AN IMPACT ASSESSMENT OF MODERN BEEKEEPING PRACTICES AMONG LOCAL COMMUNITIES IN KOMBO NORTH, WEST COAST REGION (WCR) AND CENTRAL RIVER REGION – NORTH, (CRR-N)

Fig 1: Local bee hive hanging on a tree in Brufut

AN INTERIM (DRAFT) REPORT

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Introduction

Drawing on experiences from 2007/2011 CPAP implementation, the Government of The Gambia (GoTG) and the United Nations Development Programme (UNDP) agreed and prepared an integrated and holistic poverty reduction programme framework for the period 2012/2016. Under the mutual cooperation agreement between UNDP and GoTG through the Ministry of Trade, Industry, Regional Integration and Employment (MOTIE), the Forestry Department implemented training and capacity building activities on modern beekeeping practices with communities in Kombo North, West Coast Region (WCR) and Central River Region – North (CRR-N). This is in realization of the fact that CRR-N is the poorest region compared to the other regions in the country. Kombo North on the other hand is equally poor because of high population density due to in-migration from other parts of the country, and thus accounting for the highest incidence of peri-urban poverty. The training and capitalization targeted eight village groups and/or Community Forestry/Joint Forest Management Committees in the two targeted project areas.

Hypothesis/Assumptions

“... Community participation in forest resource based enterprises, e.g. beekeeping, increases the direct economic value of forests to their livelihoods and spurs their interest and cooperation in sustainable management of natural resources (CF/JFP)....”

The purpose of this evaluation is basically twofold:

1. Assess the performance of the training conducted and capacity support vis-à-vis skills acquired and knowledge gained by participants and,
2. Assess the socio-economic and ecological/environmental impacts of the project on the people and communities in the specified activity project areas.
Having implemented the project over the last two years or so, the parties have agreed to conduct an interim or process evaluation in order to determine the viability or otherwise of the activities project thus far. They further requested the consultant to advise as to whether it will be appropriate to expand the current activities or consolidate on the gains made. This report is actually the main product of the evaluation and details specific outcomes as per the tasks provided in the Terms of Reference (TOR). The findings will be presented to the parties involved and to be used as reference and guide for (related) future engagements. The evaluation specifically assessed the training conducted in terms of attitudes, skills and knowledge acquired; the utilization of input support provided; and the socio-economic, and ecological and environmental impacts of the initiative and other performance issues more broadly.

The methodology combined review of project reports, relevant forestry and other government policy documents, including the signed framework agreement between the government and UNDP, and web based search. Focus group Discussions were held with project participants in the field and complemented by semi structured interview questionnaire to guide the process at that level. Some structured and formal questions were also administered with activity/project facilitators (Forestry, Trade and UNDP) to solicit their views about activity/project status and specifically governance and management issues. Limited individual testimonies were also collected from project participants/beneficiaries to present cases of how they were impacted by the project.

The following sections constitute the content of this report thus providing detailed descriptions of the issues discussed. The first section discusses the development context describing the issues and why the department responded and who benefitted; the second section presents the main findings and analysis of the outcomes against the TOR of the evaluation; the third section on concluding remarks provides summary of key processes, summary outcomes and next steps; and finally the lessons learned section dwells on the major learning points of the project and the potentials for possible replication.

Development context

Forest conservation is an essential pre-condition to sustainable development and requires the active participation of rural communities bordering forest reserves. However, limited access and user rights have annulled many of the major incentives that otherwise would encourage the practice of forest conservation among rural communities (DoF/CF 08/2005). Forestry planning and development are closely interrelated with activities of other sectors particularly agriculture and livestock husbandry. The activities in these sectors, if not properly planned, often undermine the performance of the forestry sector due to the inherent practices of burning, overgrazing and largely, the destruction of huge expanses of forestlands for farming. Consequently,
it became imperative for the department of forestry to introduce and encourage management practices that called for the active participation of the rural population in forestry matters, hence the introduction of the Gambia Forest Management Concept (GFMC) and Community Forestry Concept (CFC).

