

Linking Forests and People: A potential for sustainable development of the South-West Ethiopian highlands

Els Bognetteau¹, Abebe Haile², K. Freerk Wiersum³

Non-Timber Forest Products Research & Development Project, South-West Ethiopia

ABSTRACT

The local communities in the south-west highlands of Ethiopia are highly dependent on the forest resources for their livelihoods. Over time they have developed various ways of using and managing these forests in order to meet their needs for a range of non-timber forest products for household use and income generation. However, pressures on the forest resources have been increasing mainly as a result of population growth (both from natural increase and due to extensive settlement schemes), but also due to inappropriate agricultural investment projects. The deforestation and forest degradation not only threaten the ecological functions of the forests, but also impact on the livelihoods of local communities. There is an urgent need to stimulate both forest conservation and livelihood improvements in this region. As the forests harbour several important non-timber forest products, these could offer a good contribution to the livelihood development of local people. This paper describes the strategy and initial results of the NTFP Research and Development Project South-West Ethiopia for stimulating non-timber forest production as a means towards economic advancement. First, the paper describes the characteristics of the project area and explains the project strategy. Within the project area a highland forest area and a coffee forest area are distinguished which vary not only with respect to forest composition, but also in terms of the degree of deforestation and development of anthropogenic (agro)forest types. In both areas NTFPs provide an important contribution to the local livelihoods, notably honey in the highland zone and coffee in the coffee forest zone. Secondly, the paper discusses the integrated approach followed by the project in order to stimulate NTFP production. This consists of improvements in participatory forest management and the production and marketing of commercial NTFPs, combined with local institutional development and capacity building. The approach focuses on technical, economic and socio-political elements. The project activities are then reviewed explaining how they are based on the principles of building on the local knowledge, skills and institutions, while responding to the ambitions, needs and challenges of the communities. Specific attention is given to (a) location-specific approaches, (b) the interdependence of technical activities concerning improved production and processing of NTFPs, market linkage development and sustainable forest use and management, and (c) the stimulation of participation and collaboration by various stakeholder groups, through CBO development, training of local officials and policy dialogue. Finally, conclusions are drawn from the experience to date by application of the project strategy.

¹ Consultant Community based NRM, Sustainable Livelihood Action, the Netherlands,

² Coordinator NTFP Research & Development South-West Ethiopia Project

³ Forest and Nature Conservation Policy Group, Wageningen University, the Netherlands

1. Introduction

The south-west highlands of Ethiopia currently include the largest of the two remaining continuous blocks of Afromontane forest vegetation in the country. The highlands cover an altitudinal range from 900 – 2700m asl and form the upper catchments of several important rivers, such as the Baro and Akobo (tributaries of the Nile) and the Omo. The forests in this region do not only play a major role in water regulation of these rivers, but they have also a global importance for biodiversity. The region is a Biodiversity Hotspot of global interest with *Coffea arabica* as a flagship species. This crop originated in the South-west Ethiopian highland forests, from where it has spread over the world (Gole et al., 2000). Consequently, the *in situ* conservation of the original genetic diversity of coffee is of key importance to the world coffee sector (Mesfin Tadesse and Lisanework Nigatu, 1996; Tadesse Woldemariam Gole et al., 2000). Historically, the region was rather remote from the main populated regions in Ethiopia, even though there have been several waves of immigration from the northern parts of the country dating back to the 17th century (MELCA, 2005). The local communities are highly dependent on the forest resources for their livelihoods. Over time they have developed various ways of using and managing these forests in order to meet their needs for a range of non-timber forest products for household use and income generation (Million Bekele and Dereje Tadesse, 2004; Tadesse Woldemariam Gole, 2004).

During the last decades several factors, such as investment projects for new coffee and tea plantation development and fast population growth due to immigration related to settlement schemes and the agricultural development projects, have resulted in increasing pressures on the forests. Since the mid 1990s the degradation and deforestation rates have become alarmingly high, and since 2000 they have even increased further. The deforestation and forest degradation not only threaten the watershed and biodiversity conservation functions of the forests, but also impact on the livelihood opportunities of local communities. Consequently, there is an urgent need to stimulate forest conservation in this region. Such efforts should not only focus on the protection of forests, but also on improving local livelihoods in such a way that the conversion pressures on the forests will decrease. Thus, a combined conservation and development approach is needed. In view of the fact that the forests harbour several important non-timber forest products, they provide an important contribution to the livelihood development of local people which can be enhanced. Such an approach offers two advantages. In the first place, it can build upon the already existing local practices of using forests, and secondly, the development of forest-based livelihoods will create increased local support for the conservation of forests.

