	15
Rabbit rearing	11	7.5
Grass cutter rearing	13	8.8
Alata soap making	29	19.7
Farming	17	11.6
Total	147	100

Source: CEDEP, October 2004

The table above shows the distribution of the beneficiaries into the various alternative livelihood activities. Before the introduction of these activities by the facilitating organization, 38.8 percent of the respondents were engaged in petty trading and this percentage reduced to 37.4 percent; those who were engaged in crop production increased slightly from 42.5 percent to 42.9 percent after the introduction; those who were engaged in animal rearing increased from 1.5 percent to 4.8 percent with the introduction of the alternative activities. For artisan, there was a reduction from 11.9 percent to 10.2 percent; salary work increased from 0.7 to 1.4 percent; and those who were in the other activities reduced from 4.5 percent to 3.4 percent after the introduction of the new livelihood activities (CEDEP, *ibid*).

In terms of the employment dynamics of the respondents in this case, the alternative livelihood that has made the greatest impact is animal rearing. However, there has not been any significant change in the proportion of people involved in crop production where the attention is. This takes the discussion to the perception of the respondents in comparison of the previous and alternative livelihoods. From the same study that was conducted, 29.3 percent of the respondents said the alternative (new) activity is better than the previous activity and 45.5 percent said the opposite. On the other hand 19.7 percent of them said their previous livelihood activity is not attractive whereas 28.9 percent say their previous activities were very attractive. Approximately 61.5 percent said the previous activities were fairly attractive. On the whole, by the perception of the beneficiaries, the majority of them are not as happy with the alternative activities as they are with their previous activities. This is against the backdrop that the majority of the beneficiaries (66.4 percent) went into these new activities with the expectation of realizing increased incomes, whilst 10.5 percent of them went into these activities because they are compatible with their old activities.

Though the majority of the beneficiaries rate the new activities below the previous once, 97.3 percent of them get personal satisfaction from them and want to expand. It means therefore that the majority of the beneficiaries were engaged in more profitable ventures before the introduction of these new once but it's also true that they do not measure their satisfaction only in monetary terms. In introducing alternative livelihood activities therefore economic considerations are important but should not be the only determinants in evaluating these activities.

Once these activities are initiated and facilitated by one organization or the other, there tends to be too much dependence on these organizations thereby undermining the sustainability of these activities with their withdrawal from those projects. A case in point is 72.1 percent of those who want to expand in these projects desperately been in need of loans from the facilitating body, citing lack of collateral for assistance from the financial institutions. About 12.9 percent of the beneficiaries are expanding with the proceeds of the new livelihood activities; and another 12.9 and 2.1 percentages expand with loans from banks and their old livelihood activities respectively.

In analyzing the benefits from these new activities from the same study that was conducted, 64.3 percent of the respondents admitted experiencing a tremendously positive impact on their lives and their families in the form of increased incomes and nutrition, as well as it being an alternative livelihood and creation of employment for the other family members.

Key findings from the CEDEP studies

It is clear from the analysis that most of the alternative livelihood activities have the potential to reduce poverty. However, there is a problem with the training that was given the beneficiaries in the non-traditional activities that were newly introduced in the communities. Also, though there was technical and financial assistance from the facilitating agency, the assistance most of the time came late. This coupled with the inadequate training and the long life cycles of some of these activities which tend to make the beneficiaries concentrate on short term and more rewarding activities, leading to dwindling returns from these newly introduced activities.

The two traditional activities, crop farming and trade succeeded in impacting heavily on the lives of the beneficiary communities with very little assistance. This is mainly due to the fact that the beneficiaries already have the know-how and have the interest in these activities. A stable market for crop farming and trading in these areas also facilitates the impact. Also, there is a high interest of the beneficiaries in these traditional activities. There is too much dependence on the facilitating organization from the beneficiaries, which undermines the sustainability of these activities.

Presentation and Analysis of Author's Field Research

In gathering further evidence for analysis of sustainability and poverty reduction, a further study of thirty individual activities, ten each in Grass cutter rearing, Alata Soap making and mushroom production was conducted as indicated in Table 4.

Table 3.11 Livelihood activities reviewed and their locations

Community/Livelihood Activity	Esereso	Adagya	Abrepo	Atafoa	Total
Grass cutter Rearing	5	1	1	3	10
Alata Soap Making	4	1	4	1	10
Mushroom Production	3	2	3	2	10
Total	12	4	8	6	30

Source: Author's Field Survey, March 2005

A number of variables considered crucial for the analysis were established and then rated as a basis for the assessment. These are: Start –up capital, Complexity of the production process, Impact of livelihood activity on the household, Average Turnover of activity, Risks involved, Coping strategies, Sustainability of the activity, Potential for poverty reduction, Ability to reduce pressure on forest resources

The following rating of variables were then applied and a matrix of scores constructed (Table 3.12)

1. Start up capital

- High- – 1,000,000 cedis or more
- Medium- – 400,000 – 999,999 cedis
- Low- – Less than 400,000 cedis

2. Production Process

- Not Difficult – simple process
- Difficult – involves a long process
- Very Difficult – involves a long and time-consuming process

3. Impact on household

- Positive – increased income levels and personal satisfaction
- Negative – no increase in income levels and time consuming
- Neutral – no increase in income levels

4. Turn Over

- High – economic benefits exceed economic cost
- Medium – economic benefits equals economic cost
- Low – economic benefits less than economic costs

5. Risks involved

- High – a lot of risks involved
- Low – few risks involved

6. Coping strategies

- High – a lot of risk management measures
- Low – few risk management measures

7. Sustainability of the activity

- Highly sustainable – ready market, high economic returns, high interest
- Sustainable – ready market and high interest
- Not sustainable – lack of ready market, low economic returns and low interest

8. Potential for Poverty reduction

- High – high turnover
- Low – low turnover

9. Ability to reduce Pressure on Forest Resources (PFR)

- Positive – does not deplete forest resource stock and also enhances forest resources management
- Negative – depletes forest resources stock and does not enhance forest resources management
- Neutral – neither depletes nor enhances forest resources

Table 3.12 Analysis of livelihood activities

Parameter Livelihoods	Start-up capital	Production processes	Turn over	Risks involved	Coping strategies	Sustain-ability of the activity	Impact on household	Potential for PR	Ability to reduce PFR
Grass cutter	High	Not difficult	Low	Low	High	Sustainable	Negative	Low	Positive
Snail rearing	Medium	Difficult	Low	High	High	Sustainable	Negative	Low	Neutral
Mushroom	Medium	Difficult	High	High	High	Highly sustainable	Positive	High	Neutral
Alata soap	High	Difficult	High	Low	Low	Highly sustainable	Positive	High	Negative
Petty trading	Medium	Not difficult	High	Low	High	Highly sustainable	Positive	High	Neutral
Crop production	Medium	Very difficult	High	High	High	Highly sustainable	Positive	High	Negative
Rabbit rearing	High	Not difficult	Low	High	High	Sustainable	Negative	Low	Positive

Key Findings

Using the above table, the following were the key activity-specific key findings:

1. *Grass-cutter rearing*: has not been economically lucrative because it is on a very small-scale even though it has low economic returns there is high interest of continuity by the beneficiaries because it has stable market has not impacted positively on poverty reduction due to its low economic returns a viable alternative for bush meat, thereby having a greater potential in wildlife conservation
2. *Snail rearing*: has low turnover due to the small-scale nature of production and having a lot of risk factors there is a sustained interest of the activity in the community despite the low turnover high potential for poverty reduction due to its low economic returns, but provides alternative source of protein for the families involved
3. *Mushroom production*: has a high turnover with a very high interest for continuity in the beneficiary communities it provides an alternative source of livelihood, increased incomes as well as supply of protein thereby impacting positively on poverty reduction
4. *Petty trading*: the high economic returns and the few number of risks involved make it the most sustainable livelihood in the community it has impacted positively on poverty reduction through increased incomes in the communities
5. *Alata soap making*: has high economic returns and a greater interest of continuity by the communities has improved upon the lives of the people because of the high economic returns as well as the provision of soap for washing and bathing impacts negatively on forest resources because all the beneficiaries use fuel-wood which results in forest destruction.

6. *Crop production*: it has a high turnover and being the most traditional activity, there is a high interest of continuity in the community the high turnover as well as the supply of food and raw materials makes impacts positively on poverty reduction in these communities the vegetation cover is ripped off and the soil intensively tilled with no mitigating measures put in place to reduce the pressure on the forest

7. *Rabbit rearing*: on the average the economic returns of this activity are low compared to the invested capital the low turn-over and high risk factors together make this a weak alternative livelihood for poverty reduction there is high demand for bush meat across the country for all ages of the population and thus can provide an alternative and reduce the pressure on those in the wild forest

Policy implications

Technical and financial assistance are necessary to kick-start livelihood activities in poor communities but efforts should be made to make people self-reliant after take off.

Better energy saving devices like improved coal pots (ahibenso and gyapa) should be used instead of fuel wood to reduce the pressure on the forest resources.

To make grass-cutter and rabbit rearing profitable and sustainable for poverty reduction there should be an injection of more capital to expand the scale of these activities.

More sound farming practices like cover and mixed cropping alongside afforestation should be promoted in the predominantly farming community.

There is the need for further training of the beneficiaries in snail rearing to improve their technical know-how and maximise the returns from their activity.

A more effective and sustainably-based method of training and adoption should be employed to reduce the risks and maximise the sustainability of production processes.