The Forestry department therefore, initiated and implemented the Community Forest Management Concept (CFMC) which beekeeping and other forest based resource enterprise development activities are integral. The aim was essentially to enhance the economic wellbeing and livelihoods of participating communities as much as conserve and preserve the ecological integrity of the forest reserves. This concept was invoked in light of the continuing degradation of the country’s forest cover, depletion of soils and vegetation, and the intricacies of management problems. Furthermore, despite policy commitments to increase performance of forestry towards national poverty reduction efforts, the contribution of the forestry sub-sector to the Agriculture GDP continues to decline, reducing from 2.2% in 2000 to 1.9% in 2010, (a reduction of 0.3% in 10 years).

Beekeeping as a project activity option is considered a low-investment and low-input business enterprise that directly generates economic gains for the participating communities or members, and integrates well with agriculture that forms the main economic activity for communities living in the project areas. The advantages of beekeeping are numerous bearing in mind that the business venture can be practiced by men, women and youth and it is a crucial avenue towards poverty reduction and enhancing the quality of life. The sub-sector harbors a great potential for increasing incomes and supportive of sustainable development, especially considering the varied players and activities along the broader value chain.

Despite the above and numerous other probable advantages that can be realized from beekeeping, the sub-sector remains largely underdeveloped in the Gambia. This is because beekeeping is still carried out as an indigenous activity mostly passed down through generations. As such most beekeeping farmers have not fully appreciated its potential and value as a commercial enterprise capable of generating income and enhancing livelihoods.

The current project activities on training and capacity building support being implemented by the forestry department in partnership with the Ministry of Trade and UNDP, under the CPAP framework agreement was inaugurated in 2012 and on-going to date. The project activity design as well as this assessment covered eight communities in Kombo North, West Coast Region and Central River Region North. It specifically targeted the Women (Mansa) garden in Brufut and the Mandinary (Yaroto) Beekeeping Association in Kombo North, WCR on the one hand and six Community Forest/Joint Forest Park Management (JFPM) committees in the villages of Kahi Badi, Niani Maro, Kunting, Dobo, Bush Town and Tuba Kuta/Tuba Koto, in CRR-North on the other.
Both women and men participated in the training and are part of the groups benefitting from the project activities. However, unlike the groups in Kombo North, which delegated more women to the training, the CRR groups excluded women for the fact that women were traditionally not keeping bees, although a one or two women still participated. The members of the existing forest committees are implementing the project activities in all the sites and supported to some extent by other members of the village kafo/groups (VDCs).

**Major Findings and Analysis**

In early 2012 the forestry department presented its component activities for funding under the CPAP programme for the period 2012 – 2016. The objectives were manifold but mainly to improve livelihoods in the selected communities and as well ensure forest and biodiversity conservation towards enhancing sustainable environmental management. The first set of activities presented for implementation and directly relevant for this review among others includes:

- Training of Community Forest Committees (CFCs) on book keeping
- Workshop for CFCs (Joint Forest Park management Committees (JFPMCs) on Beekeeping techniques;
- Provision of Beekeeping materials to CF/JFPM committees

The selected activities (including beekeeping) for implementation under the 2012-2016 cycle of the CPAP are appropriate and strategic, and indeed very much coherent with the department’s policy direction and so also the programming framework. The design is also consistent and ties in well with the country’s long-term development priorities as contained in the national blue prints, such as the Vision 2020, PAGE and broadly the commitments to the attainment of the Millennium Development Goals (MDGs). Two separate beekeeping training activities were conducted, one in 2012 and another in 2013. The implementation of the initial activities of this project however, suffered some delays due mainly to management and accountability challenges. The project activities are being implemented under a tripartite partnership, which clearly defined and delineated mutual responsibilities and roles of each partner:

1. Forestry Department or Sub-Implementing Partner (Sub-IP) is responsible for identifying and facilitating project delivery (output) at the operational level;
2. Ministry of Trade (MOTIE) or Implementing Partner (IP) coordinates activities geared towards achievement of outcome 2, and more specifically output 2.3, vis-à-vis value addition and enhancement of environmental sustainability...
3. UNDP provides the funding and technical assistance towards realization of the objectives of the project and also help strengthen institutional and operational capacity of government representatives in the partnership.
The key actors, Forestry, Trade and UNDP have collective responsibility for the delivery of the committed activities and are to be held accountable for overall project performance.