Within this context, the NTFP Research and Development Project South-West Ethiopia⁴ started its operations in 2003 with the aim to contribute to the alleviation of rural poverty through developing the role which non-timber forest products (NTFPs) can play in the livelihoods of the rural poor. Although the possibility of linking poverty alleviation and

⁴ The project is implemented by a partnership: Huddersfield University (UK), Jimma University (Ethiopia) and Wageningen University (the Netherlands), Ethio-Wetlands and Natural Resources Association (EWNRA) (Ethiopia) and Sustainable Livelihood Action (SLA) (the Netherlands), in close collaboration with the Government of Southern Nations, Nationalities and Peoples Regional State through the Rural Development Coordination Offices. The project is funded primarily by the European Commission (EC) Tropical Forests Budget with additional funds from the Norwegian and Canadian Embassies in Ethiopia.

forest conservation has recently been internationally advocated, the scope for non-timber forest products to contribute to combined poverty alleviation and forest conservation is still hotly debated (Belcher et al., 2005; Ros-Tonen and Wiersum, 2005). It has been argued, that the use of non-timber forest products by poor people is often a survival or coping strategy to prevent destitution due to a lack of more financially attractive agricultural production or income earning opportunities. In such cases the use of forest resources forms a safety net, rather than a means for economic improvement. In other cases, non-timber forest products have been shown to provide scope for increasing household incomes through the diversification of rural livelihoods or even for specialization in production and trade (Sunderlin et al., 2005; Wiersum and Ros-Tonen, 2005). This paper describes the strategy and some initial results from work by the NTFP Research and Development Project South-West Ethiopia in stimulating non-timber forest production and trade as a means towards economic advancement rather than as a means for poverty prevention.

2. The NTFP Research and Development in South-West Ethiopia project strategy

2.1 Characteristics of the project area

The NTFP Research and Development Project in South-West Ethiopia project is located in Kefa, Sheka and Bench-Maji zones of Southern Nations, Nationalities and People's Regional State (SNNPRS) in the south-west part of Ethiopia (Figure 1). In this region two main agro-ecological zones can be distinguished: the highland Dega zone (1800-2400 masl) and the intermediate Weyna Dega zone (900-1800 masl). These agro-ecological zones not only differ with respect to altitude, climate condition and natural forest composition, but also in terms of land-use characteristics (Table 1). In the highland zone agricultural plots are relatively small and large areas of natural forests are still present. In the intermediate Weyna Dega zone, agriculture is a relatively more important land-use than in the highland zone as seen in the larger agricultural fields and the gradual transformation of natural forests into agroforestry systems such as coffee gardens. Thus, although forest still dominates the landscape, the original vegetation has partly been changed through the cultivation of valuable tree crops, primarily coffee.

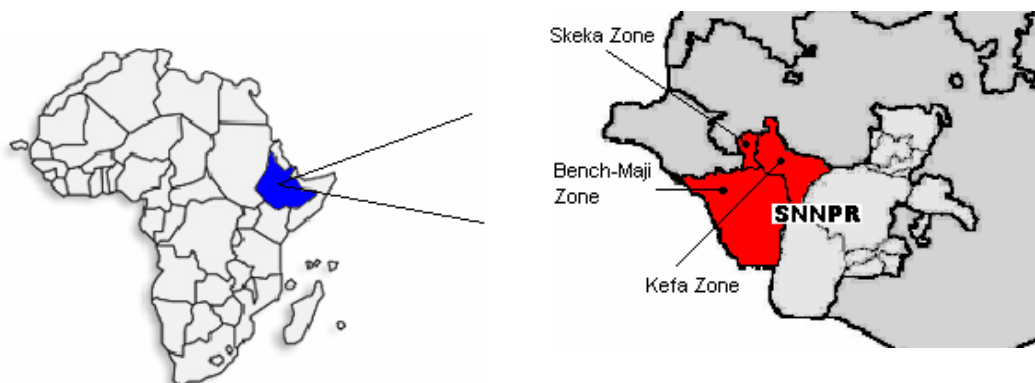


Figure 1 Location of the NTFP Research and Development Project in South-West Ethiopia
 Table 1 Main characteristics of the two land-use zones in the project area

| | Highland zone | Coffee forest zone |
|--|---|--|
| Altitude | 1800 – 2600 masl | 900 – 1800 masl |
| Natural vegetation | Mixed deciduous forest Bamboo forests | Mixed deciduous forests with coffee as a characteristic under-storey species |
| Forest cover | About 50-60% | About 15% |
| Population composition | Sheka and Kefa honey producers Menjo forest dwellers, | Sheko and Bench agriculturalist Menet and Mejengar hunter/gatherers Immigrant settlers, mainly Amhara |
| Land use | Forest use Small-scale subsistence oriented agriculture; | Various types of coffee exploitation: Wild coffee extraction Garden coffee cultivation Coffee plantations Small scale agriculture, with some locally marketable products |
| Average size cropland/household | | |
| Rich households | 3.1 ha | 9 ha, mainly coffee land |
| Medium rich households | 2.2 ha | 4.2 ha, mainly coffee land |
| Poor households | 0.8 ha | 0.7 ha |
| Average contribution of main food crops to livelihoods | | |
| Maize | 7% | 8% |
| Enset | 24% | 9% |
| Average contribution of livestock to livelihoods | 17% | 10% |
| Average contribution of forest products to livelihoods | | |
| Honey | 18% | 8% |
| Coffee | 6% | 22% |

Source: Van Beijnen et al., 2004.

Both in the highland zone and the coffee forest zone local communities are still highly dependent on the forests for their livelihoods, as a supplement to the mainly subsistence based agriculture. Besides wood for construction and fuel, several non-wood forest products are collected which are used as food and condiments, fodder, binding materials and medicine (Tadesse Woldemariam Gole, 2004). While a large number of the NTFPs are used for subsistence purposes, a more limited range is also traded in order to provide an income to buy food in times when the local agricultural production does not meet local needs. As a result of the different agro-ecological conditions in the two agro-ecological zones, the role of NTFPs differs between the two areas. In the highland zone honey forms the most important NTFP: rich households own on average about 100 beehives and poor people 50 beehives. Other less important NTFPs are forest coffee, bamboo and spices such as

Korerima (Ethiopian cardamom), *Timiz* (long pepper) and others. In the coffee forest zone, coffee is the most important NTFP followed by fruits and spices; only little honey is collected here with rich and poor household most of them Mejengar and Menet honey gatherers, owning 23 and 2 beehives respectively.