Conclusion

In conclusion, it can be said that alternative livelihood schemes are helpful in poverty reduction to reduce the pressure on the land-based resources especially in areas where the only livelihood is agriculture. Financial and technical assistance are necessary, however this assistance should be seen as a catalyst for the diversification of livelihoods and should not create dependency. In determining the viability of these livelihood activities, economic analysis is important but should not be the only determinant. The effect on the environment and the personal satisfaction as well as employment creation should also feature high in such analysis.

Questions and comments on how viable are the alternatives? An analysis and evaluation of alternative livelihood schemes in sustainable resources management and poverty reduction

Question:

The off-take for grasscutter farmers given in the presentation is well below the recommended figure of 20 animals per farmer.

Answer:

Yes I agree, but returns can be further improved with the use of improved management practices and improved animals. The threshold is dependent on the context and particularly the management practices.

Comment:

There is the need to provide farmers with special cheap credit

Reaction:

The problem with this approach may be that they will become over dependent. Help them, yes, but do not let them be over-dependent.

Question:

Is it possible to package snails to add value?

Answer:

Yes, this is possible.

Question:

Are we really using the right approaches in using existing alternative livelihood strategies to address forest dependency? For instance, has the grasscutter farming approach led to an increase in tree cover off-reserve, or less dependence on forests?

Answer:

Led to a shift towards domesticated ones but no study...

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3.5 ALTERNATIVE LIVELIHOOD SCHEMES IN FOREST DISTRICTS OF GHANA: A case study of ashanti and brong-ahafo regions

By Bossman Owusu Junior and K.S. Nketiah, Tropenbos International-Ghana

Background

The concept of sustainable livelihood began as an approach to maintain or enhance natural resource productivity, secure ownership of and access to assets and income-earning activities, as well as to ensure adequate stocks and flows of food and cash to meet basic needs. In essence, sustainable livelihood brings together the thinking and practice of poverty reduction strategies, sustainable development and participation and empowerment processes into a framework for policy analysis and programming. Alternative livelihoods are activities that build on traditional customs and knowledge promoting strategies that empower local communities to utilize the natural resources under their control in a sustainable manner for enhanced welfare. A livelihood is sustainable if it can cope with, recover from and adapt to stresses and shocks, maintain and enhance its capabilities and assets, and enhance opportunities for the next generation (Roe, 1998). Employment and income generating schemes focus on job creation, often short term while sustainable livelihoods considers long-term sustainability as well as assets and entitlements for direct and indirect income and beyond income.

In the past, efforts to protect forest resources by preventing people from using them proved unsuccessful. Gradually, recognition of local people's dependence on forest resources and their interest in managing these resources has grown. Thus, now, there is a trend towards encouraging greater involvement of local communities in the management of forests and forest resources. An example of this is the collaborative forest management schemes, through which local communities are established as primary clients of the Forest Services Division (FSD) with a right to benefit from the wise management of forest resources. It is expected that collaboration will help ensure that forest management is equitable and more efficient and ultimately socially sustainable. Forest-fringe communities are reckoned as part contributors to forest degradation in the country. The 2001 FOSA Country Report for Ghana, for instance, noted that forest degradation has been caused partly by the conversion of forest lands to agricultural lands through unsustainable agricultural practices like the slash and burn as well as un-intentional fires resulting from activities of hunters who may fail to extinguish campfires (FAO, 2001). Hence, recent attempts geared toward collaborative forest management have included the provision of alternative sources of livelihoods to local people in order to minimize forest degradation emanating from forest communities.

Efforts at Promoting Alternative Livelihoods

The transition from theory to the practice of sustainable livelihoods is by no means an easy task. Nevertheless, there have been several efforts at promoting the practice as a means of reducing poverty and a strategy to get forest communities away from (1) farming at prohibited areas, (2) illegal chainsaw activities and (3) setting bush fires that destroy the forest. In Ghana, various advocacies for these technologies have sprung up. The Forestry Commission has endeavoured to invest in alternative livelihood projects through its Natural Resource Management Programme 1 (NRMP 1) to improve the economic status of the communities living around forests that fall within Globally Significant Biodiversity Areas (GSBAs) and to encourage them to forego incomes previously generated from exploitation of the newly designated GSBAs. The World Bank, through its Global Environment Facility, has supported this effort by the Forestry Commission. Investments in plantation development, whereby communities who forego income from harvesting rights in GSBAs are compensated with shareholdings in plantation development schemes have also been supported. Some Non-Governmental Organizations have endeavoured to assist farmers in forestry plans and support alternative livelihood techniques to help reduce poverty of farmers and pressures on forests.

Funding agencies, such as the United Kingdom Department for International Development (DfID), have supported some Forest Services Division of the Forestry Commission to train forest-fringe communities on the adoption of new technologies such as mushroom farming, grasscutter rearing, bee-keeping and snail farming [Ghana News Agency, Nkawie (Ashanti), December 15, 2004].

Rationale for the study

While these efforts can be readily described as worthwhile, comprehensive data on the various alternative livelihoods (ALs) that are being promoted in forest-fringe communities, who is promoting them and where, together with information on their adoption situations have not yet been compiled.

Again, some views about the use of alternative livelihoods in reducing rural poverty and more importantly, weaning local communities off the forest seem cynical. These views thrive on the surmise that the alternative livelihoods are technologies with no known proven track record, and they are without any established markets. They are only experimental technologies with very limited success even though attempts have been made to disseminate them for years in other sectors. Pessimists continue to argue that these are technologies that are unlikely to be adopted by the rural poor, who have little margins for experimentation and investment risk and if anything at all, these technologies will only enrich rural elites, who are looking for investment opportunities which will enable them to accumulate capital. (Amanor, 2004) But does such an assertion, ostensibly based on the constraints that some of the technologies present prevail over the available success stories that unearth the valuable potentials of the technologies? Obviously, all the prospects (both real and perceived) that each of the livelihood options holds should be weighed against any possible constraints that they face. But at the moment, the prospects and constraints that each technology presents have not been researched into and organized into a single document. Without such information and insight, policy-makers cannot make projections about the long-term consequences of their decisions and actions.

In a similar light, there have been some misgivings about the possibility of these livelihood options having any significant impact on sustainable forest management. It has been argued that even though, elsewhere, the linking of alternative livelihoods schemes and forest development has been instrumental in eliciting the participation of forest communities in managing the forest during a project phase, this has not ensured their cooperation on a permanent basis, especially when the project ended. A classical example is the experience of Tamil Nadu, a forest community in India, where a pilot joint forest management project was taken up in 1988 with financial assistance from Swedish International Development Agency (SIDA). It was a tremendous success, and two places namely; Ariyallur and Allikulli were showcased as the success centres of the project. But after the project was over, the forest dependents resumed woodcutting and goat grazing which brought back the area to the original degraded condition (Kaushal and Kala, 2004). Even though it can be possible to have a similar situation replicated in Ghana, we can recognize also that the underlying factors that are influencing trends in these two countries are very different. It is only by research that such misgivings could be put in the right perspective.

The above-mentioned problems could be summarized as follows:

Lack of and/or inaccessibility to organized data on the various livelihood options as well as the organizations that are promoting them and where they are being promoted. Lack of and/or inaccessibility to organized data on the adoption situations of the livelihood options that are being promoted. Pessimism about any positive impacts of the livelihood options on sustainable forest management, viz: their ability to improve the economic status of the poor, rural forest dependent communities and to wean them off the forests.

These issues have cast doubts on whether the promotion of ALs could foster collaborative forest management and sustainable resource management in Ghana. To address such concerns, it was important that the above-mentioned problems were researched into.

Objectives

Specifically, the objectives of the study were as follows:

To identify functional alternative livelihood technologies and organizations responsible for such activities as well as the communities where such technologies are concentrated.

To determine the prospects and constraints for various livelihood activities identified. To explore existing technologies and ways of improving upon their performance.

To assess the impact of various livelihood activities on sustainable forest management.

METHODOLOGY

Study Areas

The study was conducted in forest districts of the Ashanti and Brong-Ahafo Regions where the promotion of alternative livelihoods is rife. All 13 forest districts in these two regions were explored.

Ashanti Region

Nkawie
Offinso Goaso
Juaso
Bekwai
Mampong
Kumawu
New Edubiase

Brong-Ahafo

Sunyani
Dormaa Ahenkro
Atebubu
Kintampo
Bechem

Methods of Data Collection

Data were obtained from both primary and secondary sources. Primary data were collected using structured questionnaires and key informants interviews as well as field observations.

Respondents

District forest managers in the study areas were interviewed. In some instances, assistant district managers (as was the case of Offinso Forest District), customer service officers (as was the case of Sunyani Forest District) and service officers (as was the case of Nkawie Forest District) were interviewed as well.

Personnel of district offices of the Ministry of Food and Agriculture (MoFA) such as district directors, agricultural extension agents and agriculture development officers were interviewed. MoFA offices visited were those that were located in the study areas and/or those that were specifically mentioned by other respondents as promoting alternative livelihoods in the study areas.

District planning officers of administrative districts within the study areas were as well interviewed.

Management of organizations promoting alternative livelihoods. These organizations were basically those that were markedly promoting alternative livelihoods in the study areas. Their functions were known by the forest districts and evidenced by farmers in the study areas*.

Farmers in study areas that had accepted the principles of alternative livelihoods.