Notwithstanding the setback at the beginning with the initial phase, the training and capacity building on modern Beekeeping techniques (the core of this assessment) again took off in earnest in January 2013 (essentially one year in operation). This was a comprehensive package for training of village groups and the various community forest management committees. At the end of the training, each group or committee received beehives and the accompanying beekeeping gears including gloves, suits/overall, buckets, pans, boots, smokers and wax sheets to jumpstart actual field operations.

Training and Capacity building

In 2013, a total of forty, (40) committee members from the eight groups (details in table A below) received training on beekeeping methods and techniques. The subject areas taught during the training cut right across the value chain from basic beekeeping concepts through products development and marketing.

<table>
<thead>
<tr>
<th>Village/Committee</th>
<th>No. of Participants</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mandinary</td>
<td>8</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>2. Brufut</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>3. Tuba Kuta/Tuba Kuto</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>4. Kahi Badi</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>5. Niani Maro</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>6. Kunting</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>7. Dobo</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>8. Bush Town</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>33</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

Table A: List of training participants (by gender) source.....

The training was conducted in two sites and delivered at two levels:

1. Honey production - theoretical
2. Value addition – hand-on practical sessions

Under each of these topics, a long list of activities was presented and discussed, essentially to build knowledge and skills, and generally to create understanding and raise awareness of the participants on modern beekeeping. The list of topics discussed is presented in Annex 1. The training methodology used on the other hand, was quite effective as it combined presentations, demonstrations, photos or pictorials, thus
spurring participation and enhancing understanding especially of people whose formal literacy levels are quite low. During focus group discussions in the communities, it was observed that at least one or two participants could clearly explain the process of the training, zeroing in on the wider benefits that could accrue from the enterprise. The presentation of the financial analysis of project activity feasibility and/or viability, which participants vividly remembered and explained to the evaluation team, is also inspirational and indeed motivation for project take-up and sustainability.

The training lasted for four days at each site. However, the four-day duration according to both the trainers and participants was inadequate considering the depth and spread of the programme. In principle, only two full days were taught as the first and last days included travel time especially for the training conducted in Janjanbureh, CRR, due to distance and transport difficulty. The long list of topics presented goes to support the fact that the duration was in effect inadequate and corroborated by the participants that, some discussions were held late in the day due to want of time. The trainers lamented the fact that due to limitation of time (duration), they were not able to take the participants through the recommended full training cycle of nine (9) days, and normally conducted in three stages:

1. Pre-service - the first three days would focus on theoretical or module presentation and guidance on knowledge building as well as demonstration on the various aspects of the value chain
2. In-service –While the module presentation is on-going, they would use the evenings to take participants for field inspection and expose trainees to actual honey extraction through demonstration and practice.
3. Post-training activities – This is simply, routine visits (by trainers/facilitators) to the project sites and to discuss with participants issues of concern, and help them correct and/or address any gaps that may have been identified during implementation.

In the circumstances, these opportunities have been missed because the planning was not widely consulted on particularly with the experts, and certainly suffered as a result of exclusion errors. Therefore, the correct and vital advice was not harnessed, especially from the trainers with expertise in the area.

The review team was also informed that the training on modern beekeeping was done for two separate groups within same cooperation agreement– one in the first phase and the other the last, but targeting different groups. And while the last group was supplied with the necessary beekeeping gears, the first set never received any. It is assumed this perhaps could be due to the fact that first set of participants was selected from outside the project impact areas, Kombo North and CRR-North. However, it is important to note though that there are now more people with skills in modern beekeeping in the country, hence the potential for future engagements.
Project input and material support (Hives and other beekeeping gears)

Provision of inputs to beneficiary committees was integral and an essential component of the wider beekeeping ‘pilot’ project activity. The planned support was quite comprehensive and resonates well with the principle of pilot initiatives intended for replication. All the inputs provided were grant based and given to the forest committees and direct beneficiaries.