2.2 Project strategy

On the basis of the local forest and livelihoods conditions the NTFP Research and Development Project has identified two basic starting points for developing its strategy for contributing to the alleviation of rural poverty through developing the role which NTFP can play. These are as follows:

- The forest in the project areas plays a very important role in the livelihoods of the local people. In view of the presence of several already well established commercial NTFPs, the present use of NTFPs cannot be considered as involving only a survival and coping strategy for poor households, but rather as involving an incipient diversification strategy notably for the relatively richer households. There is an excellent opportunity to stimulate NTFP production and trade as a diversification strategy, but attention needs also to be given towards the maintenance of the safety net functions of forests for poor people and the natural forest based modes of NTFP production.
- The forest conditions in the project area can basically be considered as a forest frontier area (Chomitz, 2007) subject to agricultural expansion, often by external people and companies. The impact of agricultural expansion is especially noticeable in the coffee forests zone where pressures on the forests have been much stronger than in the highland zone, especially because of the good environmental conditions and high market potential for coffee. During the last decades large-scale coffee plantations (state and private owned) have been established on converted coffee forest land. Moreover, large settlement schemes and the influx of large numbers of labourers for the coffee plantations have resulted in the conversion of extensive areas for agricultural smallholder production. In addition, the natural forests are gradually transformed into modified forest, such as agroforests and homegardens. Whereas the deforestation trend poses a threat the local environmental system, the development of anthropogenic forest types can be considered as a gradual adaptation of the forest environment to local needs and the evolution of a forested mosaic landscape.

These basic considerations resulted in the identification of three main principles for the planning of project activities:

1. The project's activities should focus on supporting the evolution of a forested landscape with a mosaic of natural forests and modified forests with increased NTFP production. Thus, efforts should be taken to develop effective forest management systems for the conservation of natural forests as a common resource for local (poor) people as well as for stimulating improved production of commercially promising NTFPs in agroforestry systems.
2. In order to increase the economic value of NTFPs it is important to improve the weak marketing arrangements in the forest frontier areas which have been incorporated in major economic networks only relatively recently.
3. In order to allow an efficient transfer from forest frontier conditions to forested landscape conditions it is essential that major institutional changes are made to

facilitate the development process. Three types of institutional issues need attention: (a) improving forest and land tenure conditions especially in relation to recognizing local forest land-use claims and effective organisation of forest management and protection, (b) establishing contacts with socially and environmentally-responsible trading organisations in order to stimulate local income generation through increased commercialisation of NTFPs, and (c) strengthening and developing of local institutions for facilitation of the local development activities.

On the basis of these principles the project has adopted a 'research and development' strategy, in which an integrated technical approach tries to address the sustainable use and management of forest resources combined with a participatory approach towards institutional development. The project strategy has three major components:

1. Research activities, in the form of in-depth studies by academic researchers and students, aim at obtaining a good basic understanding of the role of NTFPs in local livelihoods and the critical factors impacting on this relationship. This information is further elaborated by participatory assessments of current use and management of forest resources and development potentials of NTFP as a means to identify locally-supported development activities.
2. This information is used to plan the technical component of the project which includes (a) the development of participatory forest management schemes, (b) the development of improved techniques for NTFP production by means of farmer-led trials, and (c) the establishment of contacts for improved marketing arrangements. (Fig 2)
3. These activities are also used as a basis for local capacity building regarding NTFP development. Through the active involvement of local stakeholders, Community Based Organisations (CBOs) and local government staff in project planning, implementation and monitoring, as well as the dissemination of project findings and advocacy for policy discussions, the project aims to ensure the sustainability of its initiatives and their wider application beyond project life.

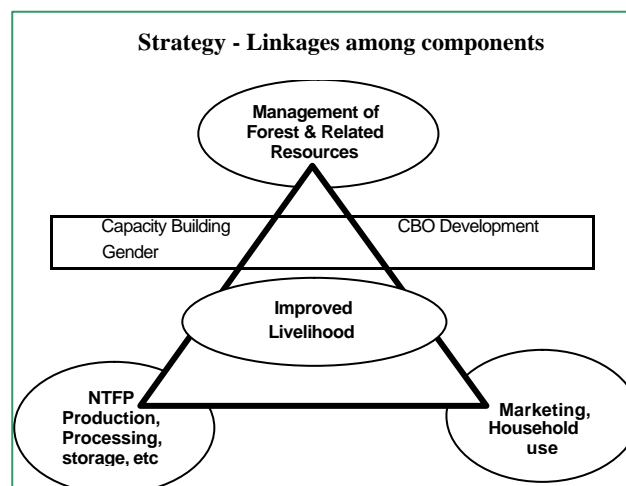


Fig. 2: Linkage among elements of technical approach and implementation methods

In order to test what the options for NTFP development are under different land-use conditions of the SW highlands, the project has identified five *woredas* (districts) for initial

intervention: three in the highland forest area of Sheka and Kefa Zones and two in the intermediate coffee forest area of Bench Maji Zone. A total 51 communities are involved, located in 10 *kebeles* (sub-districts).