Farmers in study areas that had not accepted the principles of alternative livelihoods.

Field visits were conducted for familiarisation with the practice of alternative livelihoods. Relevant scenes were captured using digital camera and audio recordings were made during interviews. Secondary data were collected from relevant publications, file records and correspondence to support the fieldwork.

Data Analysis

A comprehensive synthesis and integration of all information gathered were made in order to allow a clear pattern for analysis. Because most of the information collected was people's views, they were not subjected to rigorous statistical analysis. However, wherever necessary, primary data were coded, built and processed using Statistical Package for the Social Scientist (SPSS) in order to make relevant deductions and/or extrapolations.

KEY FINDINGS AND DISCUSSIONS

PEOPLE'S CONCEPT OF ALTERNATIVE LIVELIHOODS

Respondents provided different definitions of the concept (ALs) based on their profession. The various definitions are provided below.

District Offices of the Ministry of Food and Agriculture

'Activities intended to provide living for farmers during their off-farming seasons' – District Directors and Extension Agents. This definition has influenced the emergence of the following synonyms of ALs: Non-traditional agricultural ventures, Off-season products

Forest Services Divisions of the Forestry Commission

'Activities intended to substitute for forest products whose extraction have contributed to forest degradation'

'Activities intended to augment farmers' means of living in order to reduce their dependence on forest' – District Forest Managers

District Assembly

'Off-farm activities that are meant to provide living for the unemployed and to alleviate poverty' – Business Advisory Centre of the National Board for Small Scale Industries (Amansie-East District Assembly). ALs are sometimes referred to as off-farm products. These definitions given by respondents reflect what their views about alternative livelihoods are. Altogether, these views do not vary substantially from the conventional concept of sustainable alternative livelihoods (see introduction).

Who is doing what and where?

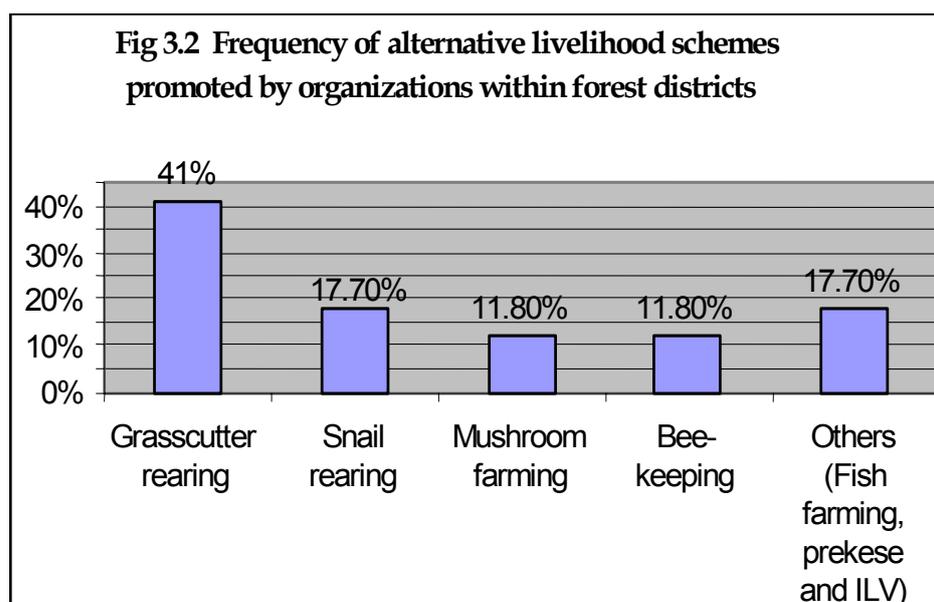
A number of institutions and organizations are directly or indirectly involved in the promotion of ALs in the various forest districts where the study was carried out. Prominent ALs that are currently being promoted by identified institutions and organizations include the following: Grasscutter rearing, Snail farming, Bee-keeping and Mushroom farming. Table 3.13 below show a summary of organizations engaged in ALs and where the livelihoods are promoted.

It should be emphasized here that the prime objective of all these organizations/institutions is not to promote ALs in the forest districts. They promote ALs as components of bigger projects but not as independent projects. For instance, one of the objectives of RUDEYA is to improve and support community based forestry programmes. A strategy that RUDEYA uses to achieve this objective is to promote ALs in forest-fringe communities.

Table 3.13 Organizations promoting alternative livelihoods and their activities

Organization	AL promoted	Where promoted
Centre for Biodiversity Utilization and Development (CBUD)	Snail farming, grasscutter rearing, Prekese (a tree fruit), indigenous leafy vegetables	Goaso, Sunyani, Dormaa Ahenkro and Bechem Forest Districts
Brong-Ahafo Regional Grasscutter Farmers' Association (BARGFA)	Grasscutter rearing	Sunyani Forest District
Rural Development Youth Association (RUDEYA)	Grasscutter farming, mushroom farming, bee-keeping, snail farming	Goaso Forest District
Tropenbos International-Ghana (TBI-Gh)	Grasscutter farming	Goaso Forest District
Action Aid International, Sunyani	Grasscutter rearing	Sunyani Forest District
World Vision International, Atebubu	Grasscutter rearing	Atebubu Forest District
German Technical Cooperation (GTZ)/Market Oriented Agriculture Programme (MOAP)	Grasscutter rearing	Sunyani, Goaso, Bechem Forest Districts
Ministry of Food and Agriculture	Grasscutter rearing, snail farming, mushroom farming, bee-keeping, fish farming, etc	All Forest Districts

A large frequency of 41% of all identified alternative livelihood (AL) schemes promoted by these organizations and institutions is grasscutter rearing. All organizations promote at least grasscutter rearing with or without other products. Snail farming follows with a frequency of about 18%. Fig 3.2 below summarizes this information.



Forest Districts and Alternative Livelihoods Promotion

Forest districts that are currently promoting alternative livelihoods in forest communities do it on pilot basis under the Participatory Forest Management Programme (PFMP) by the Forest Services Division of the Forestry Commission. Beneficiaries of this programme are forest districts that have significant forest reserves with some anthropogenic interactions. Nine out of the 13 forest districts in which the study was conducted are currently engaged in the promotion of ALs. Four out of these nine forest districts are based in the Brong-Ahafo region while the remaining five are in the Ashanti region. Atebubu and Bechem are two forest districts in the Brong-Ahafo that are not promoting alternative livelihoods. Atebubu forest district (FD) does not promote any ALs because it has no forest reserve but manages only timber resources in off-reserve forests (Oku-Asare, Pers. Comm., 2005). New Edubiase and Bekwai forest districts are the other two in the Ashanti Region that do not promote ALs. Table 3.14 below summarizes the various forest districts involved in the promotion of ALs on regional basis.

Table 3.14 Forest districts promoting alternative livelihoods on regional basis

Forest districts	Region
Sunyani	Brong-Ahafo
Nkawie	Ashanti
Juaso	Ashanti
Offinso	Ashanti
Kumawu	Ashanti
Mampong	Ashanti
Kintampo	Brong-Ahafo
Goaso	Brong-Ahafo
Dormaa Ahenkro	Brong-Ahafo

The UK Department for International Development provides financial support to forest districts under the Participatory Forest Management Programme. However, the World Bank's Global Environment Facility (GEF) provides some financial support to some forest districts. GEF's support is primarily geared toward the conservation of Globally Significant Biodiversity Areas (GSBAs). Thus, forest districts that have forest reserves falling within the GSBAs are given financial support in the promotion of ALs to encourage communities living around these areas to forego incomes previously generated from the exploitation of the forest reserves. The Tano-Offin forest reserve in the Nkawie Forest District is a GSBA and gets funding from the GEF to protect biodiversity in the reserve. (Amelodzi, Pers. Comm., 2005) Juaso Forest District is also a beneficiary of GEF's support.

At least five (5) alternative livelihood schemes were identified as major products that forest districts are currently promoting. These are as follows: Snail farming, Mushroom farming, Grasscutter rearing, Bee-keeping and Plantation development. Table 3.15 below shows the various ALs that each forest district is currently promoting.

Table 3.15 Forest services divisions and the alternative livelihoods they promote

FSD \ AL	Grasscutter rearing	Snail farming	Bee-keeping	Mushroom farming	Plantation development
Sunyani					
Nkawie					
Juaso					
Offinso					
Kumawu					
Mampong					
Kintampo					
Goaso					
Dormaa Ahenkro					

Nearly a third (32%) of all AL schemes promoted in all forest districts are grasscutter rearing while snail farming and bee-keeping follow at a frequency of 20% each. Plantation development programme is next at 16% with mushroom farming being the least at a frequency of 12% of all ALs promoted in all forest districts in the Brong-Ahafo and Ashanti Regions.

Goals and Target Groups for Alternative Livelihoods Promotion

Except for BARGFA whose objective is principally to domesticate grasscutter as a source of employment, all other organizations promote ALs as a strategy to achieve their overall project goal(s) (see section 3.2.1). At least, each organization promotes ALs with the primary goal of reducing/alleviating poverty.

However, RUDEYA and TBI-Ghana, in addition to reducing poverty, promote ALs to reduce dependence on forest. In forest communities, rate of illegal extraction of forest products is notably high during off-farming seasons, when farming activities are low and farmers are least engaged on their farms. Therefore, the goal of forest district managers is to provide these ALs such that the farmers would still be engaged in an occupation during the off-farming seasons rather than depending on the forest for livelihoods.