Groups in Kombo North received their hives and some other gears in September, a few days after the training ended. According to the groups, while all the 60 hives per group were delivered, some of the other gears are yet to be complete. Brufut and Mandinary groups have already placed the hives in their respective gardens and forest areas for baiting or trapping of bees. Some of the hives are colonized and Mandinary group already harvested three but prematurely, realizing only three liters from the three hives, which they shared and consumed. On the other hand, the distribution of hives and other gears has just begun in CRR-North (precisely on April 2nd 2014) for all the committees and yet to deliver complete sets. Each committee received 20 hives and all of them have been placed in baiting or trapping sites that is, in forest areas, without covers and wax sheets necessary for attracting bees. Details of beekeeping inputs/materials supplied to the groups and/or committees, as at the time of the field assessment are provided in the table below.

<table>
<thead>
<tr>
<th>Committee</th>
<th>Hives (pairs)</th>
<th>Gloves (pairs)</th>
<th>Boots (pairs)</th>
<th>Suits</th>
<th>Buckets</th>
<th>Plastic Pans</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brufut</td>
<td>60</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Mandinary</td>
<td>60</td>
<td>-</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Tuba kuta/Tuba Kuta</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>5</td>
<td></td>
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<tr>
<td>Kahi Badi</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Niani Maro</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Buush Town</td>
<td>20</td>
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<td></td>
</tr>
<tr>
<td>Dobo</td>
<td>20</td>
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<td></td>
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<tr>
<td>Kunting</td>
<td>20</td>
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<tr>
<td><strong>Total Materials issued</strong></td>
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</tr>
</tbody>
</table>

*Table B: Beekeeping gears supplied to the Groups/Committees*
They also complained of the poor quality of hives, some of which have very narrow entrances for the passage of big sized bees especially the Queen bee. Some communities have improvised wax and corrugated iron sheets as cover and also used cow dung to fill the gaps between wood pallets.

While placing the hives in the forest areas was good initiative and perhaps strategic, in our observation it was not a wise thing to do now. Placing the incomplete hives away in the forests with little chance of being colonized, due to constant air flow into the hives (an idea committee members also share) can be potentially risky. The hives might be exposed to bushfires, termites’ attacks and get destroyed even before they could serve their purpose, despite the fact that they are placed on high platforms.

It has been noted also that all the hives were constructed in Kombo and transported to groups in CRR. While this was a wise decision in terms of controls, it would have been more cost effective if the contract was given at project location. This would not only cut down on transport costs but also an opportunity to generate income for the local carpenters, improve local economy and indeed enhance timely delivery of materials to sites.

![Image of hives covered with old corrugated iron sheets and cow dung pasted on the gap]

Fig. 1: Hives covered with old corrugated iron sheets and cow dung pasted on the gap

**Analysis of Socio-economic and Environmental impacts**

Evidently, the project activities under review is barely one year old (even though an aspect of it started a bit earlier) and too young for an impact level evaluation. Therefore, the assessment of the socio-economic and environmental impacts at this stage can only
be inferred and indicated by proxy. Since it is too soon to establish how the beekeeping project activities have changed lives in the communities in terms of impact, the review focused more on process evaluation rather than higher level impact. Thus, assessment of the goals, strategies and work plans as a result was undertaken and based on which, modifications and improvements are suggested. In addition of course, the review looked at performance at output/outcome levels vis-à-vis activities implemented (training and input support) and the products generated (numbers, skills and knowledge acquired). The utilization and overall performance in terms of life changes could not be establish at this stage of the project due to timing.

The groups however, are aware as confirmed during the focus group discussions that implementing the beekeeping projects activities as a means of livelihood activity, communities can realize social and economic benefits both at individual and collective levels. For instance, the forests as currently managed, generates an increment of improvements in environmental quality in the surrounding areas of the concerned reserves, which is available to all who frequent the areas. Hence, the consumption of environmental quality is joint and non-rivalrous.