3. Implementation of project activities

The implementation of the project strategy in concrete development activities is based on four main principles:

- **Building on local values and knowledge:** An incremental approach building upon the already existing practices of using NTFPs allows an optimal contribution of the project activities to the local livelihood systems as well as providing a good opportunity for participation in project activities.
- **Region specific approaches:** In view of the variations in both forest and land-use conditions as well as the different roles of NTFPs in the project area, the developments activities should be focused on promising location-specific activities rather than be based on standard technologies.
- **Interdependence of technical activities:** Basically two options towards improving NTFP production exist, i.e. improved forest management as a means of maintaining the production capacity of natural forests, or stimulation of selected NTFP crops in anthropogenic land-use systems. Rather than considering these two options as a dichotomy, the project considers them as complimentary. Moreover, the project also considers that raising production without improved possibilities for marketing the products will not be effective for improving income generation.
- **Stimulating stakeholder participation and collaboration:** The proposed technical measures will not be effective without important changes in the institutional setting of NTFP production and sale. This requires major changes in both government policies and regulations as well as marketing arrangements. Consequently, efforts to stimulate stakeholder participation and collaboration should not only be focused on the local producers, but also on other stakeholder groups.

Each of these principles will be further elaborated below.

3.1 Building on local values and knowledge

As indicated already above, NTFPs play an important role in the livelihoods of the local people. The values of forests are well-recognized by the local communities, not only with respect to the production of wood and non-wood products, but also in terms of the environmental services and socio-cultural services offered by the forests (Table 2).

Table 2 Local opinions concerning very important forest products and services

| Type of products and services | % people considering it very important |
|---------------------------------|--|
| Wood products | |
| Construction wood | 38% |
| Fuelwood | 74% |
| Non-wood forest products | |
| Fodder | 44% |
| Food | 24% |
| Marketable items | 22% |
| Medicines | 14% |
| Environmental services | |
| Shade | 40% |
| Fertilizer | 36% |
| Rain | 30% |
| Water supply | 22% |
| Reduction of heat | 20% |
| Socio-cultural services | |
| Beauty | 20% |
| Future for children | 16% |

Source: Schraivesande-Gardei, 2006

Due to the fact that forests have both socio-economic and environmental values for the local people, different traditional forest management arrangements have been developed, ranging from natural forest conservation to the development of modified forestry systems (Table 3).

Table 3 Main local (agro)forest management systems

| | Highland zone | Forest coffee zone |
|--------------------------|--|---|
| Natural forest systems | Religious forests <i>Kobo</i> forest blocks | Community controlled natural coffee forest Privately owned semi-managed coffee forests |
| Converted forest systems | <i>Kobo</i> tree rights | Mixed coffee – shade tree plantations Multi-storeyed homegardens |

Source: Million Bekele and Dereje Tadesse, 2004.

In the highland zone, from the late 19th century until the Ethiopian Revolution in 1974, landlords awarded forest blocks of some 40 hectares to local inhabitants in order to regulate access to trees for hanging traditional beehives. Although this *kobo*-system was not officially recognized by the former socialist government (1974-1991), it has in many places survived, even where *kobo* blocks have been integrated in the official national forest estate. Gradually, the *kobo* system of allotment of trees for hanging beehives has been extended to trees growing in degraded forests and on agricultural plots. Beekeeping outside the forests is also stimulated by the recent introduction of modern beehives which are usually maintained near the owner's house. This gradual transfer of beekeeping from within the forests to other land-use zones does not mean, however, that forests lose their role for honey production; they are still considered as important sources of fodder for bees. In the highland zone on

steep slopes undisturbed forest is also present due to the fact that it is considered to be religious forest with corresponding taboos against use.

In the coffee forest zone a combination of natural forests and anthropogenic forest types are present. The different management systems are mostly related to different intensities of coffee production ranging from (a) extraction of coffee from natural coffee forests, through (b) semi-managed coffee forests in the form of shrub clearance and thinning of trees for shade management and reduction of competition, to (c) garden coffee production system in the form of agroforestry plots of cultivated coffee under a shade of native trees. In addition also multi-storeyed home-gardens with a mixture of fruit trees and other crops (including cultivation of selected NTFP species) occur in this zone.

These traditional forest management systems formed the basis for the following project activities:

- Focus on both natural forest management and stimulation of NTFP cultivation in agroforestry systems
- Using the traditional *kobo* arrangements as example and source of inspiration for the formation of forest management groups
- Using local knowledge and experiences in the identification of farmer-based innovation trials

3.2 Region specific approach

As explained above, the conditions regarding NTFP use and production differ significantly. Consequently, the project's activities are based on a location-specific identification of the opportunities and challenges for increased NTFP production.

a) Highland forest area

In the highland forest area, farmers have a long tradition of beekeeping as a key livelihood strategy and show a clear interest to further develop this. They recognize that, in order to maintain and further increase honey production, two aspects are essential, i.e. maintenance of forest cover and improved production technologies.