The individual goals of the various promoters of ALs logically influence who their target groups are. For instance, because RUDEYA, TBI-Ghana and all forest districts promote ALs to reduce dependence on forest, their target groups are only forest-fringe communities. All other organizations target any rural poor in the district; hence, the poor in the forest-fringe communities may not feel their impacts. Table 3.16 below summarizes the goals and target groups for AL promotion.

Table 3.16 Goals and target groups for alternative livelihoods promotion

Organization/ Institution	Goal(s)	Target group(s)
GTZ(MOAP)	Spread wealth to poor farmers	Poor farmers
MOFA	Extend better farming methods to farmers	Farmers
CBUD	Poverty alleviation	Farmers (poor)
BARGFA	Domestication of grasscutter as a source of employment	Grasscutter farmers
RUDEYA	Poverty reduction toward sustainable forest management	Forest-fringe communities
TBI-Ghana	Reduce pressure on forest	Forest-fringe communities
Action Aid, Sunyani	Poverty reduction	Poor farmers
World Vision, Atebubu	Poverty alleviation	Poor farmers
Sunyani FSD	Reduce pressure on forest	Forest-fringe communities
Nkawie FSD	Reduce dependence on forest	Forest-fringe communities
Juaso FSD	Reduce dependence on forest	Forest-fringe communities

Offinso FSD	Reduce dependence on forest	Forest-fringe communities
Kumawu FSD	Reduce dependence on forest	Forest-fringe communities
Mampong FSD	Reduce dependence on forest	Forest-fringe communities
Kintampo FSD	Reduce dependence on forest	Forest-fringe communities
Goaso FSD	Reduce dependence on forest	Forest-fringe communities
Dormaa Ahenkro FSD	Reduce dependence on forest	Forest-fringe communities

Alternative Livelihoods Promotion Practices

Amongst Organizations

Several activities geared toward the promotion of alternative livelihoods have been pursued by identified organizations. At least, all organizations have had some training sessions for their target groups. Table 3.17 below summarizes the AL promotion practices that were identified with each organization.

Table 3.17 Alternative livelihoods promotion practices identified with organizations

Organization	Best AL promotion practice identified
GTZ/(MOAP)	Training of individual farmers, training of trainers, networking with grasscutter actors/stakeholders, bringing churches and NGOs together to provide start-up capital for farmers, monitoring and evaluation
MOFA	Introduction of AL options to farmers, dissemination of good husbandry practices, monitoring and evaluation
CBUD	Training of trainers, linking poor farmers with rural banks to access credits, Provision of cages and breeding stocks to farmers
BARGFA	Domestication of grasscutter, training of interested farmers, training of trainers, monitoring and evaluation
RUDEYA	Skills development (training of farmers), provision of breeding stock and housing for AL production
TBI-Ghana	Provision of grasscutter cages and breeding stock, collaboration with RUDEYA for skills development.
Action Aid Sunyani	Collaboration with GTZ for training of farmers, provision of inputs to grasscutter rearing on shared basis
World Vision Atebubu	Training of farmers and provision of cages

GTZ/ (MOAP) has carried out these activities with support from the German Government. It collaborates with the district offices of the Ministry of Food and Agriculture and the results have been much success. Now, there is more demand for breeding stocks of grasscutter than they are able to supply. Request for training has equally been higher. Now, BARGFA has taken over from GTZ (MOAP) in all programmes relating to grasscutter promotion (Weidinger, Pers. Comm., 2005).

CBUD receives funds from the Royal Netherlands Embassy in Ghana and carries out its activities with support from its partners, usually the district assemblies and other civil institutions in several districts. Request for training has also been higher. The CBUD credit schemes have experienced significant loan recoveries within ten months and have enhanced the savings capacity of the beneficiaries who have experienced over 100% returns on their investments (CBUD Progress Report, January-June 2004).

RUDEYA has so far promoted ALs in 50 forest-fringe communities in the Goaso forest district (Tieku, Pers. Comm., 2005). The provision of grasscutter cages and breeding stock to their target groups, for instance, has been done in collaboration with Tropenbos International-Ghana.

Amongst Forest Districts

In many forest districts, the promotion of ALs has just begun with best practice being only demand survey that has been carried out in selected forest-fringe communities. Table 3.18 below summarizes AL promotion practices in the various forest districts.

Table 3.18 Best AL practices in district forest services divisions

Forest Districts	Best AL Practice	Demand Survey	Training	Adoption
Sunyani				
Nkawie				
Juaso				
Offinso				
Kumawu				
Mampong				
Kintampo				
Goaso				
Dormaa Ahenkro				

Demand surveys

At least in all forest districts, demand surveys have been undertaken to identify the preferences of ALs that forest-fringe communities have and would want to be involved in. This eventually influenced the various ALs that each forest district is promoting as shown in Table 3.3. However, it should be noted that, not all forest-fringe communities were surveyed in all forest districts. For instance, only two out of over 70 forest-fringe communities were surveyed in the Goaso Forest District (Awuku, Pers. Comm., 2005) and six communities in the Kumawu Forest District (Baffoe, Pers. Comm., 2005). A reason for this observation was given as lack of adequate funds to cover other forest districts. Criteria for the selection of forest-fringe communities were the nearness of the communities to the forest (within 5km) and the level of dependence on the forest.

Training

Not all forest districts have furthered action following the demand surveys they carried out. Only about 67% of them have had some training sessions for their target groups. Here, however, only a selected few from each of the surveyed forest-fringe community are trained. The idea behind this selection is that the beneficiaries would also train members of their communities, a concept usually referred to as 'training of trainers'. In the Nkawie Forest District, 60 people had been trained during data collection. These were selected from 20 forest-fringe communities (containing not less than 2,000 people) dotted around six forest reserves (Amelodzi, Pers. Comm., 2005). In the Kumawu Forest District, only three farmers from six communities containing about 1500 people were selected for training on grasscutter rearing at GTZ, Sunyani (Baffoe, Pers. Comm., 2005). In the Offinso Forest District, the story

is no different. Ten people, two from each forest-fringe community were selected for training on grasscutter rearing at GTZ, Sunyani.

About 33% of forest districts that were involved in demand surveys have not as yet had any training sessions for reasons varying from unavailable funding to unfavorable timing for the activity. Apparently, this situation is only a preview of the challenges involved in the promotion of ALs within the forest districts.

Adoption

It is one thing identifying interests of people in AL schemes and training them and, quite another, people adopting the AL schemes. In forest districts, those selected for training on AL schemes adopt them mostly when they are provided with materials needed to start up the venture. Resources to encourage the adoption this way were not available in most forest districts. In Juaso, however, 20 people had benefited from available resources. The forest district had provided some credit facilities. Each farmer was given up to ₵5million worth of materials and financial support. The material support referred to here are breeding stocks, housing and some other relevant logistics. It is then expected that at the end of the working year, the money be paid back so that other people can benefit from the facility (Manso-Howard, Pers. Comm., 2005). Moreover, in some forest districts such as Kintampo, Kumawu and Sunyani some communities had been engaged in plantation programmes. However, adoption of other ventures (animal-oriented ventures such as grasscutter rearing and snail farming) was nonexistent. Nevertheless, it should be acknowledged that pockets of farmers in some forest-fringe communities are already into some ALs. These are meant to serve as backups to their major livelihoods. These farmers started the ventures long before any demand surveys were carried out by the forest districts. They are not beneficiaries of efforts made by the forest districts at promoting ALs to forest dependent communities.

Generally speaking, the adoption of the AL schemes is insignificant in forest districts. Some farmers are doubtful about the returns they can make and thus, unwilling to invest in AL schemes. Others are disenchanted by the failing results experienced by some who had earlier adopted the schemes. Hence, uncertainties about profit-making and disappointing results experienced by some who have already adopted AL schemes are two factors that have contributed to the low level of adoption in forest districts.

Prospects/potentials/merits of alternative livelihoods schemes in forest districts

Forest Degradation

The major livelihood of people in forest-fringe communities is farming. During off-farming seasons, rate of illegal activities such as hunting for game, illegal felling of saplings for pestles and extraction of other non-timber forest products increases (Don, Pers. Comm., 2005). Bush fires, sometimes, emanating from activities of hunters who may fail to extinguish campfires, are notably high around these same seasons. One reason for this phenomenon has been attributed to the fact that around these seasons, the people are usually less busy on their farms, realize little incomes from farm products, and thus resort to other activities for their livelihoods. Ironically, these activities are unsustainable and have been known to contribute to forest degradation in Ghana. A basic, fair approach that conservationist can use to reverse this phenomenon is to draw the attention of forest dependents to other activities on which they can fall during the lean seasons. The introduction of alternative livelihood schemes can invariably help reduce this trend. This is because when AL schemes are adopted, the forest would be virtually brought to the backyard of the farmers. Farmers can spend more time on their AL ventures at home during off-farming seasons rather than exploiting the forest for these same products.

AL schemes identified in this study have little or no potential for forest degradation. They are rather domestication of forest products and thus draw away people from the forest. For instance, GTZ and BARGFA have endeavoured to import domesticated breeding stocks of

grasscutter from the Republic of Benin to farmers who are interested in grasscutter rearing. This has an obvious benefit to forest protection. At least, it removes the danger of bush fires that might occur in the farmers' pursuits to capture breeding stock from the wild with fire. (Weidinger, Pers. Comm., 2005) Hunting of honey from the wild has sometimes involved the use of fire and this has resulted in bush fires causing much damage to natural resources. Bee-keeping obviously offsets this eventuality. Other alternative livelihoods can have such potential for forest protection.