**Performance on socio-economic variables**

Farming and farm related ventures more or less constitute the main livelihood activities in the communities benefitting from the beekeeping intervention project. Now, beekeeping as part of the livelihood activities could contribute additional income and expand the social networks in and between the respective communities. The various groups and/or committees indicated that based on their understanding from the training and past experiences, the following benefits among the many others, can be realized from the practice of beekeeping.

i. Acquisition of new skills and knowledge (processing and packaging, market information), which enhances the social capital in the respective communities. Also, a new industry has been identified and the new entrepreneurs can transfer learned skills and knowledge onto other members of the village

ii. Beekeeping can eventually also lead to the development of other activities within the community such as making of protective gears, smokers and beehives; or the making of value-added products such as beeswax candles or shoe polish, body cream

iii. Although earnings are invisible currently but there is the strong conviction that a viable industry is in the offing and can assist small holding communities in danger of losing their livelihoods, mainly from farming activities

iv. As a safety net beekeeping can cushion farmers in times of farming related crises such as droughts, floods, pests/diseases, and general crop failures

v. Beekeeping can be a source of employment for households considering the
chain of activities involved along the value line, e.g. cleaning hives, watering bees, harvesting honey etc.

vi. Beekeeping products like honey, wax and other bi-products are also sources of food, medicine, and income. The income generated according to some respondents could be used to pay school fees and medical bills for households.

Although beekeeping is a non-wood-based business, there is a shared understanding among both participants and some communities (VDCs) that, the benefits derived from this venture will equally be distributed according to same conditions for the utilization of forest resources as provided under the CF implementation guidelines. Even though, there is no established correlation as yet, between the income generated from this activity and improvement of people’s lives, there is the general awareness that with increased honey and other products, revenue accrued will certainly support the survival mechanisms of the people.

Performance on environmental/ecological variables

Bees are important pollinators and many ecosystems depend on the pollination by bees for their existence and for increasing their genetic diversity through cross-pollination. Evidence suggests that the beekeepers that have a clear financial gain from protecting the habitat of the bees are interested in forest conservation.

The groups have a much clearer appreciation that beekeeping is environmentally friendly and can contribute directly to the effective protection of the whole ecosystem by ensuring the long-term protection of the forests, whilst generating income for local communities. Beekeeping also offers a highly viable income stream to local people which according to the committees can be reinvested in forest conservation like is the case with earnings from wood products.

Same interest is growing among the groups especially the committees who have started benefitting from the forest (wood) based resources. In consideration therefore committees have begun to protect their forest and for some forest areas, for example Tuba Kuta/Tuba Koto Community, for the past 16 years, had protected their CF reserve against annual bush fires and illegal log extraction, according to the respondents. With this in mind and knowing fully well that beekeeping is a potential source of additional income, they will certainly be encouraged to protect the forest areas.
Loss of trees has only negative implications for beekeepers: loss of food for bees, loss of nesting sites for bees, loss of materials for building hives, loss of places to keep hives and so on. 

“...If the bee disappears from the surface of the earth, man would have no more than four years to live.... No more bees, no more pollination.....no more men and women...”

.........Einstein.........

The reasoning and understanding among the project participants in the eight communities about the socio-economic returns as mentioned above, are the same and strong beliefs they hold for environmental and ecological benefits that can be derived. The higher level impacts will subsequently be achieved with their continuous commitment to protect and manage the environment which perhaps would lead to sustained and balanced ecological systems balance and productivity for the benefit of the people bordering and depending on the forests.

General Observations and commentaries

There is an increased understanding and growing interest among the communities towards effective extension and support for the protection and management of CF reserves. This is supported by the strong will in the respective villages to carry out essential development activities in the forests such as enrichment planting, fire belting and sustainable extraction of old and dying trees for sale and income generation. Returns from beekeeping and other wood based enterprises will incentivize communities to take even greater care of their forests and related resources.

The concept of CF invites closer collaboration with other organs of state and non-state alike, especially the decentralized units and functions. Although clear links between CF committees and village Development Committees (VDCs) are visible in some
communities, such cooperation is nonexistent in others. For example, in Mandary no such relationships exist as the beekeeping group which hailed from one area (kabilo/clan) of the village indicated their lack of confidence in the VDC and therefore did not involve them. Even though this may be a good idea towards facilitating the work of the beekeeping group, it certainly will not bring about unity and may negatively impact the wider sustainable development of the village and undermine the fundamental principles of decentralization and local government reforms.