With respect to forest conditions, it is important that forests are conserved in order to maintain beehive locations and bee fodder. Farmers feel, however, that their traditional forest-use rights are threatened by the current allocation of forest lands to external investors under the National Agricultural Investment Policy, while the bee fodder is decreasing due to the opening up of forests for new settlements. This situation of insecurity has recently been further aggravated by the upcoming implementation of the Rural Land Administration Proclamation, which registers farmers' agricultural land for the first time, while forest land is excluded from registration as individual land. The result is that individual farmers, despite their high dependency on the forest, have started to cut down the forest on a large scale and are planting agricultural crops to claim ownership of the land before others can do so.

An opportunity with respect to production technology is that as a result of the project-initiated trials, farmers appreciate that modern beehive technology can increase honey production. Both *kobo*-holders and those who lack *kobo*-rights –normally the poor, consider the modern beekeeping technology as a potential to improve their livelihoods. Also the local

government considers modern beekeeping as a key element in their rural development planning.

Other challenges to honey production are market related. As a result of the traditional production and local processing techniques, the productivity of traditional beekeeping and the quality of the honey are low. This limits the interest of national trading companies in buying the local honey and limits honey sales to the less financially-rewarding informal market. The marketing of the honey is further hindered by the lack of organisation of the producers. This restricts access to market information, and makes farmers highly dependent on price setting by local traders giving them marginal economic returns for their work.

b) Coffee forest area

In the coffee forest area the main opportunity for NTFP development is related to the high economic value of the coffee forests for local communities. Farmers are well-motivated to improve forest management provided that this results in increased financial revenues. This local interest is complemented by the Government interests in stimulating coffee export as a means for raising national income and enhancing macro economic development. Moreover, the Government increasingly recognises the importance of maintaining the coffee biodiversity gene pool as a major asset for the coffee sector. Also, it is increasingly recognised that there is a high potential to target coffee from the original forest coffee at the specialty coffee niche markets through certification with corresponding premium prices obtained for producers. Notwithstanding these well-recognized development opportunities, the forest coffee production is not without threats and weaknesses. Similar to the highland forest area, the main threat comes from the external pressures for alternative land uses. A weakness to overcome is the generally low quality of the coffee, limiting its acceptance in the high value markets. In addition, the weakly organized coffee cooperative system in the area, the lack of country's attention to forest coffee as a specialty product, as well as the existing regulations in the government-controlled coffee marketing system are a serious limitation for producers to benefit from the existing market opportunities.

Thus, in the two regional zones both similarities and differences exist with respect to options for NTFP development. The differences relate mostly to the types of NTFP products which need consideration. Within the national conservation policy attention is already given to the use and conservation of forest coffee, but the project experience indicates scope for other NTFP product development as well, notably honey, Ethiopian cardamom, long pepper and bamboo. The similarities relate to the need to consider institutional issues with respect to impact of government policies and the ability of communities to organise themselves to address the various challenges. The fact that institutional issues play a role in both regions indicate their overall relevance and stresses the importance of focusing on institutional development, rather than only focusing on technical issues.

3.3 Synergy of technical activities

As illustrated by the description above, there are several challenges to the improvement of NTFP production in the project area. In order to address the various challenges, the project has developed an integrated approach of technical activities which are mutually supportive.

a) Stimulating participatory forest management

The sustainable management of forests and related natural resources is essential for maintaining the resource base which supports the production of NTFP. Moreover, access to these common property resources is essential for landless people. At the same time, this will also maintain the existing biodiversity as well as the ecological and hydrological functioning of the forests. Sustainable forest management implies the need for clear and recognized access rights to these resources as well as multi stakeholder agreements on the objectives of forest management, including increased, though sustainable, use of existing NTFP from the forests. In order to ensure that the local forests are managed in such a way that forest-dependent households profit from it, the project encourages Participatory Forest Management (PFM). The PFM approach builds on local knowledge and the local institutions underlying the traditional forest management systems and tries to further adapt and formalize these in the light of the present government policies for stimulating community-based forest management and the allocation of community forest land.

b) Improving production and processing of NTFPs

In order to have better access to markets and get better prices for NTFP, it is essential that market requirements regarding a constant supply of quality products are guaranteed. Currently, this is one of the major bottlenecks for better market opportunities. Irregular supply and variable quality are common, and there is no possibility of obtaining preferential treatment or premium prices in the existing trade relations. High quality standards and regular supplies can only be met for most of the NTFP through improved production and harvesting techniques, as well as post harvest handling, storage and processing methods.

In order to increase supply, the project not only focuses on the management of natural forests as a means to better regulate NTFP production, but also aims at the reintroduction and/or integration of NTFP into degraded forests and supports their cultivation in agro-forestry systems. The project gives specific attention to the introduction of improved beehives, which are mostly kept in homegardens rather than placed in the forests. The use of locally available and environmentally friendly forest products is encouraged for hive construction, instead of the traditional wood-logs or government promoted timber-made beehives. The project also stimulates the management of natural stands as well as the cultivation of the promising commercial NTFPs: coffee, *Korerima* and *Timiz*. Both types of activities are considered to be contributing to increased production as well as reduced pressures on the remaining forests. In addition, the project stimulates improvements in the harvesting, post harvest handling and processing of the NTFP.

The new production technologies are being stimulated through participatory research. On-farm trials are being led by interested producers and the findings promoted through farmer to farmer exchange visits, practical training and the elaboration of locally-adapted extension materials. Such skill development for production, harvesting and processing activities involves both men and women, depending on their specific interests and intra-household task divisions.