Collaboration

People's willingness and ability to involve themselves in forest management and production activities is linked to the how much of their needs and aspirations for forest products could be satisfied. Educating forest communities about the prospects of AL schemes when adopted and the need to help manage community forest sustainably fosters collaboration. A case of Nkawie Forest District illustrates this point. A sensitization programme about the prospects of adopting grasscutter rearing and snail farming as well as the need for collaborative forest management was carried out in communities around the Offin Shelter Belt Forest Reserve. Following this, forest-fringe communities have willingly mounted barriers and impounded vehicles that carry illegal forest products; a situation that has contributed to a reduction in illegal forest extraction in the Nkawie Forest District (Amelodzi, Pers. Comm., 2005). When well-packaged, the promotion of AL schemes to forest communities can encourage participatory forest management.

Poverty Reduction

Most district forest managers are of the view that when AL ventures are well packaged, they can help reduce poverty by improving upon the income levels of the people; especially those living by the fringes of the forest. It is not forest managers alone who see this prospect in AL schemes. All identified organizations promote alternative livelihoods with the primary goal of reducing poverty (see table 3.4). However, it has been argued that AL schemes are unlikely to address the livelihood predicaments of the rural poor (Amanor, 2004). While the authors of this report do not attempt to dispute this assertion, they acknowledge the potential of AL schemes to reduce rural poverty by improving livelihoods. Granted, these products are characterized by relatively low capital and skill entry thresholds, returns are pro rata low and products may principally be for local markets. Yet, there is ready market for these products. Demand for them is more than they could be supplied (Awuku, Pers. Comm., 2005). Hence, with the demand-supply-pricing relationship influencing each other, it is anticipated that rural households engaged in AL schemes receive satisfying incomes from their products.

Rural Empowerment

One strategy that forest managers intend using to distribute available support for alternative livelihood schemes in their jurisdiction is to organize the target persons into groups. Firstly, this carries the potential of rural empowerment. Forest-fringe communities are usually isolated, often with little representation in district or national issues, leaving them virtually powerless. Organizing them into groups with their own elected responsible executive officers can provide real chance for representation and lobbying even in district or national affairs.

Minimal Land Requirement

In another light, the identified alternative livelihoods require smaller pieces of land for implementation as compared to the traditional agricultural ventures such as ruminant farming, poultry farming and pig farming. In grasscutter farming, for instance, a grasscutter cage of dimension 14ft long x 2ft wide x 5ft high, can ideally house 45 animals. A three-tier wooden cage can ideally house 15 animals (Sarkodie, Pers. Comm., 2005). Such a three-tier cage would be inadequate to house 15 sheep, pigs or chicken without sacrificing the basic principles of their general husbandry (Duku, Pers. Comm., 2005).

Bee-keeping requires equally simple housing. Beehives are conveniently hanged on stems of trees and do not necessarily require land space. Such a system is even suitable for farmers with little or no land space.

Grasscutter meat, snail, mushroom and honey, are all important delicacies for people in both rural and urban areas. Taste for them exists everywhere. However, their demand usually outstrips supply even at the local level. Snail collectors, for instance, trek several kilometers in search of snails, to satisfy their taste and income requirements, with very little or no success. (Osei-Wusu, Pers. Comm., 2005) Thus, snail farmers often make high sales on the market, usually with no leftovers. In Nyamebeye, a community near Bechem in the Brong-Ahafo Region, a year old snail can be obtained at ₵1,500⁵ (Appiah, Pers. Comm., 2005). Grasscutter meat sellers make good sale from their business. They usually have higher demands from customers than they can supply. Thus, at any given price, customers are ready to buy. In effect, there is good demand for these ALs and established markets are available for them.

Some facts and figures

The following are some interesting facts and figures about grasscutter farming, snail farming, bee-keeping and plantation development.

Grasscutter:

A ratio of one male to four females (bunnies) is ideally required to start up. (This is GTZ-recommended.)

At 6-7 months old a female grasscutter is ready for crossing while at 7-8months old the male is ready for crossing.

Gestation period is 152 days.

Litter size (number of bunnies that can be delivered by a mother at a time) ranges from 1 to 11.

Twice in a Each year, the female delivers an average of 8.7 bunnies. With a 10% mortality rate allowed, an estimate of 7.5 bunnies per year is expected.

To raise a bunny to the maturity, an estimated cost of ₵ 460,000 per annum is incurred on feeding when animal is kept on a large scale.

Productive age is up to 3 years (when a female) and 4 years (when a male).

Life expectancy is about 5 to 6 years.

With each female producing an average of 7.5 bunnies a year, an estimate of 30 bunnies would be expected when four females are started with, all things are equal.

A matured grasscutter is sold at between ₵250,000 and ₵300,000 in Sunyani.

One bunny of domesticated breed is sold at ₵350,000 while the local breed is about ₵200,000 (Sarkodie, Pers. Comm., 2005)

Snail:

Year, each breeding snail lays eggs.

Snails are hermaphrodites

Ideally, maximum of 100 snails are required in a trench of dimension 6ft deep x 6ft long x 3ft wide (CBUD recommended) as shown below:

A snail trench

Minimum of 200 eggs laid by each breeding snail at a time. Thus, within a year about 400 eggs are laid by each breeding snail

21 days after laying eggs, the eggs are ready to hatch.

Major cost incurred is on housing.

An estimated cost of less than ₵10,000 per annum is spent on feeding one snail, when on a large scale. (Appiah K., Pers. Comm., 2005).

⁵ All cost quoted in this document may change with changing economic situations within the country.

Bee-keeping

One bee-hive can be started with.

Within a year, an average of 20 bottles of honey can be realized from one bee-hive

An ideal bee-hive can be obtained at ¢300,000

Its life expectancy is about 10years

No feeding cost is involved in bee-keeping

A beer bottle of honey sold at about ¢30,000 and a gallon at about ¢200,000 in Sunyani. (Sakyi-Sarkodie, Pers. Comm., 2005)

*Plantation Development (in Kintampo Forest District)***Table 3.19 Price tag for plantation development**

Activity	Quantity	Price
Exotic tree seedling production	Per seedling	¢ 400
Indigenous tree seedling production	Per seedling	¢ 500
Peg cutting	Per peg cut	¢ 50
Pegging	Per hectare pegged	¢ 90,000
Planting	Per hectare planted	¢ 75,000

Table 3.20 Activities involved in plantation development and period covered, by activity

Activity	Period
Seed collection	November - January
Ground preparation	February to coincide with rainy season
Planting	March
Lifting of seedlings	May
Peg cutting	May - August
Planting of seedlings	September
Rest	October

Source: Yeboah E., Pers. Comm., 2005)

Constraints/challenges/demerits of alternative livelihood schemes in forest districts*High Start-up Capital*

A major challenge to alternative livelihood schemes in forest districts is high start-up capital requirement. Many of the target group for AL promotion (forest-fringe communities) are poor and are unlikely to invest their fortunes in such ventures no matter how promising they prove to be (Sowah, Pers. Comm., 2005). Amanor, (2004) makes a similar remark. Cost of training could be high; cost of housing as well as other inputs such as breeding stock could as well be expensive to the poor, forest-fringe dweller. The demand surveys that were carried in forest districts show that forest-fringe communities have more interest in grasscutter rearing (see Fig 3.2) than other alternative livelihood ventures. However, minimum start-up capital of ¢5,100,000 is required (Sarkodie, Pers. Comm., 2005). Table 3.21 below presents the breakdown of this cost.

Table 3.21 Minimum start-up capital required for grasscutter rearing (standard)

Item	Cost
A three-tier cage (standard)	¢2,200,000
10-day training (Tuition and Accommodation)	¢1,150,000
5 domesticated breeding stocks (@ 1 for ¢350,000)	¢1,750,000
TOTAL	¢5,100,000

Forest managers who support training of trainers in their districts pay this amount per head to cover the training cost in grasscutter rearing. It should be noted that this is the BARGFA/GTZ ideal minimum and it is from this source that training has been offered to trainees who are supported by forest districts. However, cost of training can vary depending on the organization providing the services. For instance, CBUD provides simple cages to farmers to start with instead of the three-tier cage.

Simple grasscutter cages

Again, CBUD provides wild breeding stock of grasscutter to farmers at reduced cost instead of the domesticated breed from Benin. Snail rearing and mushroom farming equally require high start-up capital due to the cost of housing and training. Ironically, any amount exceeding ₦1,000,000 would be too much for people living in forest communities to afford (Manso-Howard, Pers. Comm., 2005). Forest managers remark that the few farmers who have already fully adopted alternative livelihood schemes on their own are those who could afford, apparently the rural rich. Poor farmers who are interested in AL schemes but cannot obtain the requisite capital and/or materials to start with would have to depend on improvised materials.