Furthermore to facilitate effective collaboration between partners, clear MOUs and Agreements setting out rules must be developed to guide joint workings and partnership arrangements. Same ideals are expected to permeate village institutional structures to sustain the practice of good governance at both project and community levels.

There is a common but varied understanding among CF/JFPM committees about the management concepts and utilisation of forest resources and benefits sharing and as well the beekeeping function this dispensation.

It has been observed that the beekeeping project activities have been assigned to the regular CF/JFPM committees whose function was to patrol the areas and ensure protection of the forest reserves. The continuous surveillance by the physical presence of these committees not only reduced unauthorized use of forest produce but also kept the forest clear of intruders. A separate arrangement already exists for the current committees, vis-à-vis compensation/remuneration for their time. Perhaps assigning this project to other members of the community would make good management sense, in order to increase the surveillance strength over the forest reserves because of new stakes these people would have in keeping bees in the relevant forests. And once cash starts flowing in these beekeepers’ pockets and the village accounts, it is guaranteed beyond doubt that there will be organized patrols by the combined forces of the existing CF/JFPM committees and the new entrepreneurs to protect the areas.

**Governance and management**

Closer cooperation and joint decision making are crucial for the progress and sustainability of any project. This way, better relationships are forged and trust and confidence built and improved among players, which also has implications for project performance and hence requires attention. This aspect of the review is considered by the team to assess the structural issues as they relate to project performance. It does interrogate the power dynamics and decision making challenges. Depending on how and who makes decisions, can have ramifications (positives or negatives) in terms of resources flow and access.

**Selection of the beneficiary groups/committees**

Although the selection of the target groups for the project was clear cut, particularly for
the CF/JFPM areas, the planning according to project beneficiaries started with consultations between the forestry department and the groups/committees. In some instances the groups e.g. Mandinary ‘Yaroto’ Beekeeping Association (MYBA), submitted proposals to the department for consideration of a beekeeping project and the forestry staff paid several visits to the groups to discuss modalities and agree on commitments.

Apparently, the forestry department did the identification and selection of Villages/committees for the training and subsequent input support. On the other hand, participants’ selection was by the various committees in the respective villages except for Brufut, which was done exclusively by the president (Mai Bojang) of the group Mansa Garden. It was also reported that Mai’s selection only considered people from her kabilo or Clan. The three men in the team were also nominated and asked to work with and support the women because of their expertise in beekeeping. While the selection of women was a good move on the part of the president, to encourage and also expose women to non-traditional occupations for women, the concentration of the selected participants in one Kabilo is potentially risky. It will therefore be prudent if the department could keep a continuous ear/eye on this group to ensure that the commitment and interest is maintained and sustained throughout. In the other communities when quizzed as to the non-participation of women in the training, they simply retorted, ‘beekeeping is not a domain for women’ referring to honey extraction. However, during further discussions on the issue, they concurred that women could also engage in the other activities in the value chain and indeed even extraction, if given the chance and encouraged.

The overall project’s target group is selected from among poor farmers from rural and peri-urban areas, with an aim to provide them with additional sources of income and reduce their insecurity. The selection of participants also considered their past experiences in beekeeping although some of them never had any before. Honey production has been reported to be a reliable revenue generating activity, with a very high rate of business development.

**Beekeeping Capital Assets**

In the process, the assessors also observed and analysed the presence or absence of major beekeeping capital assets necessary for removing barriers to and their effect on performance of the project.

**The human capital**

Although there exists technical and practical skills, knowledge and attitudes as well as marketing expertise, the in-service training provided at the start of the project helped augment the available human capital in the beneficiary communities. However, more capacity building and training among beekeepers and VDC members will be desired to
enhance the human capital formation.

**The physical capital**

This includes the tools and equipment needed for beekeeping. The project has already provided hives and other beekeeping gears e.g. suits, gloves, smokers, which succeeded training on their proper use and upkeep. Yet more and additional equipment is needed for the pilot phase.

**The natural capital**

Each of the project sites is located where there is productive land, good environmental or natural resources e.g. water, dense vegetation and excellent canopy with potential to attract colonies or swarm of bees. Only Brufut has its hives placed in the open garden but it also has an adjacent bush capable of harboring bees, which can be attracted to the hives.