Although bamboo was initially considered as an NTFP with important development potential in the highland area, the current natural phenomenon of generalized flowering and dying out of the main bamboo forest, is a major limitation for developing this potential until regeneration is taking place.

c) Improving local use and marketing of NTFPs

Currently, NTFPs are produced both for household use and income generation. Many NTFPs are used to meet household needs for food, construction, medicine, tools and household equipment. A small number of NTFPs (mainly honey, coffee, and to a lesser extent spices and bamboo) are sold and contribute significantly to household incomes. Depending on the socio-economic status of the households, NTFPs play an important role in food security, mostly through income generation. The project focuses on both domestic and commercial use of NTFPs.

Regarding the commercial use of NTFPs, the project focuses on improved access to markets with growth potential. These include domestic markets, but also international niche markets that can provide better prices per unit of production. Product certification of some sort is considered to be an important marketing tool to access export markets in general and particularly for specialty markets, provided that the quality standards are met. The project focuses on the exploration of best certification options, facilitation of certification requirements and procedures, provision of market information, identification of a range of market opportunities to fit the supply side and facilitation of the establishment of market linkages.

Regarding the subsistence use of NTFPs, the project takes care that access to NTFP for household use is not impacted upon negatively by the focus on enhanced trading opportunities. This is especially important for women and resource poor households who depend heavily on forest resources for their livelihoods. The involvement of women in NTFP trading activities is supported by building on the production, processing or trading activities in which women have traditionally been engaged, such as the processing of honey, as well as spice collection, processing and trading.

d) Synergetic effects

A concrete example of the combination of the various activities in respect to honey production is given in Table 4. The three technical components of the project are inter-dependent. There is a positive feedback between the different activities. One example is the way in which raising the value of NTFP through better marketing adds value, both to the NTFPs and to the forest environment which produces these products. In turn, this can encourage, and provide incentives for, improved forest management and protection, especially if the participatory forest management approach and clear access rights can ensure that the benefits are spread across the community. Improved production, post harvest handling and processing will also facilitate marketing by making the products more attractive to traders. The institutional activities support all technical components.

Table 4 Combination of technical and institutional activities to stimulate honey production

| Type of activity | Project activity | Main results |
|------------------------------------|--|--|
| Improved production and processing | On farm trials for selection of best performing beehives, adaptation of beekeeping technology to local conditions, skill development and | 3 types of beehives selected for dissemination to fit preferences of different socio-economic groups. First harvest hive productivity increase of |

| Type of activity | Project activity | Main results |
|----------------------------|--|--|
| | dissemination. Practical beekeeping training of government staff and trial farmers. | 150% as compared to local technology. Beekeeping calendar for the area developed. Field manual based on trial findings. 31 trial farmers actively involved in farmer to farmer training. 280 farmers, including 20 % women, with practical beekeeping training. Up-scaling of new technology initiated on demand of farmers and government staff. |
| Establishment of CBOs | Facilitate Marketing and PFM group organization. Leadership, financial and management trainings. Financial and material support to Marketing Groups. Studies to identify best options and procedures for legalization of honey marketing and PFM groups. Support for CBO legalization. | 8 Honey Marketing and 5 PFM groups operational: one legalized Honey Marketing Cooperative and others to be legalized in due course as Private Limited Honey trading Companies and PFM Associations. PFM leadership including minority groups and women. Linkage between PFM and honey trading groups through by-laws for mutual benefit. |
| Improved marketing | Provision of local market information on honey. Facilitate linkage with honey chain development programme. Identify potential honey and beeswax traders/processors. Facilitate negotiation between Marketing groups and traders. Awareness raising on price/quality relations. | Producer prices for crude honey increased by 200-250%. Long term partnerships established between Marketing Groups and two honey processors/traders, with annually increasing benefits for both partners. Increased trade volumes of crude honey from 5000 to 15000 Kgs/harvest. Quality improvement due to improved harvest and storage methods. Honey processed as table honey and labelled as forest honey under Group names. |
| Improved forest management | Design and testing of adapted PFM planning approach. Training of government staff and local PFM planning teams. Facilitate multi stakeholder discussion, boundary negotiation, forest resource assessment and management planning. | 5 PFM sites demarcated, average size 1380 Has. 5 PFM simple PFM plans to fit honey and other NTFP based forest management, Signing of agreement in due course. Full ownership of PFM plans by community members. PFM guidelines developed. |

3.4 Stimulating stakeholder participation and collaboration

As illustrated by the above descriptions, the project activities are not only focused on local NTFP producers, but also on external stakeholders who impact on NTFP production as a result of their role in the marketing system or in setting the rules and regulations regarding access to resources and marketing channels. This is important for ensuring that the project

meets the needs of local communities, is sensitive to the government policy in the area and supports local government and community organisations. With respect to local stakeholders, the project follows a participatory assessment and extension approach, which stimulates local involvement in the identification of development activities as well as the testing of innovations. Special attention is given to gender issues by ensuring the involvement of women in participatory assessment and training activities, as well as the identification of gender-specific practices and development options concerning NTFPs. With respect to the external stakeholders the project plays a facilitation and mediation role by establishing contact between local communities and external organisations and by informing external stakeholders about community interests.

a) Capacity building of CBOs and farmers

In the project area the level of community organization is generally low and the few traditional Community Based Organisations (CBOs) were found not to have a suitable profile for leading NTFP marketing or forest management activities. The Government supported multi-purpose Cooperative system has a presence, especially in the coffee forest area, but the performance is structurally weak in representing the farmers' interests. In the country very little experience exists regarding CBO development and the legal framework is not well known, even among government officials.