Initial Mortality Rate

Another challenge to alternative livelihood schemes is the apparent high initial mortality rate of breeding stocks which sometimes influences farmers' perception that the risk factor for these ventures is high. Some mushroom spores have failed to germinate (Duku, Pers. Comm., 2005), and some snails do not survive; due to varying reasons. Initial mortality rate of domesticated breeding stock of grasscutter from Benin is about 10%. (Weidinger, Pers. Comm., 2005) This rate is reportedly higher in breeding stocks from the wild. (Frimpong, Pers. Comm., 2005) This has been attributed to the fact that the methods of their capture from the wild such as trapping and pursuing usually put undue stress on them. They survive only for few days after capture and die afterwards. Moreover, the wild grasscutter stocks are notably aggressive and most of them hurt themselves in cages. (Yeboah J., Pers. Comm., 2005) These observations made by farmers influence their preference of the tamed, sober, domesticated grasscutter stock to the wild type.

Inadequate Starter (breeding) Stock

In grasscutter rearing, for instance, this is one major challenge. Farmers' preference of the domesticated breeding stock to the wild type has increased demand for the domesticated breed. However, its supply is very low due to unfavorable import bureaucracies (Sarkodie, Pers. Comm., 2005). Hence, farmers who possess the most sought-after breeding stocks are still maintaining them for multiplication purposes. In effect, most of the grasscutter sold on the market today are of the wild type. Many grasscutter farmers want their animals to multiply adequately before they sell them (Oppong, Pers. Comm., 2005). Snail farmers likewise complain that the recommended starter breed for snail farming is scarcely available on the market. Farmers, thus, use any available breed to start with and this has often had adverse effect on production (Appiah K., Pers. Comm., 2005).

Farmers' Perception about AL Schemes

Alternative Livelihoods as Hobbies

On another note, amongst farmers who are already into alternative livelihoods in forest-fringe communities, the perception is that these ventures only augment their major source of livelihood which is farming. Thus, many farmers do not approach alternative livelihood schemes with the requisite business management principles. They view them as hobbies (Sowah, Pers. Comm. 2005). This has resulted in many farmers keeping ALs only on small-scale. Investment level is woefully low.

(b) High returns expected from AL schemes

Again, many farmers have kept unbalanced views about AL schemes. Anticipation of high returns from AL ventures is usually placed on the minds of farmers by some organizations promoting ALs. These organizations do much to present the prospects of the AL schemes but do little to present their possible challenges. Thus, farmers get disappointed when faced with these obvious challenges. Many farmers have abandoned the faunal ventures in the face of challenges, usually without seeking any professional advice to handle these problems.

Some farmers however complain that, sometimes, efforts to reach organizations or institutions that introduced the ALs for help fail. Even if they are successful in reaching them the requested assistance is delayed and, often, shorn of (Appiah, Pers. Comm., 2005).

(c) Preference of wild products to domesticated products

Another challenge that seems rather passive is the preference of wild faunal products to domesticated ones. Many rural, and sometimes urban, dwellers hold the view that wild faunal products like grasscutter meat, honey, mushrooms and snails taste better than the domesticated ones. Patronage of products from domesticated sources has therefore been lower than those from wild sources when both are available on the market. This situation has served as a disincentive to the adoption of AL schemes in forest communities. (Awuku, Pers. Comm., 2005)

Little Technical Know-how Imparted to Farmers

Most farmers enter into AL schemes without adequate technical know-how. Many who adopted them on their own had learnt some basic skills from colleagues who introduced the AL schemes to them or had not received any technical skills at all. This situation affects development and shatters farmers' expectation of high production and pro rata high returns. For instance, snails go into aestivation⁶ in response to drought. Farmers are thus advised to supply snails with enough water in a certain manner in order to reduce this occurrence. Many snail farmers with no such know-how complain of mortality and poor growth when snails aestivate (Amoako-Atta, Pers. Comm. 2005). Mortality amongst grasscutter is either due to a lack of technical know-how on the general husbandry practices or severe environmental conditions or both. Farmers who receive appropriate trainings from recognized sources hardly experience such mishappenings.

Little or No Monitoring and Evaluation

In most forest districts, very little have been done as far as monitoring of AL schemes promoted to forest communities is concerned. This situation is influenced by the fact that there aren't much available resources for the exercise (Sowah, Pers. Comm., 2005). Moreover, adoption of AL schemes is very low in forest districts and, hence, forest managers are unable to evaluate the impacts of their efforts. RUDEYA however monitors progress made by farmers who adopt AL schemes and offers useful suggestions for improving their lot.

It should be noted that these are only broad challenges that can or have contributed to the little or no interest in the adoption of the alternative livelihood schemes in forest districts. Other isolated challenges may exist for each AL scheme. For instance, a major challenge to bee-keeping is the fear of bee-sting.

⁶ Aestivation is a technical word which simply means 'remaining dormant during months of drought'. When snails go into aestivation, they don't die but they usually curl themselves in their shells and remain immobile until favorable conditions are restored. All this while, growth and development slows down.

EMERGING ISSUES, CONCLUSIONS AND RECOMMENDATIONS

Emerging Issues

From the key findings that have been discussed so far, the following issues emerge:

Forest districts support training of trainers with the view that beneficiaries would also train interested members of their communities. But emerging questions are: Are there adequate measures in place to ensure that this system works effectively in the local communities? What guarantee is there that the few people that are selected for training can deliver the requisite know-how to their colleagues in the communities? How could an optimal use of this expertise be ensured?

Only about five alternative livelihood options exist (or have been identified) in the forest communities. Questions that are consequently raised are: Are the existing ALs adequate? Do they meet specific needs of the people? How would their adoption contribute to sustainable forest management in the various forest districts? Can more be explored? What market potentials exist for the existing ones and what potentials could be there for the ones yet to be explored?

Very little support (both financial and institutional) exists for the promotion of alternative livelihood schemes in forest districts. Currently, the single most-important support that many forest districts depend upon is the DfID's funding for Participatory Forest Management programme. Should this programme phase out, what way out for support of AL schemes in forest districts can be available? Granted, the World Bank's Global Environment Facility provides bigger support to forest districts. This support is however limited only to forest districts that have GSBA's falling within their jurisdiction. One question that emerges is: How can other donors be committed to support AL schemes in forest districts? Even locally, not much support is given the promotion of ALs in forest districts. In the study areas, only RUDEYA and TBI-Gh were identified to have forest communities as target groups for the promotion of ALs. All other organizations coincidentally got roles to play in AL promotion in forest districts. Another question that emerges is: How can support from local organizations for AL promotion in forest districts be won?

Certain views about AL schemes can be very disturbing. For instance, people's preference of wild products to domesticated ones in the name of good taste has implications on forest management. This can mean that no matter what efforts are put in to protect the forest by providing AL schemes; some would thwart these efforts by hunting for their preferred wild products from forest through means that have been known to contribute to forest degradation. Again, viewing AL schemes as mere hobbies can kill-off any enthusiasm to expand the current scale of operation. Approach to them can be routine and lackadaisical, with no serious business management principles to follow. Investment levels can proportionally be low. This can seriously limit any appreciable turnover that could convince farmers to leave the forest to rest. The prospects and constraints to AL ventures should be adequately presented to farmers so that they do not keep unrealistic expectations. All these perspectives presented in this paragraph can be relaxed by diligent education. But the question is: Who should do the education?

Poverty has been cited as an underlying cause to forest dependence in forest-fringe communities. To reduce forest dependency, therefore, poverty should be reduced. The provision of ALs is reckoned as having the potential to achieve this. But important questions that many ask concerning AL schemes are: Can the returns from AL ventures be adequate to satisfy the immediate needs of rural forest-dependent communities such that they will be convinced not to depend on the forest for their major livelihoods? In other words, can the AL schemes reduce rural poverty? At what rates can the expected returns be made?

The apparent high start-up capital requirement for the most sought-after AL schemes such as grasscutter is a disincentive to many rural farmers. It is obvious that no matter how attractive their benefits are many farmers can only adopt them with some financial support. But two questions that emerge are: Who should provide this support? What kind of funding schemes can be available? Many have argued that AL schemes are for the rural rich who can afford but not for the poor. If this assertion were true, then the very premise for which AL schemes are promoted in forest districts would be defeated. This is because rural poverty that apparently triggers forest dependency would still persist. Therefore, as much as possible, a way of getting the AL schemes reach the rural poor should be sought so that the ultimate goal of sustainable forest management could be achieved.

There aren't enough funding schemes available for alternative livelihood schemes in forest districts. Forest districts that are currently promoting AL schemes depend on financial support provided by the Global Environment facility and/or United Kingdom's Department for International Development. Organizational support for the promotion of AL schemes in forest districts is woefully inadequate. Most of the supports given AL schemes in forest districts are project-oriented. For instance, the support given by TBI-Gh and RUDEYA to forest-fringe communities in the Goaso Forest District shall cease when their project comes to an end. But what if the projects phase out and the supports are not forthcoming? What happens if the support given to forest districts by DFID is withdrawn? One possible expectation will be that the people would revert to their dependence on the forest? How sustainable shall these supports be?

A final discernible issue that emerges is what schemes for monitoring and evaluation (M&E) can be put in place in order to assess the performance of AL ventures in forest districts. The M&E can also help forest managers and other service providers to know the problems that farmers face in the adoption of AL schemes in order to provide workable solutions before they escalate into irreparable levels.

Conclusions

From the study and all issues raised, the following conclusions are made:

RUDEYA and Tropenbos International-Ghana are two identified organizations that directly promote alternative livelihoods to forest communities in the Goaso Forest District. In fact, Goaso Forest District is the only forest district with some organizational support for the promotion of alternative livelihoods specifically to forest communities. Sunyani Forest District receives some support from JICA but not for AL programmes. Other organizations like CBUD, GTZ, World Vision, Action Aid and BARGFA promote some aspects of alternative livelihoods in some forest districts, which are also administrative districts. However, their target groups are not just forest communities. Forest districts, on the other hand, promote alternative livelihoods only to forest communities. Even here, only nine out of the 13 forest districts in the Ashanti and Brong-Ahafo Regions promote alternative livelihoods.