**The social capital**

The participating committees across the project areas receive support from neighbors, family, friends, and networks as indicated during the meetings. This is necessary to provide access to more resources, information, support, and possibility of expanding their networks for more efficiency.

**The financial capital**

This includes cash (funding) support given by the project (UNDP), which is normally beyond reach, for the poor living in rural areas and depending on subsistence farming. It is required for the development of the enterprise or business, and should be ensured in case the beekeepers wish to expand and support their beekeeping activities.

**Concluding remark and lessons learned**

The beekeeping project benefitted from a cooperation arrangement between the Government of the Gambia and UNDP, setting clear objectives towards realizing intended outcomes. It is a dynamic forest-based industry that is currently threatened by forest resource depletion but has the potential to improve livelihoods and earn foreign exchange. Beekeeping is not a labour-intensive activity and can therefore easily be combined with the other daily activities of farmers. Beekeepers can organize themselves in Beekeeping Associations, improve their techniques, increase production and strengthen their position on the market to increase their economy of scale. The returns from beekeeping can eventually contribute to the wellbeing of the whole community by creating additional livelihood opportunity towards improving lives of beneficiary
The project is still in its beginning, yet it encountered various challenges and barriers, mainly causing frequent adjustments to the timeline of the project. A delay was caused due to management problems with the first phase resulting to re-training but with a different set of groups and now the late arrival of hives and other beekeeping gears in CRR-North. This has certainly impacted negatively on timely production and realization of returns from the project.

The project success depends on the sustainability it can achieve, which depends on the proper implementation of the various components of the project. The beekeepers are expected to be knowledgeable enough to offer their earned expertise from the training sessions to the next levels of the project. The know-how learned through training and practical experience should be an important asset for the beekeepers and the project itself.

Similarly, the project aims to achieve sustainability in the social, financial, institutional, and environmental aspects. Being properly implemented, the project is expected to sustainably improve working conditions and social protection through offering diversification in agricultural activities and keeping close coordination throughout the implementation.

There is need to involve communities in identifying the most suitable forest based enterprise that is appropriate to their circumstance and the need for forest conservation.

**Recommendations**

In order to ensure the project is going on track and guarantee that various activities are undertaken as specified in the plan, frequent and timely visits must be undertaken by the department’s staff. They should be able to routinely gather information on all aspects of the project and arrange field visits to make sure the implementation of the project is going by the commitments set during the initiation of the activity. They should provide regular monitoring reports about the progress and the problems encountered by the project if any, and also steps taken towards proven solutions offered. The frequency of visit by project staff can be reduced as experience is garnered by implementing communities.

Sustainability of the beekeeping project will be achieved if implementation of this pilot phase is closely monitored and all efforts concentrated in it and in synergy. It will be prudent to allow another year to intensify and consolidate the pilot for possible expansion opportunities. The design for the expansion phase should consider a village credit scheme for access by individual group members (not group ventures) through the
VDCs. It should also aim to build village financial capital through Group Revolving Fund approach which perhaps should help spread access and increase benefits.

Projects under the forestry sub-sector should be viewed within the overall Poverty reduction strategy and their linkage with other sector structures and activities such as the VDCs guaranteed and strengthened.

The project should build in the other activities as proposed in the original plan, for example, training on book keeping and development of Agro-forestry plots. While book keeping facilitates documentation and records keeping, agro-forestry will be an opportunity for other interested persons living away from forest areas to practice beekeeping.

In future involve experts/trainers in all aspects and at all levels in the planning to ensure the preparation of a comprehensive programme. And also decentralize contracts to the project areas which will generate income for skills owners (carpenters) and expand the economic base of the local area.

The beekeeping Groups are not registered but can operate under the VDC. It is therefore imperative, especially in the case of Mandinary group to affiliate to the VDC which is a registered CBO. This will also provide legality to the kafo and ensure proper governance and oversight by the VDC.

A manual for good beekeeping practices needs to be developed to serve as guidelines and support for the beekeepers to better manage their projects components effectively.