The project considers that CBOs are important instruments for enhancing local development and empowering communities. A two way approach is being followed. This focuses in part on the one hand on building leadership and democratic management capacities within the existing Cooperatives to enhance coffee processing and marketing. On the other hand, emphasis is also placed on the establishment and strengthening of organized community groups around specific interests, aiming at participatory forest management, as well as NTFP-production and trading. An exhaustive study was required to explore the options for legalization of the various groups, as well as discussions with different government departments as to the practicalities of implementation.

An example of CBO development in the context of improving income from honey is given in Table 4.

CBOs, local government organisations and individual farmers, both men and women, all benefit from the capacity building activities of the project. The capacity building activities are all highly interactive and practical, with a learning-by-doing approach applied. These activities focus on the integration of the different technical elements of the project approach and the socio-economic aspects of these.

b) Collaboration with Woreda RDCO's and other development institutions

An important policy of the project is to coordinate its activities with the Rural Development Coordination Offices (RDCO) in the selected *woredas* where it is working. Within the government's policy of decentralization and democratisation these RDCOs are responsible for developing local development plans. The project activities are planned in consultation with the RDCOs and local Administrative Authorities and their implementation is considered as part of the implementation of the *woreda* development plans. For this purpose in each *woreda* a focal person in the RDCO is assigned as a liaison officer to the project and the project's activities are included in the annual RDCO workplans. Moreover, relevant

woreda experts and the Development Agents (D.A.) are involved in the implementation and monitoring of project activities.

Regular consultation also takes place with relevant government institutions above the *woreda* level and with NGO's which are active in similar fields. These contacts facilitate active participation in inter-institutional, geographic and/or thematic networks for the exchange of information and project experiences.

c) Linkage to policy debate

As the project's work builds on the present government policy concerning environment and development, the project considers it important to provide feedback to the government about its experiences and results. The project is contributing in a proactive manner through the provision of information, advice, awareness raising and support to the relevant government institutions. Focused attention is given to contributing positively to the policy debate on forest management and related issues in Ethiopia, especially in relation to the different challenges raised by the current policy framework for forestry development and community-based forest management. In addition the project contributes also to policy discussions on regional development giving attention to issues such as the local effects of the agricultural investment policy, resettlement policy, land certification and provisions for participatory forest management in the regional forest proclamation.

Another important point of attention in this context concerns the assessment of legal options for CBO development to fit the needs of successful organization at the local level for community based forest management and for the trading of NTFPs.

5. Conclusions

Within the highlands of South-West Ethiopia two main ecological zones can be distinguished, i.e. the highland forest zone and the coffee forest zone. These forests provide important ecological services which maintain good hydrological conditions in the headwaters of major Ethiopian rivers and conserve biodiversity. In both zones local communities have traditionally been highly dependent on the forests and its biodiversity for their livelihoods, using a range of forest resources, mainly NTFPs, for household consumption and income generation. In the highland zone honey is the main NTFP while in the coffee forest zone it is coffee. These are essential commercial commodities which generate income for supplementing the mostly subsistence-based agricultural activities. The local people value the forests highly and have historically developed several local arrangements for forest use and management. The management systems concern both the controlled utilization of natural forests and the maintenance of anthropogenic forest types. Nonetheless, during the last decades deforestation and forest degradation is increasing in the region, notably in the forest coffee zone, mainly as a result of immigrants needing new agricultural land and the conversion of forests to commercial coffee and tea plantations. The region displays the characteristics of an agricultural / forest frontier area. On the one hand the people living in the area are poor due to the lack of social and economic infrastructure and hence depend on the forests to supplement their subsistence-based agricultural activities. On the other hand, due to the poor infrastructure and lack of well focused technical information and support services the NTFP production levels are low and trading

arrangements are underdeveloped. Due to the fact that forests are essential in the region for maintaining ecological and watershed conditions, while there are NTFPs with promising value on national and even international markets, the region has good prospects for a development strategy combining forest conservation and poverty alleviation.

The NTFP Research and Development South-West Ethiopia Project has taken up the challenge of developing such a combined conservation and poverty alleviation approach. The project considers that it is important to graft the development activities onto the location-specific situation. In view of the already established use of several commercial NTFPs there is an excellent opportunity to stimulate NTFP production as a household diversification strategy. Moreover, as demonstrated by the presence of both natural forests and anthropogenically modified (agro)forestry systems, it is possible and important to focus project activities on the further development of a forested landscape with a mosaic of natural forests and modified forests with increased NTFP production. In order to accomplish this, the project has developed an integrated strategy consisting of both academic and participatory research, technical development activities focused on improved NTFP production and trade as well as improved forest management, and institutional development activities to strengthen local capacity to actively participate in NTFP development activities and to collaborate with external stakeholders. The initial project results after three year demonstrate that:

- A combination of participatory forest management arrangements, aimed at sustained use and conservation of wild NTFP resources, combined with the development of NTFP production in anthropogenic (agro)forestry systems and improved marketing arrangements, seems to provide a well-balanced integrated approach to stimulating the conservation of forest resources and improved livelihoods of forest dependent communities, thus creating win-win situations for local livelihoods and local environmental conditions.
- Local people recognize the links between NTFP production in modified (agro)forestry systems and the presence of wild NTFPs in the forests, as well as the increased earning opportunities from NTFPs cultivated outside the forest, do not negatively impact on local forest values. Moreover, for poor people with little or no access to agricultural lands communal forests remain an important livelihood source. Consequently, simple and locally-adjusted participatory forest management arrangements in association with commercial NTFP development has the potential for large forest areas to be brought under local conservation and sustainable use arrangements in a relative short time and can be a serious option for halting the current trends of forest conversion.
- The limitations to NTFP development are not just technical, but foremost institutional. On the one hand, improved production will not bring local benefits unless improved trading arrangements for the NTFPs have been established. The recent development of innovative trading arrangements including source certification, organic/fair-trade relations and private sector linkages along the chain offer good opportunities for stimulating improved NTFP marketing arrangements. On the other hand, the development of location-specific arrangements for forest conservation and NTFP production require adjustments in government regulations regarding forest tenure and the development of community-based organisations, as well as increased policy attention to the protection of local interests against the interests of external investors.

- Although the current national and regional legal and policy framework is to a certain extent favourable to several elements of the project approach (such as community involvement in forest management, small enterprise development, and development of community-based organisation such as forest management associations and production cooperatives as well as export promotion of honey and coffee), several inconsistencies in policy articulation and weaknesses in policy implementation form a serious bottleneck to the large-scale application of the integrated approach of participatory forest management and NTFP development.
- The projects results also show that NGOs can play an important role in developing integrated approaches towards further innovation of the implementation of the Ethiopian Government's policy for sustainable development. These experiences form an excellent basis for linking grassroots experiences with policy debates.

Literature

- Beijnen, J. van, I. Mostertman, G. Renkema and J. van Vliet, 2004. Baseline description of project area: summary of participatory appraisal data at Kebele and Got level. Non-timber Forest Products Research and Development Project in SW Ethiopia, Wageningen, Student research Series No. 1.
- Belcher, B., M. Ruiz-Perez and R. Achiawan, 2005. Global patterns and trends in the use and management of commercial NTFPs: implications for livelihoods and conservation. *World Development* 33 (9): 1435-1452.
- Chomitz, K.M., 2007. At loggerheads? Agricultural expansion, poverty reduction, and environment in the tropical forests. World Bank, Washington DC.
- MELCA Mahiber, 2005. Impacts of land use/ land cover changes in Masha and Anderacha Woredas of Sheka Zone SNNP regional state: Case studies on biodiversity, cultural changes and management practices, and analysis of relevant legal and institutional framework, Addis Ababa, December 2005.
- Mesfin Tadesse and Lisanework Nigatu, 1996. An ecological and ethnobotanical study of wild or spontaneous coffee, *Coffea arabica* in Ethiopia. In: L.J.G. van der Maesen, X.M. van der Burgt and J.M. van Medenbach de Rooy (eds), *The biodiversity of African plants*, Proceedings XIVth AETFAT Congress, 22-27 August 1994, Wageningen, the Netherlands. Kluwer Academic Publ, Dordrecht, The Netherlands, pp. 277-294.
- Million Bekele and Dereje Tadesse, 2004. Local forest management arrangement study. Non-timber Forest Products Research and Development Project in SW Ethiopia, Mizan-Teferi, Consultancy report
- Reenen, M. van 2005. Livelihood categories and NTFP-based options for development interventions to relieve poverty. Non-timber Forest Products Research and Development Project in SW Ethiopia, Wageningen, Student research Series No. 3
- Ros-Tonen, M.A.F. and K.F. Wiersum, 2005. The scope for improving rural livelihoods through non-timber forest products: an evolving research agenda. *Forests, Trees and Livelihoods* 15: 120-148.
- Schravesande-Gardei, 2006. Local valuation of forests in South West Ethiopia. Non-timber Forest Products Research and Development Project in SW Ethiopia, Wageningen, Student research Series No. 6.

- Sunderlin, W.D., B. Belcher, L. Santoso, A. Angelsen, P. Burger, Nas and S. Wunder, 2004. Livelihood, forests, and conservation in developing countries: an overview. *World Development* 33 (9): 1383-1402.
- Tadesse Woldemariam Gole. Tadesse Demel, M. Denich and T. Bosch, 2000. Human impact on the *Coffea arabica* gene pool in Ethiopia and its need for in-situ conservation. In: J. Engels, V.R. Rao, A.H.D. Brown and M. Jackson (eds), *Managing plant diversity. Proceedings of an international conference.* Kuala Lumpur, Malaysia, p. 237-247.
- Tadesse Woldemariam Gole, 2004. Forest biodiversity, forest functioning and NTFP production. *Non-timber Forest Products Research and Development Project in SW Ethiopia, Mizan-Teferi, Consultancy report.*
- Wiersum, K.F. and M.A.F. Ros-Tonen, 2005. The role of forests in poverty alleviation: dealing with multiple Millennium Development Goals. Wageningen University and Research Center, North-South Policy Brief No. 2005-6.
- Yihene Zewdie, 2005. Forest access and rural livelihoods in Southwest Ethiopia: an analysis of the record of forest management partnership. In: M.A.F. Ros-Tonen and T. Dietz (eds), *African forests between nature and livelihood resources. Interdisciplinary studies in conservation and forest management.* Edwin Mellen Press, Lewiston etc, African Studies Vol. 81, p. 95-111.