Very few alternative livelihoods are being promoted in the various forest districts. In some forest districts, either one or more of grasscutter rearing, snail farming, mushroom farming, bee-keeping and plantation development is being promoted due to limited resources. Apparently, forest districts proposed these options and allowed forest communities to make their preferences out of the options, through what is commonly referred to as demand surveys. This approach, although influenced by available resources, unduly limits the range of options available for forest communities.

Start-up capital required for any of these could be high and rate of returns could be low. Sometimes, farmers' challenging experiences about these AL schemes are overwhelming. All these situations influence the little fervor that farmers put into alternative livelihood schemes promoted by forest districts.

Only few amongst those who adopt ALs run them for business purposes. Majority of farmers adopt AL schemes only to supplement their major means of livelihoods, usually farming. Others adopt them as mere hobbies. The results have been that even though forest districts are to all intents and purposes promoting alternative livelihoods as a means of reducing dependence on the forests, impacts on the people are low.

In any case, currently, not too many farmers have adopted AL schemes that forest districts promote. Hence, precise information about their adoption situations is scarce and it would be too early to assess the impact of AL schemes on people living in forest communities.

Recommendations

Most of the issues raised in this report were generalizations based on observations and other people's perceptions. Even though one may easily be convinced of the truthfulness of these overviews, this study recommends that certain issues be further researched into. The following are some of them:

What implications do people's preference of wild alternative livelihood products to domesticated ones have on sustainable forest management.

What correlations exist between the provision of alternative livelihoods and their ability to reduce rural poverty and dependence on the forests?

Very little monitoring and evaluation (M&E) on ALs are currently being done by forest districts. But M&E should be vigorously pursued by promoters of alternative livelihoods. Only in this way can they, as well as their donors, be convinced that their resources are put to good use.

Training farmers on alternative livelihood schemes is as equally important as their adoption of them. This is because when trained, farmers would be able to work against any possible eventuality in the adoption of alternative livelihood schemes. Hence, it is recommended that only organizations with the requisite manpower and resources to train farmers should be approved. Thus, a certifying agency should be established to handle this need.

Effective funding schemes in alternative livelihood promotion in forest districts are very necessary. The Juaso Forest District's funding scheme is at least a good step to begin with. Here, a farmer is given up to ₦5million worth of materials and financial support. It is then expected that at the end of the working year, the money be paid back so that other people can benefit from the facility. The CBUD credit scheme in which farmers are linked with banks and credit unions is an improvement over the former. This is because in the latter, loan recoveries within certain frame of time can be enhanced and the savings capacity of the beneficiaries can as well be improved. Moreover, because monies are issued from banks and credit unions other than forest districts, farmers could be responsible and committed and thus approach AL ventures with the necessary business management principles.

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4. GROUP DISCUSSIONS

Three groups were put together to discuss the following livelihood options: 'Forest-based livelihoods' (group one), 'Forest-related activities' (group two) and 'Other livelihood options/Footloose activities' (Group three).

Each group identified both actual and potential livelihood options as well as the current experiences with the various activities. In respect of the current experiences each group identified the successful practices, challenges and the way forward for various activities. The major views from the groups are presented below, but the details of the group reports are provided in the Appendix II.

Successful practices

The groups identified activities that have been sustained and have yielded some economic, social or ecological benefits. Plantation and Taungya schemes, Woodlot establishment, rearing of ruminants and rodents, bead making, formal and permanent employment of guards and load bearers were identified as successful practices.

Butterfly farming, orchid farming, fodder production, anwonomo (*Thaumatococcus danielli*) farming, aquaculture and employment as fire volunteers were identified as potential activities that can be explored.

Key challenges

Financial constraints, marketing constraints and lack of technical know how were identified as major challenges common to most of the livelihood activities. These have resulted in low patronage of the activities, low turnovers and generally low interest in various livelihood options. Other challenges identified include finding the right balance between economically viable and environmentally/ecologically viable activities and how to ensure effective networking and prevention of duplication of activities by Government, NGOs and other institutions.

The way forward

Considering the key challenges the groups proposed the following actions to ensure sustainable dependence on forest resources and to reduce poverty.

- *Financial Opportunities:* There is the need to increase access to credit facilities and capital. The private sector should be encouraged to provide capital and credit facilities to supplement the efforts of the District Assemblies and the Banks. NGOs and the District assemblies should also collaborate to educate people on acquiring credit facilities from the banks and other sources for alternative livelihood schemes.
- *Markets:* There is the need to revamp existing markets and create new market opportunities both locally and internationally for various livelihood activities. Some NGOs have taken the lead in this action but the government and other institutions can offer support.
- *Capacity and Networking:* The capacities of forest fringe communities and other targets of various livelihood activities should be improved through training and education on management dynamics of various alternative livelihood schemes. Extension services and effective monitoring and evaluation of alternative livelihood schemes can also increase the success rate of these activities. Finally there is the need for effective networking within and between NGOs, the Ministry of Food and Agriculture and the District Assemblies to reduce duplication of activities.

- *Education:* People should be explicitly informed and educated about the fact that alternative livelihood schemes are meant to reduce poverty and unsustainable use of forest resources. This is necessary to dismiss the perception that alternative livelihoods are meant to wean communities from the forest and to keep the forest for timber production functions and the timber to some privileged stakeholders. NGOs can play a leading role in the education activities and the idea could also be incorporated into the education curricula.

It was evident after the group discussions that the categorization of ALs into ‘Forest-based’, ‘Forest-related’ and ‘Footloose’ activities were approached rather loosely. For a concise definition of the three categories please refer to Appendix IV.

5. CHAIRMAN’S CLOSING REMARKS

Dr Boakye Amoako-Atta

Dr. Amoako-Atta who chaired the event emphasised the need for all stakeholders engaged in AL schemes to clearly define the target groups they want to deal with to avoid duplication and ensure that the right impact is made. He made a passionate appeal to the social scientists to help deal with attitudinal problems associated with the alternative livelihoods.

Dr. Amoako-Atta debunked the misconception that grasscutters from the wild are not suitable as breeding animals citing that over 5000 grasscutters from the wild currently in the hands of ordinary farmers are doing very well. He added that the woman who was adjudged the best grasscutter farmer manages over 150 grass-cutters; her breeding grass-cutters can deliver up to eight bunnies as a litter size and her initial stock were all captured from the wild.

He mentioned that the forest is becoming increasingly limited and the land space is no more a luxury therefore AL schemes which does not require much space in most cases should now be treated more seriously than ever. Only in this way can we effectively wean people off the forest to allow forestry experts all the freedom to manage the resources sustainably.

Concluding, the chairman thanked participants and the organisers for their contributions to the success of the workshop and expressed his eagerness to read the proceedings. He was optimistic that the theme will continue to attract the interest of policy makers and donor agencies for a long time to come and urged the organisers to widely disseminate the outputs.

APPENDICES

APPENDIX I: PROGRAMME FOR THE FOCUS GROUP DISCUSSION ON ALTERNATIVE LIVELIHOODS AND SUSTAINABLE FOREST MANAGEMENT

DATE: Friday, 1st April 2005.

TIME: 09:00 a.m.

VENUE: Wood Industries Training Centre (WITC) Akyawkrom, Ejisu near Kumasi

OBJECTIVE: To identify viable technologies, success factors and measures to enhance their abilities to reduce poverty and eventually dependence on forests.

PROGRAMME OUTLINE

09:00 a.m. Arrival and registration of participants

09:30 a.m. Introduction of Chairman – Rose Adisenu-Doe

09:35 a.m. Chairman’s response

09:40 a.m. Welcome address – Mr. K.S. Nketiah (PTL, TBI-Ghana)

09:50 a.m. Minister’s keynote address

10:05 a.m. 1st Presentation: *Forest resources and sustainable rural livelihoods.*

10:30 a.m. 2nd Presentation: *Promoting alternative livelihoods: field experiences* – Ricerca e Cooperazione (RC)

Tea Break

11:10 a.m. 3rd Presentation: Economic field experiences on forest based livelihoods – Law Ofori Lartey (SAMARTEX)

11:35 a.m. 4th Presentation: An analysis and evaluation of alternative livelihood schemes in addressing sustainable resource management and poverty reduction – Dr. D.K.B. Inkoom (Department of Planning, KNUST)

12:00 p.m. 5th Presentation: Alternative Livelihood Schemes in Forest Districts of Ghana – Bossman Owusu Junior and K.S. Nketiah

Break

12:25 p.m. Group discussions

01:55 p.m. Presentation of group reports

02:25 p.m. Chairman’s closing remarks

02:30 p.m. Lunch/closing

APPENDIX II: LIST OF PARTICIPANTS

Invited Guests

1. Mr. Fredua Agyeman - Ministry of Lands Forestry & Mines, Accra.
2. Dr. B. Amoako-Atta - CBUD, KNUST

Resource Persons

3. Dr. Emmanuel Acheampong - KNUST
4. Ms. Elizabeth Boafo - RC
5. Mr. Yaw Ofori Lartey - Samartex
6. Dr. D. Inkoom - KNUST
7. Mr. Bossman Owusu - TBI-Ghana
8. Dr. Kyereh Boateng - FRNR, KNUST

Stakeholders

9. Dr. S. Oppong-Yeboah - MOFA, Goaso.
10. Mr. P. Amoh Korang - MOFA, Nkawie.
11. Mr. Sulley Gbadamosi - Ministry of Women & Children's Affairs
12. Mr. Abdulai Habibu M. - Action Aid International Ghana, Tamale.
13. Ms. Anita Djandoh - RC – Ghana
14. Ms. Rachael Awuah - FRNR
15. Mr. Russell Dadzie - Friends of the Nation (NGO)
16. Mr. Emmanuel Ntiri - Care Ghana
17. Mr. P. K. Omaneh - Bechem
18. Mr. E. K. Adu - ARI, Accra
19. Mr. Sakyi-Sardodie - BAGFA
20. Mr. K. S. Nketiah - TBI-Ghana
21. Ms. Anneke Wieman - TBI-Ghana
22. Ms. Beatrice D. Obiri - FORIG
23. Mr. Prempeh M. Ebenezer - FORIG
24. Mr. Lawrence Damuyag - FORIG
25. Mr. Nelson Amelordzi - FSD, Nkawie
26. Mr. S. Boachie Dapaah - WITC
27. Mr. Michael Abedi-Lartey - Wildlife Division, Goaso
28. Mr. Sarfo K. Onasis - WITC
29. Mr. Seth Ayeh - CBUD, KNUST
30. Ms Hazel Haywood-Dadzie - CBUD, KNUST
31. Mr. E. Ofori Oppong - CBUD, KNUST
32. Ms. Ernestina F. Antoh - BIRD, KNUST
33. Mr. Katumi Issaka - BIRD, KNUST
34. Mr. K. Kyerematen Tiekou - RUDEYA
35. Mr. Samuel Oppong - Farmer, Sunyani
36. Mr. Ahiaba Joshua - GTZ, Sunyani
37. Mr. Robert Arthur - Rabort Enterprise
38. Mr. William Osei Owusu - FSD, Sunyani
39. Dr. K Osei Agyeman - Dept of Planning, KNUST
40. Dr. K. Frimpong-Mensah - FRNR, KNUST
41. Ms. Joana A. S. Ameyaw - FRNR, KNUST
42. Mr. Aaron Akyea - MOFA, Kumasi

Rapporteurs

- 43. Rose Adisenu-Doe - TBI-Ghana
- 44. Kwame Okae Kissiedu - TBI-Ghana

Supporting Staff

- 45. Henry Aryeetey - TBI-Ghana
- 46. Kwabena Owusu Asubonteng - TBI-Ghana
- 47. William Ampong - TBI-Ghana

The press

- 48. Enoch D. Frimpong - Daily Graphic
- 49. David Owusu Antwi - Ghanaian Times
- 50. Richmond Addo - Hello FM
- 51. Mercy Yeboah - Kapital Radio

APPENDIX III: DISCUSSIONS GROUP ONE: FOREST-BASED LIVELIHOODS

Alternative livelihoods		Current Experiences		The way forward
Actual	Potential	Successful practices	Challenges	
<p>1) Snail rearing</p> <p>2) Beekeeping</p> <p>3) Mushroom/ Vegetable farming</p> <p>4) Rattan & bamboo</p> <p>5) Medicinal plants Woodlots/nursery establishment</p> <p>6) Forest enrichment</p>	<p>1) Butterfly farming</p> <p>2) Antelope farming</p> <p>3) Awonomo farming (<i>Thaumatococcus danielli</i>)</p> <p>4) Fodder production</p> <p>5) Crocodile & snake farming</p> <p>6) Orchid farming</p> <p>7) Bio- prospecting where the local people will be allowed to prospect for any forest-based resource</p>	<p>Plantation & taungya schemes (provide more food crops and income)</p> <p>Woodlots (provides economic / ecological benefits e.g. people are now into woodlot establishment for charcoal production, electrification etc.)</p> <p>Banking credit for some alternative livelihood activities (e.g. snail farming)</p> <p>This has resulted in increased income generation base. In some cases, woodlots are being used as collateral to access credits from banks.</p>	<p>Generally not good for the poor, due to start-up capital constrains e.g. access to credit from banks is really difficult if not impossible</p> <p>Lack of requisite management skills and sustainability of the schemes</p> <p>People devote little time for these livelihoods, since they consider it as a supplement to their major livelihoods</p> <p>Marketing constraints. (Economic threshold for the breeding stocks is mostly not attained by the farmers)</p> <p>Good breeding stock for grasscutter is difficult to come by</p> <p>Problems associated with linking Al. schemes with forest dependency and ecological / environmental protection / conservation. (Beneficiaries are not explicitly informed that the activities are meant to reduce their dependence on the forests. Benefits therefore tends to be purely economic activity but not ecological</p> <p>Economically versus environmentally viable activities e.g. medicinal and pestle harvesting / production</p> <p>Scaling-up of alternative livelihood schemes in communities to cover more beneficiaries</p> <p>How to ensure effective networking and prevention of duplication of activities by NGOs and institutions</p> <p>Low adoption, low monitoring and evaluation of Al activities.</p>	<p>Improve capacity-building and networking approach</p> <p>Make implementation of alternative livelihoods really community-based i.e. make participation by communities more effective</p> <p>Incorporate the concept of ALs and SFM into education curricula: from basic to the tertiary level</p> <p>Government policy on SRA of timber industry should emphasis alternative livelihoods</p> <p>Decentralisation should be practicalised: district level integration of environmental / economic development activities.</p>

GROUP TWO: FOREST RELATED ACTIVITIES

Alternative livelihoods		Current Experiences		The way forward
Factual	Potential	Successful practices	Challenges	
1) Formal employment (e.g. as forest guards, boundary cleaners, plantation developers (private & public) load bearers, stock survey labourers.	1) Formal employment (e.g. fire volunteers, legal chainsaw operators)	Formal temporal and permanent employment of guards, load bearers etc.	<p>Lack of sustainability of temporal forestry employment. Risk of chainsaw operators attack, snakes bite, etc. Potential of over-exploiting resources Delay in payment for contractual jobs in the forestry centre.</p> <p>With employment from forestry remuneration is low and few people are recruited from the communities</p> <p>These workers spend most of their time in the forest and sometimes contribute to illegal exploitation of NTFPs and timber</p>	<p>Private investments in plantations should be encouraged to reduce dependence on forest</p> <p>There is the need to explore other alternate livelihood options</p>

GROUP THREE: OTHER LIVELIHOOD OPTIONS (e.g. SOAP-MAKING, BEAD-MAKING)

Alternative livelihoods		Current Experiences		The way forward
Major livelihood options	Potential	Successful practices	Challenges	
1) Soap making 2) Bead-making 3) Pottery 4) Fishery / aquaculture 5) Piggery 6) Small ruminants 7) Bead-making from sea shells 8) Batik / tie and dye 9) Kente weaving & cloth making Poultry		Very lucrative and easy to go into Very abundant at beaches Can be a past time Have ready market internationally It also has a traditional use for special occasions Not many people into it	It is not well patronised locally Marketing; there is the need to create market for it internationally Access to the raw material is limited to the coast.	Since it is not forest based when introduced to forest fringe communities can reduce dependency

APPENDIX IV: DEFINITION OF KEY CONCEPTS

Classification of Alternative livelihood schemes

Alternative livelihoods were put into three main categories namely forest based, forest related and footloose activities. These have been operationalised as follows;

Forest Based livelihoods are those activities directly dependent on the forest. Examples include Plantation and Taungya schemes, Forest enrichment, woodlot establishment, medicinal plant gathering e.t.c. These activities are necessarily based on the forest and will not exist without the forest.

Forest Related livelihoods are related or connected to the forest but not necessarily based in the forest. Examples include snail rearing, grasscutter rearing, mushroom farming e.t.c. The initial stock for these activities may be obtained from the forest but the onward development is not strictly dependent on the forest.

Footloose activities are those livelihoods that have no direct link with the forest. Examples are soap making, batik/tie and dye making, kente weaving e.t.c. These activities do not necessarily depend on or relate to the forest.

Definition of key concepts in RC's Presentation

A *livelihood* comprises the capabilities, assets and activities required for a means of living. Livelihood is a word that describes the means by which people survive and the more fortunate thrive. Its importance is that it widens our thinking from industrialized society concepts like jobs and work into a framework that much better captures the reality of the strategies used by the poor to secure their survival (DFID).

A *livelihood is sustainable* when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base

Forest Fringe Community: The indigenous peoples who inhabit the forest or claim it as their home and any people who live in or near the forest and have traditionally been directly and to a large extent dependent on the forest and those people living within or around forests, or having access to forest areas, and who depend to an important extent on trees and forests for their livelihoods.

Sustainable Development: The improvement of the standard of living and welfare of the relevant populations within the limits of the capacity of the ecosystems by maintaining natural assets and their biological diversity for the benefit of present and future generations.

Poverty: Poverty is an unacceptable human deprivation in terms of economic opportunity, education, health and nutrition, as well as lack of empowerment and security (OECD).

Alternative livelihood: Alternative livelihoods are initiatives which build on traditional customs and knowledge, promoting strategies that empower local communities to utilize the natural resources under their control in a sustainable manner for enhanced welfare. They are non-consumptive resource use based.